Perceptions and experiences of Iranian general practitioners and patients on the early detection of prostate cancer: A socio-epidemiological approach

By

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THESIS
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Abstract

Background and Objectives: Despite significant progress in prostate cancer research, screening of the disease has remained controversial. From a socio-epidemiological perspective, little is known of patients’ experiences and general practitioners’ perceptions on the issue especially in Iran. The purpose of this study was to explore the perceptions and experiences of Iranian patients and general practitioners about the early detection of prostate cancer.

Method: A mixed method design was adopted in two phases. Phase 1 (qualitative) used a grounded theory approach to interview a purposive sample of twelve men with prostate cancer and twelve general practitioners. Data were analyzed using MAXqda2 software. The findings from the quantitative phase informed the design of a survey (Phase 2) on 615 Iranian general practitioners. The quantitative data was analyzed using SPSS (V16).

Findings: Phase I revealed a continuous social process in the detection of prostate cancer from men and GPs’ perspective. For men, the detection process contained three stages of "making sense of the illness", "seeking help", and "seeking a diagnosis". For GPs, four phenomena including "observation", "communication", "reflection" and "making decision" were developed. "Seeking to know the illness" and "interacting to assess the risk of prostate cancer" emerged from men and GPs’ data. The results from Phase 2 showed that socio-cultural barriers and triggers influenced GPs’ interactions. According to the GPs, men’s lack of knowledge was the main barriers, which resulted in delay seeking care, but the wife had a significant role in persuading their spouses to seek help. Lack of a clear policy about screening was an important barrier in the detection of the disease.

Conclusion: The results provide useful insights about patients and general practitioners’ beliefs and perceptions on prostate cancer screening. Additionally, the findings could provide directions for policy makers to take socio-cultural aspects of prostate cancer into account in future health policy planning. The findings point to the future development of primary cancer care within the Iranian health system.

Key words: prostate cancer, early detection, men, general practitioner, experience, perception, grounded theory, survey
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Declaration

This thesis and the work to which it refers are the results of my own efforts. Any ideas, data, image or text resulting from the work of others (whether published or unpublished) are fully identified as such within the work and attributed to their originator in the bibliography or in footnotes. This thesis has not been submitted in whole or in part for any other academic degree or professional qualification.

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Preface

Being a general practitioner working in different fields such as clinical practice, health system management, research and teaching medical students since graduation gave me a variety of experiences. Hence, I learned to view the different dimensions of phenomena altogether. My personal interest to understand psychosocial issues also helped me to think beyond my pure biological perspective as a medical doctor. As a result, I always thought that there is not a good convergence between biological and psychosocial aspects of the diseases/illnesses. I believed that, similar to biological aspects, the psychosocial dimensions of illnesses should have an important role especially in planning for primary health care. However, medical teaching and practice was not concerned enough about these issues.

I had read in some sources that medical sciences are based on the medical model, which is based on objective concepts. I knew that it is the root of a long traditional physician-dominated medicine with a biological focus on diseases and their treatment. It seemed to me that looking at the psychological, social and cultural issues of health had minor importance in this model and every disease could trace to a specific pathogen or imbalance in some type of basic physiological function. I understood that this model, as Nettleton (2006) argued, stands on two major philosophical assumptions including reductionism, which assumes that disease can be traced to one scientific discipline, and mind-body dualism, which presumes that it is sufficient to deal with somatic side of the problem in treating.
Having this knowledge, I assumed that the medical model has a restricted view about psychosocial factors. I thought that although the biomedical model has generated much scientific progress and can prove causality between agents and diseases; however it is not competent to justify the role of psychological dimensions of health and disease. This restriction is presumably related to the philosophical background of medical sciences, which is based on a positivist paradigm. Based on this paradigm, there is a significant gap between biological and social aspects of the diseases. In this regard, there are numerous unanswered questions in relation to some of the inquiries such as why people delay to follow up their illness, what is the difference between men’s and women’s health behaviours, what are the roles of social constructions in prevention and treatment of the illnesses? It seemed to me that the medical model is less appropriate for some health and illness issues such as delaying in detection of disease and would need to be extended or modified to be able to answer these questions.

It was my desire to gain a holistic view about health and illness since graduation. My effort continued until I finally found it in social medicine. In this view, I thought that it is possible to explore health and illness from both biological and psychosocial point of view. When I undertook a scholarship in epidemiology, I came to understand that there is an overlap between epidemiology and sociology, although they have root in different paradigms. Therefore, I focused to understand different aspects of prostate cancer detection by using a combination of qualitative and quantitative approaches.

Regarding the qualitative approach, I planned to explore men and GPs’ perceptions and experiences through the detection process of prostate cancer. Although I
found that some studies have been carried out previously to investigate these issues, I then realized that little is yet known about men and GPs' perceptions from a biopsychosocial perspective. In such circumstance, it was more appropriate to open a new field of study in order to gain novel and original perspective to identify and conceptualize the salient issues related to the early detection of prostate cancer.

In relation to adopting an appropriate methodological framework for the qualitative phase, after studying a lot of literature and attending relevant courses, I decided to select the grounded theory approach with social constructionism as my theoretical framework inherent within the methodology. The reason for the selection of this methodology was that beliefs about the early detection of prostate cancer have social and cultural aspects instead of just biological concerns and grounded theory approach was a qualitative methodology that uses a systematic set of procedures to investigate social processes and social interactions of men and GPs through the detection of the disease. Instead of symbolic interactionism, which has often been used as a theoretical perspective in grounded theory studies to investigate how people create meaning during social interaction, I selected social constructionism as the theoretical framework to explore the social constructions surrounded the prostate cancer detection in Iranian society.

Having the above methodology, I selected men and GPs to gain in-depth information about the socio-cultural phenomena of the detection. Indeed, it has been recognized that the detection of prostate cancer does not begin when a man first encounters a specialist such as urologist to diagnose the disease. Rather, there are some
socio-cultural phenomena involving men, wives, friends, GPs, health providers etc. which need to be explored. Understanding these phenomena can provide a holistic view for health professionals to be able to manage the detection of prostate cancer in an appropriate time.

Conducting the qualitative study provided in-depth information about the different social phenomena, which happened through the processes of prostate cancer detection. This information informed the conduction of the second phase of the study, i.e. a quantitative survey. Through this survey, attempt was made to achieve applicability of the developed knowledge from the previous phase.
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Chapter 1: Introduction
1.1. Introduction

This chapter starts with the background of study is presented. In this part, I attempt to show the importance of prostate cancer as an important issue in the field of men’s health. Then prostate cancer screening, as a controversial issue and concerns not only of society and individuals but also clinicians in relation to decision making and informal careers are addressed. This project highlights the dearth of research in relation to the patients and general practitioners’ (GPs) perceptions and experiences about the early detection of prostate cancer in general and explores this in the context of Iranian health system.

1.2. Statement of the research problem

The incidence of prostate cancer has increased in the last three decades. However mortality from the disease has remained relatively constant, though reduced mortality in the US has been noted. Advances in early detection of the disease has made prostate cancer a disease that affects men over a much longer time period than the incidence and mortality figures would suggest. According to this concept, prostate cancer in the community may be compared with an iceberg (Friis & Sellers 2004). The floating tip of the iceberg represents what the physician sees in the community. The vast submerged portion of the iceberg represents the hidden mass of the disease. The hidden part constitutes an important, unrecognized reservoir of the disease in the community and there is a challenge to its detection. Early detection is a controversial issue in preventive medicine (Dixon et al. 2009; Lin et al. 2008; Plowden 2006; Wilbur 2008).
There has been intense debate over the last three decades about the early detection of prostate cancer. In spite of the significant progress in prostate cancer research, the decision is still complicated in relation to the screening of the disease (Schroder & Wildhagen 2001). Although the early detection could be beneficial for patients, it needs to be rigorously evaluated to assess whether it is better than harm for the individuals (Bill-Axelson et al. 2008; Dixon et al. 2009; Lin et al. 2008; Plowden 2006; Neal & Donovan 2000; Wilbur 2008).

There is a significant period in the early detection of the disease, in which detection is influenced by several factors including psychosocial aspects in addition to medical concerns. Understanding these factors is important in influencing screening behaviours and needs several issues to be taken into account including men’s experiences, men’s perceptions, general practitioners’ (GPs’) beliefs and practices. The review of literature revealed that the majority of research on prostate cancer focused on the medical aspects of screening rather than social constructions. Little is known of patients’ perceptions and experiences about their decision making and understanding of screening. In addition, the majority of studies which have investigated the detection process from the physician’s point of view are mainly quantitative. Furthermore, some studies attempted to explore the detection process from men's or GPs’ perspectives by qualitative approach, however there is still a gap in the field which surrounds the phenomenon of detection of prostate cancer from men's and GPs’ perspectives. To the best of my knowledge there is no study to investigate the interaction between patients and GPs in the domain of prostate cancer early detection. Cultural differences between different countries have not been investigated as US literatures tend to be predominant.
1.3. Background

The estimation of global cancer shows that prostate cancer has become the fifth most common cancer, and the second leading cause of cancer death in men (Parkin et al. 2005). About 680,000 new cases were globally reported in 2002, which are 11.7 per cent of male cancers. In comparison with 2001, there is more than a 50 per cent increase in incidence of disease in 2002 (Parkin et al. 2005; Parkin et al. 2001). Global cancer statistics would suggest that there are a larger proportion of men who are living with prostate cancer than die from the disease (Jemal et al. 2004).

The progress of prostate cancer from its sub-clinical stages to overt or apparent disease can be shown by the concept of the iceberg phenomenon (Gordis 2004). The submerged portion of the iceberg represents the hidden mass of the illness. Therefore, there is a far larger proportion of the disease in the community, hidden from view. With this perspective, the early detection of the disease has become an important agenda for prostate cancer management since the 1970s.

In spite of suggesting the different tests for screening of prostate cancer as well as a large amount of research on the screening for prostate cancer, this issue has remained controversial. On the one hand, screening men for prostate cancer can be justified by several criteria which are indicated in screenings programme for the disease. Due to unknown aetiology or risk factors, there is inconclusive evidence for primary prevention. Therefore, it seems that screening may be a helpful strategy (Frankel et al. 2003).
There are some important issues which need to be considered in the early detection of prostate cancer. Prostate cancer is often a slow-growing cancer and men are much more likely to die with, rather than of, their prostate cancer (Whitmore 1994). Therefore, exposing healthy men to the aggressive treatments with side-effects and uncertain benefits is unacceptable, especially when there is not a specific treatment procedure for asymptomatic individuals. Radical prostatectomy, for example, for localized prostate cancer often results in urinary incontinence and sexual impotence (Stanford et al. 2000). Therefore, the benefits of screening need to be balanced with the potential problems that may be experienced as a result of receiving prostate cancer treatment. To summarise the debate there are two arguments including;

1) Research consistently demonstrates that there is currently insufficient information to support a widespread policy for prostate cancer screening (Neal & Donovan 2000; Schroder & Wildhagen 2001; Schulman et al. 2002). Screening may also burden a large number of men with both socio-cultural and physical complications, which may offset potential benefits of treatment (Boyle 2003; Neal & Donovan 2000).

2) There is a lack of clarity about whether screening could be supported and some ambiguities about what primary care physicians should do in practice. It is also important to understand the beliefs and desires patients themselves have in this screening process.

As this study was conducted in Iran, it seems necessary to have an inclusive understanding of the research site through elaborating the incidence of prostate cancer in Iran and the way that patients with prostate cancer are approached by the specialists and GPs.
Iran is a developing country with its particular social and cultural constructions. It has some similarities and differences with other countries in terms of managing the process of prostate cancer detection. Taking into account that the majority of studies in relation to prostate cancer have been carried out in developed countries, presumably making a comparison between Iran and these countries does not seem logical. In relation to the incidence of prostate cancer in Iran, previous research (Hosseini et al. 2007; Sadjadi et al. 2007; Sadjadi et al. 2003) have reported that the incidence of this disease in Iran is lower than the rates reported in other countries. However, Pourmand (2007) et al. reported that prostate cancer is the third most common visceral cancer and the seventh leading cause of cancer death in Iranian men. The recent study by Sadjadi et al. (2007) and Mousavi et al. (2009) have argued that the lower incidence of prostate cancer in Iran can partly be explained by lack of nationwide screening programs, younger age structure, quality of cancer registration and incomplete diagnostic process of prostate cancer patients. Moreover, Mousavi et al. (2009) argued that it is expected that prostate cancer will rise dramatically in the future because of anticipated increase in life-expectancy and Westernized lifestyle in Iran.

In relation to the prostate cancer screening in Iran, there is no clear policy yet to detect the disease. Regarding general practitioners’ role in the process of early detection of prostate cancer in Iran, it is essential to explain that GPs are the first level of health service providers and in long-lasting relationships with the patients. The reason is that prostate cancer can be either asymptomatic or with symptoms. However, patients have a long-term process of illness detection and as a consequence; GPs would be more involved in the process of prostate cancer detection. In fact, in Iran the patients, who
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Chapter 1: Introduction

have got symptoms, usually come into contact with the GPs as a result of their own choice. The reason is that firstly, they are more accessible and secondly, the cost of their consultation is cheaper. In rural areas the patients are seen by the family physicians who are general practitioners without being charged and in the urban areas the medical tariff of GP is much less than specialist. However, if they would like to be visited by the specialists, the location of their clinics often is in the urban areas with higher social class, whereas GPs clinics are either private or governmental. They are often located in the lower social class areas with large populations. As a result, the majority of people in rural and urban areas have access to GPs. Therefore, the GPs are the first line for receiving the health services by general population. The dilemma is that GPs have no recognized position in the Iranian health system for detection of chronic diseases including prostate cancer. Although Iran has implemented successful programs for screening of some of chronic diseases like diabetes, but these sorts of programs have not been implemented for other chronic diseases like prostate cancer yet, but also more importantly there is no consensus or research evidence to support early detection of the disease.

It should be taken into account that prostate cancer screening in addition to its medical aspects has some socio-cultural dimensions, which might be neglected in medical research and this is what the project focuses on. With respect to the importance of patients’ and clinicians’ perspectives and experiences, it seems that the central component in the process of prostate cancer is understanding the experience of the illness and could be used to influence any changes in the health policy. Therefore, it would be helpful to investigate the socio-cultural issues of the illness from several perspectives, in the decision to screen for prostate cancer and in diagnosis.
The results of this study could grant insights to the healthcare providers who need to consider patients' beliefs and perceptions in developing services for prostate cancer screening to have an informed reciprocal relationship. In this regard, Pickles et al. (2007) argues that active and informed patients who become key decision-makers in their care gain greater control over the disease and their lives. Additionally, it could provide directions for policy makers to take socio-cultural aspects of prostate cancer into account in their planning. In this relation, Sadjadi et al. (2007) have commented that in order to discover latent asymptomatic prostate cancer and help clarify the real burden of the diseases in Iran, a screening program for prostate cancer is highly recommended. Mousavi et al. (2009) have also argued that the first priorities for health policy makers in Iran is developing, establishing and implementing national cancer control, otherwise the health system could not respond to the demands related to the diagnosis, treatment and palliation for these patients in the future but this needs to be balanced with evidence regarding the context in which such decisions are made.

1.3. Aims & research questions

This study aimed to explore patients and general practitioners' perceptions and experiences regarding the early detection of prostate cancer. There are a variety of issues, which can influence both patients and GPs' understandings about the early detection of prostate cancer. These issues can be addressed as research questions which are presented below.
1. How do the Iranian men with prostate cancer perceive the detection of prostate cancer?

2. How do the men with prostate cancer experience the process of prostate cancer detection in Iranian socio-cultural context?

3. What are the Iranian general practitioners' beliefs about the screening of prostate cancer?

4. How do the general practitioners experience the process of prostate cancer detection in the context of Iranian health system?

5. Which social constructions influence the process of early detection of prostate cancer from Iranian general practitioners' point of view?

6. What recommendations do general practitioners have to enhance detection of prostate cancer at the early stages in Iran?
Chapter 2: Review of Literature
2.1. Introduction

The literature review of this study aimed to appraise the contents of original published papers on the detection of prostate cancer. There are many biopsychosocial issues that surround the early detection of the disease. Four questions have been taken into account in appraising the literature: 1) what is the reality of illness from different theoretical perspectives? 2) What is the evidence for current context of the early detection of prostate cancer? 3) What are the conflicts and controversies regarding decision making in the early detection of prostate cancer? 4) To what extent do the experiences and perceptions of GPs and patients influence the detection process?

Search strategy:

To answer these questions, a literature search strategy was undertaken on the existing and accessible databases such as MEDLINE and ISI Web of Science to achieve the relevant papers. Searching was carried out at two stages. To answer the first question, it was focused on “illness” and its different theories including “biological”, “social”, and “socio-epidemiological” theoretical perspectives.

Then, the review focused on the rest of questions, using mesh terms including “prostate cancer or prostatic neoplasm” and “prevention, early detection or screening” from 1985 to 2006. At this stage, about 600 papers were obtained. Thereafter, very specific terms were added to narrow the results of search which were related to the review questions. These terms included “controversy, policy, GP, physician, general practice, primary health care, patients, men, wife, partner, perception, experience, practice, masculinity, decision making, doctor-patient relationship, knowledge, social
and socio-cultural aspects of prostate cancer. The results were restricted to the articles in the English language.

According to these selection criteria, all papers that designed to study the above specific aspects of the early detection of prostate cancer were retrieved for the review. Finally, attempt was made to find the full text of the relevant papers in PDF version. The literature was reviewed in various episodes of the study including writing proposal, collecting and analysing data, discussing the qualitative findings and discussing the quantitative results. Based on the above strategy, the literature dataset was updated to add the recently published articles which were published from 2006 to 2009.
2.2. Understanding illness

Prostate cancer is not diagnosed when the patient is referred to the specialists including urologists or oncologists. There are significant periods of patient and health professional's engagement with the illness from the appearance of the first symptoms to the referral of the patient to a specialist when they often engage with the health and lay systems to manage the illness. Investigating the detection of prostate cancer from biological perspective using the classic epidemiological approaches is limited as it fails to provide a comprehensive understanding of all issues related to prostate cancer detection.

It is obvious that health and illness are not perceived the same way by biomedical scientists, social scientists, specialists, health professionals, health policy-makers and ecologists. Such different perspectives can give rise to different interpretations about the concepts of health and illness. In a world of continuous change, health and illness have evolved over the centuries as a concept from an individual concern to a world-wide social goal. For this purpose, it is noteworthy to consider some basic concepts of illness and also the theories which provide a philosophical basis for the biological and social aspects of illness from different viewpoints. A brief account of the reality of the illness and also changing the theoretical concepts of the illness are given below.

2.2.1. The reality of illness

In order to understand theoretical standpoints pertaining to illness, it seems to be necessary to clarify the distinction between disease, illness and sickness. Disease refers to pathophysiological or pathochemical changes in the body and it is diagnosed
by the demonstration of pathologic features through the investigation of relevant symptoms and signs. Whereas, illness is a response to the disease and refers to the individual’s experiences and interpretations of the symptoms and signs. Therefore, a pathological diagnosis and therapeutic procedure of a disease by practitioners are based on the evidences that are independent of the patients’ experiences. But studying the illness depends on understanding the phenomenological analysis of the patients’ experiences and their subjective interpretations. Sickness refers to a state of social dysfunction, for example a role that the individual assumes when he/she has got illness (Nettleton 2006).

Medicine has traditionally held the authority to label a person who has symptoms or complains of being ill. In other words, health professionals are able to define what is normal and who is sick. Freidson (1988) argued that illness is a deviation from health and normality. Labelling someone as ill or sick has psychosocial consequences independent of the biological disorder and dysfunction. Therefore, diagnosis and treatment of an illness are surrounded by social conditions rather than biological circumstances. However, the social circumstances that surround medical diagnosis and treatment would be studied by sociology of medicine. From a medical sociological perspective, as Freidson (1988:212) indicates, 'it seems proper to analyze illness as a form of social deviance which is thought to have a biophysical cause and to require biophysical treatment'. But, there are some restrictions to adopt modern medical approaches by a sociologist due to some reasons which are addressed below: 1) Modern medicine is not absolute. It is a relative and dynamic scientific knowledge and was changed through the history. 2) There is an extremely heterogeneity in modern medical sciences to manage illness. For example, infectious diseases are directly controlled by stable symptoms and definite clinical management.
But, on the other hand, there are the ambiguities to manage mental disorders. 3) From modern medicine perspective, physicians desired to understand the patients' symptoms, to seek the real aetiology, and to treat it effectively without requirement to adopt the ontology of medicine (Friedson 1988). However, sociologists are perfectly able to explain the patients' behaviours and experiences. Therefore, illness can be interpreted as a deviance from biological and/or social perspectives. But, in reality the important subject is which theory is able to explain illness from a holistic and comprehensive concept which is scientifically acceptable for both medical and sociological scientists (Bury 1986; Freidson 1988).

2.2.2. Theoretical perspectives of illness

As it was mentioned above, the complex phenomenon of illness has two types of biological and social deviances. To understand this phenomenon, several theories emerged from different paradigms. These theories provide a philosophical basis for the biological and social aspects of illness from different perspectives (Cwikel 2006; Scambler 2003; Bonita et al. 2007). The outlines of these theoretical perspectives are given below.

2.2.2.1. Biological theories of illness

The biological approach has managed diseases with much scientific procedures to find out causality between agent and diseases and to prove curability of disease (Freidson 1988). Through the history of biological model, four major theories were developed to provide a philosophical and empirical basis for the biomedical approach including the germ theory, the multicausal theory, the multifactorial theory and the general susceptibility theory which are discussed below.
The germ theory was the first moncausal doctrine of disease which was supported by Pasteur and Koch (Bonita et al. 2007). The doctrine of this theory is based on the idea that every disease is caused by a single and specific agent such as parasite, virus or bacterium. This theory became a dominant approach in medical research and practice, and moved medical research and practice from the community to the laboratory to find out the biological changes for establishing a causal relationship between micro-organism and a disease (Nettleton 2006; Scambler 2003).

The criticism levelled against this theory is that it has localized the entity of disease to particular agents and it was found inadequate to solve some of the major health problems such as cancer, chronic diseases and mental disorders by elaborating the medical technology. As a result, this theory indicated that an agent is necessary, but not sufficient, as cause of diseases.

The multicausal theory challenged and modified the moncausal doctrine by proposing that the causative factors of diseases may be classified as agent, host, and environment. These three factors are referred to as the epidemiological triangle refers to the idea that disease is a product of interaction between these three factors (Scambler 2003).

While this theory may be an appropriate model to understand the infectious diseases, it is less useful with respect to chronic diseases in which identification of a specific agent could not be possible. Moreover, Locker (2003) argues that this theory minimizes the role of the social, psychological and cultural factors of health and disease.
The multifactorial theory indicates the idea that disease is a product from a complex interaction of many different factors (Bonita 2007). These factors are classified in four types including 1) predisposing factors such as age and sex, 2) enabling factors such as poverty, housing, malnutrition and social inequality, 3) precipitating factors such as exposure to a specific agent, and 4) reinforcing factors which are able to aggravate an established disease (Bonita 2007). From the viewpoint of this theory, any risk factor can be associated with several diseases and also a disease can be associated with several risk factors. This model is ideally suited in the study of chronic diseases in which the disease agent is often not known.

Developments in medical sciences have led to the synthesis of the last theory of biological approach which was named "general susceptibility". Through this model, attempt was made to provide a better understanding of the susceptibility to diseases in some social groups. The concept of general susceptibility to disease has developed as a unifying explanation for the findings that a variety of diseases are associated with certain social and cultural situations (Scambler 2003).

Progress in medical and social sciences have led to the appearance of different dimensions of health and illness including physical, mental, and social scopes. This progress led to the conclusion that the biomedical model was not able to solve some of the major health problems such as chronic diseases, accidents, drug abuse, and mental illness (Nettleton 2006).

2.2.2.2. Social theories of illness

Contemporary developments in social sciences revealed that health is a biological and social phenomenon. Therefore, it is influenced by social,
psychological, cultural, economic and political factors. These factors must be taken into consideration in health and illness management. Concerning the sociological approaches to manage the social deviance of an illness, there are some sociological theories to manage the illness including Parson's model, Freidson's model which are described below.

Freidson (1988) and Scambler (2003) have argued that Talcott Parsons had developed one of the earliest sociological theories named sick role. Parsons described the sick role as a temporary social expectation to return the normal health status or as a permanent social expectation, in terms of chronic illness, to achieve their maximum level of individual and social functions. The sick role was based on four general obligations and privileges. 1) Sick people must require getting their normal health position as quickly as possible. 2) They need medical care and unable to manage their illness by their own decisions. 3) They should seek professional medical recommendation and co-operate with doctor. 4) They require to be allowed to give up all or some of their normal activities and responsibilities (Freidson 1988; Nettleton 2006; Scambler 2003).

Parsons also analyzed the professional or doctor's role in four expectations. Doctors are expected to 1) apply their professional knowledge and skills, 2) to act for patients' welfare rather than for own interest, 3) to detach their objects and emotions, and 4) to guide by professional rules (Scambler 2003). The professionals of medical sciences attempt to apply these expectations to facilitate interaction in the consultation and also to reduce potential side-effects of illness.

There are debates in terms of the sick role as an appropriate and comprehensive social theory to overcome the social aspects of all illnesses. Nettleton
(2006) pointed out that this model is more appropriate for acute illness and has little significance to dealing with chronic illness such as cancer or chronic heart failure or other chronic diseases and disabilities. On the other hand, this theory emphasizes that the individuals must be motivated to cope with this form of social deviance and ignore the social motivations.

Regarding the patient's social reaction, Freidson (1988) had drawn further details from Parsons' sick role. He argued that there are three types of legitimacy in terms of obligation of sick role by patient. 1) In case of curable illness, it is possible and feasible for patient to access the sick role through conditional legitimacy such as a common cold. 2) In case of incurable chronic illness, such as an end stage malignant disease, the patient's access to the sick role to get well must be treated as an unconditional legitimacy. 3) In terms of stigmatized illness, such as AIDS or addiction, the patient's access to the sick role may be indicated to be illegitimate. The sick role as described by Parsons is considered to be an appropriate theory to acute illnesses and it is not able to correspond with the reality of chronic illnesses.

2.2.3.3. Socio-epidemiological theories of illness

Classic epidemiology, which is the basic science of preventive and community medicine, focuses on the study of the biological aspects of the health problems. Reviewing the history of classic epidemiology shows that reformists' epidemiologists have challenged the presumed effectiveness and appropriateness of biomedicine in terms of many aspects of medical intervention. Zielhuis and Kiemeney (2001) have argued that the essence of classic epidemiology exists in its biomedical model to aetiology and the behavioural and social sciences have no contribution to make. They believed that this narrow and reductionistic perspective prevents the study of the more
distal determinants of health and disengages epidemiology from any kind of a broader public health orientation (Kasl & Jones 2002). They also questioned the validity of the biomedical model and the idea that human health depends upon medical intervention. Moreover, Krieger (2002) believed that in recent years, a strong link between epidemiology and the social sciences has been created. The reason for this association is the need to recognize and document the wide spectrum of health determinants, from a micro level, where individual biological factors operate, to a macro level, that expresses social structures in which populations live. This attempt gave birth to the so-called 'social epidemiology'. Thus, social epidemiology goes beyond the analysis of individual risk factors towards the study of the social context in which health-disease phenomena occurs (Krieger 1994).

Social epidemiology derived from the concepts of classic epidemiology, emphasizes equally on the psychosocial and biological aspects of health and diseases phenomena (Cwikel 2006). Social epidemiology has its roots in the Hippocratic idea that climate and living conditions can influence the occurrence of illness (Cwikel 2006). Reviewing the formal beginning of social epidemiology revealed that the term "social epidemiology" had been applied for the first time in the middle of 20th century by Alfred Yankauer (1950). He used the term social epidemiology in his paper entitled 'the relationship of fetal and infant mortality to residential segregation: an inquiry into social epidemiology' which was published in the American Sociological Review in 1950 (Krieger 2001). The glossary of Social Epidemiology was published by Dr Nancy Krieger, School of public Health, Harvard University in the Journal of Epidemiology and Community Health.
Popay (2003) has argued that epidemiologists share a commitment to the
generation of new knowledge and the future development of policies and practice
which will contribute to population health improvement and the reduction of health
inequalities. Therefore, the epidemiologists would agree that "social epidemiology" is
the best approach of inquiry, rather than just a particular method, and should be
drawing on a range of disciplines including the natural and social sciences, the
humanities, policy analysis and political science. However, the reality is that the
practice of epidemiology is a long way from this language, because it dominates a
particular way of knowing through application of a limited range of largely
quantitative techniques. According to Kasl & Jones (2002) there are different or new
challenges in social epidemiological research that go beyond those encountered in
classical (biomedical) epidemiological approaches. It is therefore needed that
epidemiology use the other ways of "knowing" about the world it seeks to understand
including qualitative inquiries, which enhance the imaginative potential of
epidemiology (Popay 2003).

It seems that social epidemiology is a true integration of the biomedical and
the social/ behavioural disciplines to the study of health issues at a population level
(Kasl & Jones 2002). Cwikel (2006) has argued that social epidemiological approach
focuses on understanding social variables or conditions using epidemiology and social
science methods to develop interventions, policies, and institutions for the health
problems. Bingenheimer (2005) highlighting theory development in social
epidemiology indicates that social epidemiologists must find ways of rewarding
serious theoretical work on a same level with empirical work. He argues that without
strong theory, there is little basis for knowing what parameters are truly worth
measuring what data to collect, what statistical models to fit to them, and how to
interpret the results. According to Bingenheimer (2005), the continued progress of socio epidemiological field may depend more critically upon its ability to promote theoretical innovation than upon its proper use of the latest statistical methodology.

To improve health and to prevent disease, social epidemiology has developed a number of theories. Theories are needed to explain the development of disease and to develop practical applications for detection and treatment. In contemporary social epidemiology, the four main theoretical frameworks for explaining disease distribution are: 1) psychosocial, 2) social production of disease/political economy of health, 3) ecosocial and other emerging multi-level frameworks, and 4) bio-psychosocial (Cwikel 2006; Krieger 2001).

1) A psychosocial framework focuses on the endogenous biological responses to human interactions such as stress and duodenal ulcer.

2) A social production of disease/political economy of health framework explicitly address economic and political determinants of health and disease but, leave biology opaque.

3) Ecosocial and other emerging multi-level frameworks seek to integrate social and biological reasoning and a dynamic, historical and ecological perspective to develop new insights into determinants of population distributions of disease and social inequalities in health. To gain clarity on causes of and barriers to reducing social inequalities in health, social epidemiologists will need to generate improved theoretical frameworks and the necessary data to test and refine them.

4) The bio-psychosocial theory was taken into account the complex interaction of biological and psychosocial aspects of illness by Engel in 1977. This theory is able
to explain this issue in holistic and comprehensive concepts of illness. The biopsychosocial model has five assumptions which are outlined as follow:

1) Illness and disease is caused by multiple factors, 2) There are different outcomes from the same set of multiple causal factors or single causal factors in different people, 3) This model recognizes the unity of mind and body, 4) This model emphasises on health promotion rather than disease treatment, 5) Illness can be addressed through multidisciplinary non-dominant approaches (Cwikel 2006; Munitz & Rudnick 2000).

The bio-psychosocial model provides incorporation between different biological, psychological, social and cultural aspects of illness. The bio-psychosocial model was used particularly by general practitioner, family physician and community medicine that have been more involved and aware of these different aspects. Although this model is very complicated in research, it can be more beneficial and practical by using the mixed method approaches (Cwikel 2006).

Through the review of different biological, social and epidemiological theoretical perspectives of illness, it was decided to adopt the bio-psychosocial theory as an appropriate theoretical perspective to understand the whole aspects of the illness.

2.3. The contexts of the early detection

The ultimate goal of epidemiology is to provide knowledge that will help in the formulation of public health policies aimed at preventing the development of diseases such as cancer in healthy people at the different levels (Gordis 2004).
Primary prevention is prevention of cancer by reducing exposure of individuals to risk factors or by increasing their resistance to them.

Secondary prevention refers to detection of cancer at an early stage, when treatment is more effective than at advanced stages which are usually diagnosed and treated. With such policy it is possible to prevent the progression of the disease and its complications.

Tertiary prevention is the use of treatment and rehabilitation programmes to improve the outcome of illness in affected individuals (Bonita et al. 2007).

### 2.3.1. Inconclusive evidence for primary prevention

The purpose of primary prevention is to limit the incidence of cancer by controlling exposure to risk factors or increasing individuals' resistance to them. Therefore, all important issues in primary prevention of prostate cancer are linked to the aetiology and risk factors of the disease. Up to now, there have been no conclusive aetiological studies leading to preventive strategies (Gronberg 2003; Gann 2002). The knowledge of the risk factors and high risk men can result in prostate cancer prevention or could minimise the risk of the disease. The epidemiological evidences indicate that age was fully accepted to be a risk factor of developing prostate cancer (Kumar et al. 2004; Jemal et al. 2004; Parkin et al. 2001). Epidemiological studies indicate that 5 to 10% of prostate cancer seems to be the hereditary form. Bratt (2002) studied the clinical aspects of hereditary prostate cancer and reported that this form is often manifested six to seven years earlier than the nonhereditary form. This type of prostate cancer is often diagnosed 6 or 7 years earlier than nonhereditary prostate cancer (Bratt 2002). However, the susceptible gene of this form has not been cloned.
yet (Johns & Houlston 2003). The risk of prostate cancer in men with a positive familial history of the disease is greater than those who have not such history (Chen et al. 2008). A man aged 40 with a first degree family history of prostate cancer will have a 30 to 40 per cent lifetime risk of developing clinically the disease (Johns & Houlston 2003; Neal et al. 2000). Although age and positive family history can be considered the only established risk factors for prostate cancer, they are not helpful for primary prevention of the disease.

Although the exact mechanisms of the pathogenesis of the disease are unknown, it is clear that androgenic hormones have an important role in the aetiology of prostate cancer. In spite of the extensive research on hormonal factors, the results are inconsistent and inconclusive (Gronberg 2003; Gann 2002).

Reviewing the published studies illustrated that the majority of the research on diet and prostate cancer has focused on isolated nutrients. However, a few studies carried out to investigate the dietary patterns and risk of prostate cancer. This type of epidemiological research has shown an association between dietary patterns and developing or preventing prostate cancer. These patterns can be divided in two major groups including; 1) protective factors and 2) risk factors (Ambrosini et al. 2008; Chan et al. 2005; Walker et al. 2005).

The previous studies suggested that a dietary pattern including high takes of refined grain products, red meat and processed meats may contribute to increase the risk of prostate cancer (Ambrosini et al. 2008; Walker et al. 2005). With respect to, the preventive dietary factors, evidence suggested that consumption of vegetable, fish oils, soy protein, vitamin E and selenium may inhibit the growth of prostate cancer (Gann 2002; Kumar et al. 2004; Norrish et al. 2000). However, the relationship
between dietary pattern and development of prostate cancer is a complex issue and the results of epidemiological studies are inconsistent (Kolonel 2001; Wu et al. 2006).

There is some suggestion that the risk of prostate cancer may be increased in men who have multiple sexual partners, or who came down with a sexually transmitted disease. However, the evidence for this hypothesis is inconclusive and any relationship between sexual activity and prostate cancer risk has remained unclear (Fernandez et al. 2005; Hayes et al. 2000; Strickler & Goedert 2001).

In conclusion, although age and positive family history can be considered as the only established risk factors for prostate cancer, they are difficult indicators to be dealt with in primary prevention of the disease (Gann 2002; Haas & Sakr 1997). Regarding the possible risk factors, the evidence is not yet strong enough to be helpful to identify men at risk for developing prostate cancer. In addition, it is not clear what factors are important in the progression of non-fatal, asymptomatic slow-growing compared to aggressive fast-growing tumours (Walsh et al. 1998). Therefore, the evidence is insufficient for planning primary prevention for prostate cancer similar to lung cancer which can be prevented significantly by smoking reduction (Godtfredsen et al. 2005). Due to ambiguities surrounding the risk factors for prostate cancer, it seems that the disease can not be prevented primarily. Therefore, the next strategy can be secondary prevention to detect prostate cancer at the early stages in asymptomatic and apparently healthy men.

2.3.2. Implications of screening for secondary prevention

Secondary prevention of prostate cancer refers to the detection of disease at an early stage when treatment is more effective than at the time of usual diagnosis.
Screening of the disease represents an important component of secondary prevention. The concept of screening is not as straightforward as it may at first seem. The early treatment does not always improve prognosis and even if it does, a number of criteria must be considered carefully to implement a screening program. The criteria for justifying a screening program can be based on four considerations (Frankel et al. 2003; Melia 2005):

1. The importance of the disease which is related generally to high prevalence and the burden of the disease,

2. The natural history of prostate cancer,

3. The suitable screening test of the disease, and

4. The acceptable therapeutic procedure for the early-stage of prostate cancer.

To express the importance of the disease, the incidence of the disease is one of the most important epidemiological indices. It is clear that prostate cancer incidence rates vary widely from developed to developing countries (Evans & Moller 2003). The recorded incidence of prostate cancer in developed countries is higher than developing countries. For example, American Cancer Society report demonstrated that more than 230,000 new cases were diagnosed with prostate cancer in 2004 (Jemal et al. 2004). The recent report of the Cancer Research UK showed that prostate cancer is the first common cancer in the UK male population and about 35,000 new cases were diagnosed in 2004 (Cancer Research UK 2007). In contrast, the incidence of prostate cancer in developing countries is low in comparison with developed countries (Hosseni et al. 2007). The lowest rate of prostate cancer incidence was reported from China, which have been 2.3 per 100,000 men (Melia 2005; Parkin et al. 2005).
Studies on cancer incidence in Iran have been started in the current decade (Mosavi-Jarrahi et al. 2001). The more recent study by Mousavi and his colleagues (2009) indicated that prostate cancer is one the most common cancer among Iranian males (stomach cancer, 15 per 100 000, bladder cancer 12 per 100 000, prostate cancer 9 per 100 000, and colorectal cancer 8 per 100 000, besides skin cancer).

The reasons for the differences in incidence rate of prostate cancer in the developed and developing countries are not known, but differences in male life expectancy, lack of diagnostic investigation, poor health care systems, lack of screening policy, and lack of primary cancer care have all been suggested as influencing prostate cancer incidence (Haas & Sakr 1997; Majeed & Burgess 1994; Quinn & Babb 2002). In spite of worldwide differences in the incidence of prostate cancer, it seems that prostate cancer is one of the most common male cancers in the world.

Early detection of prostate cancer efforts is most likely to be successful when the natural history of the disease is known. The natural history of prostate cancer focuses to study the development course of the disease. It has been recognised for a long time that there is a wide variation in rates of progression of invasive prostate cancer. Although, the majority of the prostate cancers are very slow growing, a minority of cases progress rapidly (Rubin & Williams 2001). Unfortunately, this criterion of prostate cancer screening is poorly understood. Therefore, it is not possible to predict growth of prostate cancer frequently (Neal et al. 2000). The unpredictable nature of the disease is creating debate about screening of the disease especially its treatment (Schroder & Wildhagen 2001).
Suitability of the screening test is another important criterion for a screening program. The main screening tests which are used to screen the evidence of prostate cancer include digital rectal examination, serum tumour markers such as prostate specific antigen (PSA), and transrectal ultrasound. The reference standard for these tests is pathologic confirmation of malignant disease in sample tissue obtained by biopsy (Walsh et al. 1998).

Considering that prostate cancer usually originates in the peripheral zone of prostate gland and due to inability to detect tumours in the anterior and medial lobes of the prostate gland, the sensitivity of digital rectal examination is poor to be as a screening test (Catalona et al. 1994).

Measurement of serum PSA is the most common and simplest method proposed for the early detection of prostate cancer. A cut-off level of 4 ng/ml is commonly used to define positive tests requiring further investigation (Frankel et al. 2003; Hosseini et al. 2007). The measurement of PSA appears more sensitive than testing by digital rectal examination, and further refinements may improve its specificity. Combined with its simplicity and acceptability, this makes it a more suitable test for mass screening intervention (Melia 2005; Neal & Donovan 2000).

Transrectal ultrasound is most commonly used as a method of detection in men with an initially raised PSA or positive digital rectal examination. Hammerer (1992) and his colleagues have reported a higher sensitivity of transrectal ultrasound than digital rectal examination. Nevertheless, this test is an expensive and uncomfortable procedure for a screening program.
There are four major therapeutics options for early-stage of prostate cancer including watchful waiting, hormone therapy, surgery, and radiotherapy. However, in practice, two main therapy options often use to treat the early stage of prostate cancer. These options include radical prostatectomy and radiotherapy (Jani & Heilman 2003). Thus, these therapeutic options are not specific therapy procedures for the early-stage of prostate cancer. Moreover, they have major side-effects on the quality of life, while life-threatening of screening detected prostate cancer is not still clear (Frankel et al. 2003; Karakiewicz et al. 2008).

Despite the success in the detection of curable disease, there is still debate about the necessity of prostate cancer treatment. Determining which groups of patients are likely to benefit from screening and early treatment of prostate cancer depends on different factors such as patient’s life expectancy and men’s help-seeking behaviours (George 1988; Whitmore et al. 1991). Several professional associations have adopted the 10-year life expectancy as a rule to deliver definitive therapy for men with localized prostate cancer, but little is known about the clinicians’ ability to predict the life expectancy (Walz et al. 2007). Moreover, it seems to be necessary for health policy makers and clinicians to provide meaningful information and health services for men who seeking help for the early detection of prostate cancer (George & Fleming 2004).

According to the aforementioned screening criteria, it is difficult to determine the implications of a screening program for prostate cancer in a particular population. It is therefore necessary to evaluate the potential screening program of prostate cancer to assess whether it is worth introducing to control the disease.
2.4. Controversy and difficult decision making

A question is if early detection does not reduce mortality but increases morbidity, then is it worth screening? However, some of the populations are more at risk of mortality and detection at an earlier stage of the disease.

There is evidence about the effects of screening on prostate cancer mortality. The first analysis of the 1988 Quebec prospective randomized controlled trial study by Labrie et al. (1999) indicated a reduction in prostate cancer mortality by the early detection and treatment of the disease. Moreover, a recent study on Quebec prospective randomized controlled trial by the same author showed a 62 per cent reduction of cause-specific mortality in the screened group of 7,348 men during the first 11 years following-up of the 1988 study (Labrie et al. 2004). Variations in mortality rates between developing and developed countries are 16-fold. However, it seems that these variations may be due to latent cancer being detected by screening policy in developed countries (Parkin et al. 2001; Quinn & Babb 2002).

Mortality rates of prostate cancer reflect not only the frequency of the disease but also survival, which in turn are influenced by the stage at presentation and the efficacy of treatment. The available data indicate that the early detection of prostate cancer can markedly increase the survival rate of the disease. The largest study with longest follow-up, for a period of 21 years, in Sweden by Johansson et al. (2004) indicated that the early detection of prostate cancer can markedly increase the survival rate of the disease. This study showed that 40 per cent of patients developed progression and 17 per cent developed generalized disease on follow-up, with prostate cancer related mortality in 16 per cent for all patients and 22 per cent for men younger
than 70 years at diagnosis. The average level of 5-year survival from prostate cancer was reported 86 per cent in the USA, while in developing countries it was only 45 per cent (Jemal et al. 2004; Parkin et al. 2005; Quinn & Babb 2002).

Although scientific evidence would suggest that there are benefits in the early detection of prostate cancer to reduce mortality and to increase survival rates, unfavourable side effects will be considerable, because complications of initial treatment are severe and relatively frequent (Cooper et al. 2004; Lin et al. 2008).

Previous studies suggested that screening of prostate cancer would inevitably result to over diagnosis (Neel & Donovan 2000; Schroder & Wildhagen 2001; Wilbur 2008). The data from European Randomised Study of Screening for Prostate Cancer indicated the chance of being diagnosed from prostate cancer was 14.6 times in screening group in comparison with 2.3 times in the control groups (Schroder & Wildhagen 2001). Over diagnosis may increase the morbidity of men due to receiving unnecessary treatment which will lead to subsequent impairment of quality of life (Holmberg et al. 2002).

In addition, because of the natural history and the gender aspects of prostate cancer, it may lead to some psychosocial problems for men. Perczek (2002) et al., attempted to study the effects of stress on diagnostic status in men during the diagnostic period of prostate cancer. The findings showed that the highest level of stress in cancer patients is felt after diagnosis and before treatment. They reported that optimism, coping and cancer status are predictors which prevent increased stress in patients with prostate cancer. Korfage (2006) et al. conducted a study to assess the mental impact of prostate cancer among men who were diagnosed with the disease in a screening program. They found that diagnosis of prostate cancer by PSA testing had
a significant negative impact on the patients. Men with a negative perception about prostate cancer were apt to delay seeking help and medical care (Demarkwahnejfried et al. 1995).

Moreover, radical prostatectomy which is the most common therapeutic procedure for localized prostate cancer often resulted to unfavourable side effects such as impotence and incontinence (Holmberg et al. 2002; Ukoli et al. 2006). The benefits of treatment may also not be realized due to slow progression of the disease. The major challenges for clinicians therefore are in the clinical decision making in early stages of prostate cancer (Catalona et al. 1997; Melia 2005; Neal & Donovan 2000).

To summarise the controversy, given the lack of direct evidence about the potential benefits of the early detection and the uncertainty about the harms of treatment of the localized prostate cancer, it is difficult to make a decision about the balance of benefits and harms. It seems that two factors critically influence the decision making process. First, physicians' decision usually must be made with some degree of uncertainty about the future outcome of treating localized prostate cancer. Second, the various possible outcomes of the physicians' decisions to screen may have different values to patients. In this regards, it is necessary to make a rational decision about the early detection of the disease that lead to optimum therapeutic outcomes for the patient. The ability to make an appropriate decision needs understanding of physicians' and men's perceptions.
2.5. **GPs’ perception and practices**

Primary care of prostate cancer has not traditionally been considered in the planning of urology or oncology services. Regarding the comprehensive and continuous care of individuals and families, previous studies demonstrated that general practitioners, as doctors, do have an important role in primary cancer care and in cancer prevention (Brotzman & Robertson 1998; Hanks *et al.* 2008; Safah & Weiner 1993; Summerton 2000; Wee *et al.* 2005). For many patients general practitioners have an important role to appropriately deal with a suspected cancer symptom. Therefore, the early detection of prostate cancer (through screening programs or physician-referred patients) is already in the domain of primary cancer care. They are more involved in managing patients with cancer. To understand their perceptions and practice patterns about the detection of prostate cancer, the relevant papers were critically reviewed.

The uncertainty which has surrounded screening of prostate cancer has contributed to the confusion around prostate cancer screening in primary care. Sladden and Dickinson (1995) surveyed GPs’ perceptions about the effectiveness of prostate cancer screening. Although they concluded with an uncertainty in many GPs, due to small sample size (N=101) this conclusion could not be generalized. Subsequently, the next national survey with a large sample (N=1271) among Australian GPs showed that the majority of the surveyed GPs recommended screening of prostate cancer (Ward *et al.* 1998). At the same time, a survey on 750 primary care physicians in Missouri demonstrated that the surveyed GPs more inclined to use PSA in comparison with DRE (Lawson *et al.* 1998). But they did not indicate the reasons for these difference inclinations.
It is notable that other aspects of the early detection of prostate cancer from GPs' perspective have been investigated since the early detection of prostate cancer has become a health agenda. In primary cancer care, general practitioners encounter different policies of screening of prostate cancer in different countries. For example, American Academy of Family Physicians and U.S. preventive Services Task Force recommended that the current evidence is insufficient for or against routine PSA or DRE screening. However, American Cancer Society and American Urological Association offered DRE and PSA screening annually to all men aged 50 with a life expectancy of at least 10 years (Wilbur 2008), although there is public pressure to expand.

In addition to the above policies, informed screening by giving full information regarding the possible benefits and harms of prostate cancer diagnosis and treatment for those asymptomatic men who request screening of the disease is the current policy of the National Health System in the UK (Brett et al. 2005). The main point of these different policies of prostate cancer screening refers to the capacity of the health system to provide facilities for the diagnosis and potential treatment of the disease. This capacity is higher in private health systems than those health systems which are totally dependent on government funding such as Iran.

In contrast to the policy of American Academy of Family Physicians about prostate cancer screening, the findings from a survey by Hicks (1995) and his colleagues on 266 Oklahoma family physicians suggested that the majority of the surveyed physicians believed in the benefit of prostate cancer screening. Over 60 per cent of physicians agreed that the screening decrease mortality and 69 per cent believed that it would improve quality of life as well (Hicks et al. 1995). Although the
sample of this study was too small, survey on 90,000 patients in 1993 and 1998 demonstrated an increasing rate of PSA testing over time (Voss and Schectman (2001).

Through this process, aggressive screening behaviour was frequent and education was seemed to be a key point to change the screening behaviours (Philips et al. 2005). Marcella (2007) and his colleagues indicated that there was an association between increasing knowledge about prostate cancer and less belief in the benefit of the early detection of the disease. The structured information to improve GPs’ knowledge has resulted to more support and counselling of the patients through the process of illness management in comparison to traditional information (Kousgaard et al. 2003). Nevertheless, the present study has demonstrated that factors other than education and knowledge must be considered to justify physicians’ beliefs about the screening of prostate cancer such as social and cultural aspects (Pendleton et al. 2008).

It seems that there are some influences which can impact on the beliefs and practice patterns of general practitioners. For example, general practitioners’ characteristics such as gender, age, and length of clinical experience may influence recommendation of PSA test for screening. Edlefsen et al. (1999) found that male general practitioners were keener to use PSA tests than female, but this difference was not significant. Also the rate of PSA test order for screening was increased by increasing years of age since graduation. Moreover, GP-specialist communication and practice location have influenced the GP’s role to provide psychosocial support and counselling (Hanks et al. 2008).
Regarding the specialization in the planning and management of cancer, general practitioners traditionally have not been seen to have a central role in prostate cancer management. However, considering the ease of accessibility and cost-effectiveness of general practitioners, they have a considerable role in the processes of prostate cancer management. Contribution of general practitioners could be helpful in the development of primary cancer care and in ensuring that patients truly understand the different aspects of a cancer screening program (Launoy et al. 1993).

2.6. Men’s perception and experiences

The critical question is, if routine screening is not cost effective and at present improving, then early detection is reliant on men and GPs recognising the symptoms early. In spite of the widespread public concerns about prostate cancer, men often have a poor knowledge about prostate cancer (Livingston 2002). The majority of men, however still do not have enough information or understanding about prostate cancer to become actively involved in the decision-making process when they are diagnosed (Onel et al. 1998). Regarding the lack of detailed information through the detection process, it seems that this level of knowledge is insufficient to help men to make an appropriate decision in relation to undergoing screening test for prostate cancer.

Due to a high incidence of prostate cancer in African-American men, many studies have been designed to explore knowledge levels within this ethnic group. Smite (1997) et al. reported that the knowledge of African-American men were low and that income and education were two important factors which significantly affected men’s knowledge about prostate cancer. Regarding the social demographic
factors, Knowledge about prostate cancer was lower among low-income men than higher income. This association influenced the men’s rationale to seek early detection of the disease (Weinrich et al. 2004). Using a Health Belief Model, a survey on African-American males illustrated that older men who experienced urinary difficulties had a tendency to know more about the illness, but the younger men neither had knowledge about prostate cancer nor tendency to know more about the early detection of the disease (Clarke-Tasker & Wade 2002). This study suggested that knowledge about urinary symptoms was a predictor to encourage men to know more about prostate cancer.

Improvement of men’s knowledge about prostate cancer is necessary but changing or improvement their beliefs and behaviours about prostate cancer must be considered as part of screening in health policy. Moreover, attempting to increase men’s knowledge about the early detection of prostate cancer is not enough to change their screening behaviour. The findings of a survey by Talcott and his colleagues (2007) illustrated that despite limited education, African American men in North Carolina were aware of their higher risk of prostate cancer, the importance of early detection, and their responsibility for following the illness. Talcott’s study suggests that access to health care has a more important role in screening behaviours than attempting to motivate men to use screening approaches for the early detection of prostate cancer. However, due to recall bias and lack of data cross-validation the results of this study were difficult to be generalized.

Pickles (2007) and his colleagues recommended that education and improvement of the patient-doctor relationship should be addressed to invite patients to become active in their illness management as part of screening. Evidence suggests
that physicians have a moderate impact on men’s knowledge about their risk of prostate cancer (Cormier et al. 2002).

There are few qualitative studies, which have explored men’s beliefs and experiences in relation to the early detection of prostate cancer. In the UK, Leydon (2003) et al. studied the experiences of people with prostate cancer through the journey towards a cancer diagnosis. The findings of this study illustrated some of the difficulties men encountered through their experience. The first one was fear of cancer which had a strong association with incurability of the disease. The next difficulty was problem in communicating with healthcare practitioners which caused by their symptoms and led to misdiagnosis or delay in diagnosis. The role of family and friends was another factor, which could act either as a barrier for delaying diagnosis or a trigger for an appropriate action. Therefore, non-medical factors could affect the decisions that men made. Future studies are needed to realize the role of these factors on men’s experiences and perceptions in making an appropriate decision.

Allen and Embry (1991) reported that men believed that cancer is like a taboo. Therefore, fear of cancer is an emotional factor which contributes to a delay in understanding a PSA test. Chappie (2002) and her colleagues conducted a qualitative study to explore the attitude of older men to have a PSA test. This study suggested that there were several reasons for recommending the test including beliefs about the benefits of early diagnosis, responsibility, avoiding regrets, and a right to have information and improved access. The baseline of these reasons was having awareness and knowledge about the early detection of prostate cancer. Therefore, it seems that informed decision making increases men’s knowledge of the benefits and risks of the early detection of prostate cancer (Watson et al. 2006). Although this
study was the first UK study which addressed men's knowledge about PSA screening, the results were confounded by selection and non-response bias. However, contribution to improvement in men's knowledge was great.

From the practical view of the early diagnosis of prostate cancer, a few studies carried out to assess the men's perceptions about digital rectal examination. Through digital rectal examination males might experience more pain, if examined by a male physician, and more embarrassment if examined by a female doctor. This test is more painful and embarrassing for younger men in comparison with older men (Macías et al. 2000). Due to social stigmatization, men particularly the younger group feared to have this test (Clarke-Tasker & Wade 2002). Therefore, considering the psychosocial issues of the digital rectal examination, it seems that this test is a significant barrier to request examination or screening (Nagler et al. 2005).

Gray et al. (2000) argued that masculinity as a cultural and social reference shapes men's behaviours in managing the detection process. Within the detection process, most of the men try to avoid discussion about their cancer and attempt to control their anxiety. Most of them do not like to seek emotional support from other men (Gray et al. 2000). They are often uncomfortable to express their vulnerability in terms of sexual complications. Men's reaction to the sexual consequences of the therapeutic procedures of prostate cancer depends on their current level of sexual function and their relationship with their partners (Boehmer & Babayan 2004).

2.7. Conclusion

To understand the whole spectrum of the early detection of prostate cancer, it seems that to be necessary to have a comprehensive view that reflects the whole dimensions of the prostate cancer detection process. The review of literature
demonstrated a positive attitude of general practitioners towards the early detection of prostate cancer but a lack of consensus on the following: (1) knowledge seen as important, (2) barriers to education and social class, (3) beliefs and socio-cultural factors influencing men to come forward for detection of prostate cancer.

In conclusion, the review of literature highlighted different gaps in the studies about the early detection of prostate cancer. Patients and general practitioners have an important role in the screening process of prostate cancer, which could be addressed through the explorations, knowledge and processes for the decision and detection at a local level.

For this purpose, this project was designed to explore these issues in a mixed methods study that uses a qualitative approach to understand men and GPs’ perceptions and experiences regarding the detection of prostate cancer (phase 1). The findings of the first phase were used to inform the design of a questionnaire to survey the views of GPs (phase 2).
Chapter 3: Research Methodologies
3.1. Introduction

It was my interest to understand to what extent to which socio-cultural factors contribute to explanations of delaying in detection of prostate cancer within men and health professional perspectives in Iran. From the biological perspective which was my initially background, I thought that there is a significant period of disease to be detected at the early stage using secondary prevention policies. However, beyond the biological aspects of diseases lie complex socio-cultural issues that involve the delaying of diagnosis and treatment of cancer. For example, to diagnose and treat prostate cancer at an early stage, there are available medical tests and techniques. However, this cancer is often diagnosed very late with significant clinical symptoms (Hosseini et al. 2007). Understanding these socio-cultural factors and conditions, which may affect the detection of prostate cancer, seems to be necessary. Based on this perspective, I decided to explore the socio-cultural issues of prostate cancer detection from patients' and GPs' viewpoints and the extent that these issues contribute to explanations of delaying in detection of the disease within men and health professional perspectives.

Coming from a medical background, it was hard, though very interesting for me to appreciate different research paradigms. Through this period, I familiarised myself with different qualitative and quantitative methodologies and philosophical frameworks. During this period of the study, my lack of knowledge became a strong motivation to explore deeper and to find my new identity as a qualitative researcher. Eventually, I decided to adopt a mixed methods study in order to provide a detailed and multi-perspective account of experiences. This methodology has been presented in detail in the first part of this chapter. I gave priority to the qualitative study, as it
offered more flexibility to explore how patients and GPs perceived and experienced the process of early detection of prostate cancer. I gradually realized that grounded theory with theoretical perspective of social constructionism could be a fit methodological approach for the qualitative phase of study in order to understand the social processes and interactions in the process of prostate cancer detection. The qualitative study was followed by a large survey on the Iranian GPs for further exploration and validation of the concepts which emerged in the qualitative inquiry as well as achieving applicability and generalizability of the qualitative findings. This chapter addresses the principles of mixed methods and the way that it has been applied in this study.
Triangulation and Mixed Methods
3.2. Triangulation

As it was discussed, health and illness have biological and psychosocial aspects. Qualitative and quantitative approaches observe these aspects through their different lenses. It is clear that there is distance between the outcomes of these two approaches. Using the method of triangulation is probably helpful to fill these gaps in order to understand health and illness better than viewing it from just one perspective. Additionally, the reality of health and illness would be recognized more fully when it is sought through multiple approaches.

Triangulation is an approach to research which uses a combination of more than one strategy in one study (Denzin 1970; Kimchi 1991; Strebert & Carpenter 2003). Triangulation a term used by navigators in order to describe a technique of plotting a position using three separate reference points was applied to research by Campbell and Fiske (1959) for the first time. The reason was that a phenomenon under study in a qualitative research project is like a ship at sea, that is, the exact description of the phenomenon is unclear. Therefore, researchers like navigators move to different reference points to study the phenomenon (Strebert & Carpenter 2003).

The type of triangulation can be classified in two main categories including methodical triangulation and methodological triangulation. *Methodical triangulation* could refer to the combination of different methods of research, data collection approaches, investigators, or theoretical perspectives in a single study (Neuman 2000 and Denzin & Lincoln 1994). Therefore, it can be classified in four types including 1) data triangulation 2) investigator triangulation 3) theoretical triangulation and 4) analytical triangulation which are explained below.
1. **Data triangulation** refers to the use of different sources of data for a single method. 2. **Investigator triangulation** means the use of several researchers in a single study. 3. **Theoretical triangulation** refers to the use of multiple theoretical perspectives in the study of a single set of data (Denzin 1970; Duffy 1987). 4. **Analytical triangulation** is the combination of two or more methods of analyzing data. These techniques can include different families of statistical testing or different qualitative techniques to determine similarities or validate data (Kimchi et al. 1991).

**Methodological triangulation** allows the use of different methodologies to study a single problem (Greene & Caracelli 1997; Morse 1991; Polite & Hungler 2006). Methodological triangulation has two forms: 1) **Within-method triangulation** or **intra-method triangulation** which applies multiple strategies to study a single problem by a single method. For example, participant observation and interviewing methods are adopted to study a single clinical problem from an ethnographic paradigm. 2) **Between-method** or **inter-method triangulation** which is also named mixed methods. This type of triangulation is applied to confirm the findings generated from one method by another method. For instance, findings from qualitative approach are tested in a quantitative survey.

The type of triangulation that has been used in this study was inter-method methodological triangulation in which findings from a qualitative approach were tested in a large quantitative survey. This type of triangulation is also named mix methods which are illuminated below in detail. Because of methodological triangulation, data triangulation (using semi-structured interview and postal questionnaire as main sources of data) and also analytical triangulation (using qualitative and quantitative techniques for analyzing data) was utilised in this study.
3.3. **Mixed methods**

Mixed methods are combined qualitative and quantitative methods for different reasons such as “to gain a variety of information, to illuminate a particular problem from different angles, or to look at different aspects of a phenomenon” (Holloway & Wheeler 2002:18). Tashakkori & Tedlie (1998) have argued that mixed methods research is a research design with philosophical assumption as well as methods of inquiry. As a methodology, it involves mixing qualitative and quantitative approaches at many phases in the research process from the initial philosophical assumptions to the drawing of conclusion. As a method, it focuses on collecting, analyzing and mixing qualitative and quantitative data in a single study or series of studies.

Creswell & Plano-Clark (2007) indicated that within the last 50 years, researchers have used different names to locate articles which might relate to mixed methods research. They have argued that it has been called 'multitrait/multimethod research (Cambell & Fiske 1959) which recognized as using several quantitative methods in a single investigation; 'quantitative and qualitative method' (Fielding & Fielding 1986), which acknowledged that the approach is combination of two methods; 'methodological triangulation' (Morse 1991) which recognized as the convergence of quantitative and qualitative data; 'integrated' or 'combined' (Steckler et al. 1992), in the sense that two types of data were blended together; and mixed methodology (Tashakkori & Tedlie (1998) which acknowledged that it is both a method and a philosophical worldview or paradigm. Creswell & Plano-Clark (2007) discuss that the most frequently used name is 'mixed methods research' which has
been used in the recent 'handbook of mixed methods in social and behavioural research' written by Tashakkori & Tedlie (2003).

There is a debate in relation to the paradigm or worldview stances which provide a foundation for mix methods research. As mixed method studies benefit from both qualitative and quantitative inquiry, it is important to note that they are underpinned by different worldviews or paradigms. In order to answer to the question as to which paradigm relates to mix methods research, the philosophical assumptions of the main paradigms used in research would be primarily discussed. Paradigm means “how we view the world and, thus, go about conducting research” (Creswell & Plano-Clark, 2007:21). In other words, paradigm is a system of ideas and technical procedures used by a group of researchers to produce knowledge (Holloway & Wheeler 2002).

There are five basic philosophical assumptions for each paradigm including ontological, epistemological, axiological, rhetorical, and methodological assumptions which could respectively answer to five questions (Creswell & Plano-Clark 2007; Dempsey & Dempsey 2000) including: 1) what is the nature of the reality (ontological question)? 2) What is the relationship between researcher and researched subject? 3) To what extent the values have position in the research inquiry? 4) What is the research's language? 5) What is the research's process? The given answers to these questions are able to describe sets of common characteristics of various types of paradigms and are also able to distinguish them (Creswell & Plano-Clark 2007; Dempsey & Dempsey 2000; Polite & Beck 2006).

Based on medical research approaches which are quantitative, qualitative and/or mixed methods, there are three main paradigms including positivism, naturalism
and pragmatism paradigms (Creswell & Plano-Clark 2007; Dempsey & Dempsey 2000; Polite & Beck 2006). Based on the philosophical assumptions of paradigm, the common criteria of these paradigms are presented in the Table 3.1. The outlines of the theoretical perspectives of these paradigms are given below.

Table 3.1: Common criteria of positivist, Naturalistic and pragmatist paradigms

<table>
<thead>
<tr>
<th>Paradigm</th>
<th>Positivist</th>
<th>Naturalistic</th>
<th>Pragmatist</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ontology</td>
<td>single reality</td>
<td>multiple realities</td>
<td>Single &amp; multiple realities</td>
</tr>
<tr>
<td>Epistemology</td>
<td>objective</td>
<td>subjective</td>
<td>practical</td>
</tr>
<tr>
<td>Axiology</td>
<td>unbiased</td>
<td>biased</td>
<td>Both biased and unbiased</td>
</tr>
<tr>
<td>Rhetoric</td>
<td>formal style</td>
<td>informal style</td>
<td>Formal or informal</td>
</tr>
<tr>
<td>Methodology</td>
<td>deductive</td>
<td>inductive</td>
<td>Combining</td>
</tr>
</tbody>
</table>

The positivist paradigm has its roots in positivism which is derived from an extremely positive assessment of science. Positivism is an approach based on an empirico-analytical paradigm. This method is rooted in a belief in universal laws and relies on deductive logic. This paradigm indicates that there is a fixed and single reality which can be objectively observed and measured independent of social, cultural and historical contexts (Dempsey & Dempsey 2000).

It argues that reality exists as an independent variable and it is free from personal value. Therefore, the researchers use techniques to eliminate bias and their influence of the findings of inquiry. In case of rhetorical assumptions, there are defined variables and formal writing style using quantitative terminology and quantitative methods such as objectivity, causality, association, and generalization. In terms of methodology, there are deductive processes characterized by different research designs and statistical techniques (Creswell & Plano Clark 2007; Polite & Beck 2006).
In opposition to the positivist paradigm, the naturalistic paradigm developed by Weber and Kant in the late 19th century. The naturalistic paradigm which also named constructivist paradigm assumes that there are multiple interpretations of reality (Dempsey & Dempsey 2000). Using this perspective, the researchers made attempt to understand how individuals construct their own reality within their social context. The interactions between the researcher and the participants create the findings. In the naturalistic paradigm the inquiry is subjective and value-laden. Therefore, knowledge would be maximized by minimization of distance between the researcher and the participants (Creswell & Plano-Clark 2007). In terms of the rhetorical or the language of the research, the findings will be reported using an informal style. The methodology of this paradigm is inductive and its design and categories would emerge through the research process (Dempsey & Dempsey 2000; Polite & Beck 2006).

Using positivist and constructivist paradigms provided a dualism between qualitative and quantitative research and pragmatism provided an opportunity to think about this issue and to solve the contradictions and tensions between those two paradigms (Johson & Onwuegbuzie 2004). Pragmatism is a philosophical paradigm and assumes that a proposition is true if it works properly and results in accepted practical consequences. Pragmatism was originally conceptualized during the late nineteenth century by Charles Peirce. Then it was further developed in the early twentieth century by William James and John Dewey (Bromley 2008). In the pragmatist paradigm inquiry, reality can be singular or multiple. From the pragmatists' perspectives, knowledge is viewed as being constructed and also based on the reality of the world which is experienced. Therefore, researchers are able to test hypotheses and provide multiple perspectives. In terms of epistemology, the researchers collect
data practically to address research question. The inquiry can be value free in case of quantitative approach and can be value-laden concerning the qualitative approach. Therefore, researcher can put qualitative and quantitative approaches together to produce a superior product by employing both formal and informal styles of writing (Creswell & Plano-Clark 2007; Johson & Onwuegbuzie 2004). Using mixed methods approach provided an opportunity to think about the contradictions and tensions between the qualitative and quantitative approaches (Johson & Onwuegbuzie 2004).

Along these lines, two stances were advocated through the history of using mixed methods research including; 1) Multiple dialectical paradigms and 2) alternative paradigm. Regarding the dialectical perspective, mixed methods researchers are able to use multiple paradigms in their mixed methods study. This stance states that the contradictions and oppositions between different paradigms could result in understanding the research problems from different ways. In terms of alternative paradigm, the mixed methods researcher claimed that pragmatism is the best paradigm which can be fitted with mixed methods approach (Creswell & Plano Clark 2007; Johson & Onwuegbuzie 2004). Tashakkori & Teddlie (1998) have argued that at least 13 different authors embrace pragmatism as the worldview or paradigm for mix methods research (cited in Creswell & Plano-Clark 2007).

3.3.1. Mixed methods designs

Methodologists’ writing about mix methods research has drawn a great deal of attention to classifying the different types of mixed methods designs. Tashakkori & Teddlie (2003) have noted that they have found 40 different types of mix methods designs in the literature. Creswell & Plano-Clark (2007) have summarized the range of these classifications into the four major types of mixed methods designs. These
designs include the triangulation model, the embedded design, the explanatory design and the exploratory design.

The exploratory design, which is used in this study, is a two-phase design in which the design starts with a qualitative data collection to explore a phenomenon, and then builds to a second quantitative phase. In this design based on the results of qualitative phase, an instrument is developed to test the hypothesis developed in the first qualitative phase (Figure 3.1) (Creswell & Plano-Clark 2007:77).

*Figure 3.1: The processes of exploratory design*

This design has two common variants: the instrument development model and the taxonomy development model. In the instrument development model the researcher, first qualitatively explore the research topic with a few participants. The qualitative findings then guide the development of items and scales for a quantitative survey instrument. In the second data collection phase the researcher implements and validates the instrument quantitatively (Creswell & Plano-Clark 2007:77). The taxonomy development model occurs when the qualitative phase is conducted to develop a taxonomy or classification system, or develop an emergent theory. In the second phase, which is quantitative, these results are tested in more detail (Morgan 1998; Tashakkori & Teddlie 1998).
3.3.2. Applying mixed methods in this study

Traditionally, there is still a huge gap between quantitative and qualitative research in the medical sciences. This gap basically is influenced by their philosophical background which is positivist in quantitative approaches. In medical sciences, quantitative research views medical subjects from a medical model with the philosophical background of positivism, while, qualitative research views the health and medical issues from the naturalistic perspective. Having a holistic view, it seems that health and illness are the best subjects to use both qualitative and quantitative methods to maximize the strengths and minimize the weaknesses of each approach. This strategy leads to mixed methods approach. Due to a lack of evidences about men’s and general practitioners’ perceptions and experiences in Iran, this study was designed based on mixed-method approach. Figure 3.2 shows the paradigms and the design of applied mixed methods, i.e. “exploratory design: instrument development model” in this study.

Figure 3.2: Paradigms and designs of the applied mixed methods in this study
As it has been shown in the figure, at the first phase of the study, which was a qualitative research, grounded theory was used by data triangulation. Data triangulation in this study refers to use of different sources of data (men and general practitioners) to explore their perceptions and experiences about the early detection of prostate cancer. Then in phase 2, the study continued by examining the emerged concepts in a large survey.

### 3.3.3. Mixed methods data collection

It varies depending on the type of mixed methods design. It might be concurrently or sequentially. In concurrent data collection, data are collected at the same time as in triangulation & embedded designs. In this form of data collection, the two forms of quantitative or qualitative data are collected within the same timeframe and independent of each other. They may be collected from the same level in an organization or from different levels. Additionally, quantitative or qualitative data collection can be given equal or unequal weight in a study. In concurrent data collection the analysis is conducted for different purposes including to converge the findings (as in the triangulation convergence design), to validate one form of data through the other form (as in the triangulation validating quantitative data design), to transform the data for comparison (as in the triangulation data transformation design), or generating data which will address different types of questions (as in the embedded experimental or correlational design) (Creswell & Plano-Clark 2007:117).

The sequential data collection involves collecting the quantitative (or qualitative) data in stage, that is, the results of first data inform the second form (quantitative or qualitative) of data collection. These procedures are included in explanatory & exploratory designs. In the first stage, the data collection and analysis
are either qualitative (as in exploratory design) or quantitative (as in explanatory design). Decision is then made about how the results will be used in the second stage of data collection and analysis. In other words, the second stage of data collection is built on the initial stage results. In sequential data collection, the two forms of quantitative (or qualitative) data are related or connected. Also, either the first or second data collection may be weighted more heavily, or the top priority may be either quantitative or qualitative (Creswell & Plano-Clark 2007:121).

In both concurrent and sequential data collection, quantitative or qualitative data collection can be given equal or unequal weight in a study depends on the research problem and the approach the investigator wants to emphasize.

In this study, a sequential data collection was carried out. However, the priority was given to the qualitative method in the first stage. The reason was that the process of early detection of prostate cancer was an unexplored issue in Iran and qualitative data collection helped to discover main issues in this process. The second stage of data collection was built on the initial stage results, that is, the findings of the qualitative phase informed the next quantitative survey through developing a questionnaire based on concepts and categories emerged from qualitative data analysis.

### 3.3.4. Mixed methods analysis

Data analysis in mixed method research includes the analysis of quantitative data with quantitative methods and qualitative data with qualitative methods. Thus, being familiar with both type of analysis is important. Data analysis in mixed method
research is different depending on the type of mixed methods design. It might be concurrently or sequentially.

In concurrent data analysis (as it is used in triangulation and embedded designs) several general guidelines are applied. In stage 1, a separate initial data analysis is conducted for each of the quantitative or qualitative data. In stage 2, the researcher merges the two datasets and as a result, the researcher is able to answer the mixed method questions like:

- To what extent do the quantitative or qualitative data converge? How & why?
- To what extent do the same types of data confirm each other?
- To what extent do the qualitative themes support the survey results?

Merging the quantitative or qualitative data would be possible through either transforming one type of data to make the quantitative or qualitative datasets comparable or comparing the data through a discussion or matrix (Creswell & Plano-Clark 2007:137).

In sequential data analysis (as it is used in explanatory and exploratory designs), the purpose is to use the information from the analysis of the first database to inform the second database. In explanatory designs the mixed methods questions are:

- In what ways do the qualitative data help to explain the quantitative results?
- Which cases provide the best insight into the quantitative results?

In exploratory design the mixed methods questions are:

- What items and scales represent the qualitative results?
- Is the instrument which was designed based on the qualitative data a better instrument than existing instruments?
- What variables or taxonomy emerge from the qualitative data were not recognized beforehand?
- In what ways do the quantitative results generalize the qualitative findings?
- How do the qualitative results inform the development of the instrument?

The information from the analysis of first stage is then reviewed and decision are made about what information is most useful for the collection and analysis of the second database (stage 2) (Creswell & Plano-Clark 2007:144).

In this study a sequential data analysis was conducted. In this approach qualitative data was analyzed using Strauss and Corbin’s (2008) mode of analysis which was concluded by generating concepts and categories and eventually developing two theoretical schemes which were not recognized beforehand. Then a questionnaire was designed using the qualitative findings which was consistent with and based on social constructions in Iranian society. Quantitative data were analysed using descriptive and inferential statistics and the way that it could generalize qualitative findings was discussed (See chapter 8). At the end, the qualitative and quantitative findings integrated and the way that those could inform the cancer care practice was argued. The detail is available in conclusion chapter.
Methodology of qualitative phase of the study
3.4. An overview of qualitative research

Over the last two decades the amount of qualitative research on medical subjects especially cancer and chronic diseases has grown considerably. Regarding the rise of life-expectancy and improvements in medical care, more people are living longer with a variety of chronic diseases. Therefore, understanding the social and psychological aspects of the illness becomes increasingly important. In this regards, the qualitative approaches appear to be suited to understand personal meanings and experiences of illness and useful to explore social aspects of the chronic diseases, such as cancer of the prostate.

The qualitative research is an approach to identify the qualitative or non-numeric aspects of a phenomenon from the participant’s perception. In terms of philosophical background, the qualitative research is often based on naturalistic or interpretative paradigm (Holloway & Wheeler 2002). The naturalistic paradigm typically is a qualitative approach that focuses on social and constructivist aspects of diseases, which is different from the biological aspects and more about how people perceive and understand the illness (Burns & Grove 2003; Dempsey & Dempsey 2000).

The qualitative research can be defined as "any kind of research that produces findings not arrived at by means of statistical procedures or other means of quantification" (Strauss & Corbin 1990:10). This approach is a way to gain insights through discovering meanings and exploring the richness, depth, and complexity of the prostate cancer experiences and also understanding the beliefs, perceptions and experiences about the early detection of prostate cancer.
The aims of qualitative research can be classified under four main categories: 1) qualitative research seeks to find depth and intimate information from a small sample, 2) this approach attempts to understand how and why people do, think, and make meanings for their actions and behaviours rather than look simply for what people do, 3) qualitative approaches can be situated in micro\(^1\) or macro\(^2\) spectrums, and 4) qualitative research attempts to discover new information which may reflect new thinking, practice, behaviour, social organization, and/or social structure (Ambert et al. 1995).

In this study a qualitative approach was adopted for the first phase of study, as qualitative inquiries are well suited to investigate new grounds and topics about which little is known, because unstructured or semi-structured approaches allow researchers to explore issues participants raise during a study. Considering the dearth of research in the topic of early detection of prostate cancer, a qualitative approach was adopted. In addition, it allowed participants to describe the social issues that influenced their perceptions and experiences in the detection journey. Also qualitative work had the ability to explore the complex attitudes, behaviours, and interactions between patients and GPs in the process of early detection of prostate cancer.

There are a number of different disciplines which have been used to guide the qualitative inquiry. Polit (2001) summarized these characteristics as follows: 1) flexibility during data collection, 2) merging together of different strategies in data collection, 3) attempting to have a holistic understanding, 4) strong involvement of the researcher in the field of the study for long period of time, 5) the researcher

\(^1\) Micro spectrum focuses on a single world such as pain clinic.  
\(^2\) Macro spectrum focuses on a larger aim such as hospital.
becoming part of the research, and 6) formulating subsequent strategies by ongoing
data analysis to determine the end of the research.

Data collection in qualitative approaches is carried out using different
methods. Interviewing is the most common method which is used to collect data. It
seems that it is the most appropriate tool for exploring the participant’s perspectives
and understanding the meaning of their experiences. Depending on the response of the
participants the interview can be formal or informal. Although there is no typical
interviewing approach in qualitative research, one-to-one or face-to-face interview is
the most common form (Chenitz & Swanson 1986). Participant observation which is
another method of data collection refers to a type of observation in which the
researcher becomes a participant in the setting. In other words, the researcher as a
participant observes the work of group under study. This method can be processed in
three steps including descriptive, focused and selective observation (Bryman &

In this study the interviewing method was used for data collection. A face-to-
face semi-structured interview was applied to gain in-depth information on men and
GPs’ perceptions and experiences about the early detection of prostate cancer. Semi-
structured interviews helped the researcher to obtain more focused and clear
information using clarifying or exploratory probes. Also it gave the opportunity and
freedom to men and GPs to discuss their perceptions and experiences in greater depth.
Further explanation in relation to this topic could be found in the method chapter.


3.5. Social constructionism

Social constructionism was applied as the philosophical background of the methodology. Developing of this approach in the social sciences has influenced from different disciplines. Burr (2005) points out, social constructionism is a sociological and psychological theory of knowledge. From the sociological perspective, this theory focuses on exploration of the development of social constructions in particular social contexts. While from psychologists' viewpoint, this theory focuses on the important role of culture, language and context in the process of constructing knowledge.

Social constructionism was developed by Berger and Luckmann (1966). They indicated that reality and knowledge are the key terms in social constructionism. Reality was defined 'as a quality appertaining to phenomena that we recognize as having a being independent of our own volition' (Berger & Luckmann 1966:13). Knowledge is referred to 'the certainty that phenomena are real and that they possess specific characteristics' (Berger & Luckmann 1966:13). In other words, they argued that 'reality is socially constructed and the sociology of knowledge must analyze the process in which this occurs' (Berger & Luckmann 1966:13). They also claimed that all knowledge originated from and is preserved by social interactions.

Until the 1950s, social scientists interested in medical sociology had worked under the paradigm that has been shared many of its assumptions with medical scientists' paradigm. From 1960s, a distinction appeared between the theoretical approach of social scientists and the theoretical approach of medical research. Parsons's (1951) sick role model distinguished between the biological basis of illness and its social basis and argued that illness has social state as well as biological state.
In 1970, Freidson developed another approach to view illness from the theoretical perspective of social constructionism. He argued that illness could be analyzed from both social and biological states. In terms of biological, illness exists independently of human knowledge. However, regarding the social state of illness, it is created and formed by human knowledge (Freidson 1988). Before discussing the social construction of illness, it is important to describe the philosophical assumption of social constructionism.

Social constructionism (constructivism) is a multidisciplinary approach to the social sciences and its development was influenced by philosophy, sociology, psychology and linguistics. In this approach, attempt was made to explicate 'the processes by which people come to describe, explain, or otherwise account for the world by the people in which they live' (Gergen 1985). Therefore, knowledge is the core and central point of this theory (Stead 2004). Social constructionism was founded on four assumptions (Burr 2005) which are discussed next in more detail.

Knowledge is a product of social interactions

Based on this assumption, understanding of the world is a product of social interaction. This approach is in opposition to positivism that is a doctrine contending that sense perceptions are the only admissible basis of human knowledge (Burr 2005). Moreover, it criticized the empiricism that is the view that experience, especially of the senses, is the only source of knowledge. Based on the positivism or empiricism paradigms, the nature of the world can be revealed just by observation. Whereas, social constructionist approach indicates that understanding the world by humans is a product of social interaction not just of observation.
This approach criticized many observational categorizations such as music where it is not necessary to divide up into classic or pop music. Given another example, this approach criticized classification of human being which is not necessary to categorize in man and woman. Indeed there is a difference in reproductive organs. But in case of sexual ambiguity and gender identity, there is a debate to categorize the human being in just two categories of male and female.

Another example is that medical sciences divided people into healthy or sick. This classification is based upon the observation of any pathological change in the human body. But there is a debate to draw a line border between these two categories. For example, in case of technical limitations to detect the illness pathogenesis, there is a significant gap between reality of the health or illness and understanding of the health or illness by medical approaches. In addition, by separation of body and mind, the medical approach focuses more on biological aspects of health and illness and neglected the psychosocial factors such as stress and poverty.

Relativity of knowledge

Social constructionists indicate that human being's understanding of the world is historically and culturally relative and dependent on time and place. For example, the view of childhood has changed through the centuries (Aries 1962). According to Aries' (1962) view, the institution of childhood has changed through the historical and cultural process of the last fifty years. This means that the understanding of the world has been conditional. Giving knowledge being conditional, social constructionism is against essentialism which is much in evidence in traditional psychology.


**Fabrication of knowledge by social processes**

Social constructionists assume that understanding the world is constructed socially between people. Hence, knowledge develops through the social processes and interactions, particularly language interaction, between people in their daily lives. Their knowledge provides a common understanding of a particular subject and there is a kind of competition to achieve the accuracy of this understanding.

**Knowledge constructed Social actions**

The final assumption of social constructionism indicated that the social understanding of a particular subject could make different social constructions. These constructions could justify that the particular action or behaviour could be normal or abnormal. Moreover, the social understanding of an issue could result to different social actions. Therefore, knowledge and social actions go together as dynamic and re-producible processes. For example, addiction has been constructed socially as a kind of crime in Iran for ten years, but it is considering being a kind of sickness right now. Therefore, the social action for dealing with addiction was changed from imprisonment to treatment.

The above assumptions indicate that social constructionism is different from traditional social psychology. For example, essentialism is the belief that things have essential properties, properties that are necessary to those things being what they are (Burr 2005). From an essentialist point of view, prostate cancer detection is a biological phenomenon with already determined biochemical factors such as increasing PSA or pathological changes in TRUS. There is a misunderstanding of social constructionism to identify this phenomenon. Social constructionism is not just
saying that the illness detection determined by biological facts or influenced by psychosocial factors. A social constructionist argues that the detection of prostate cancer is a dynamic process and would be a product of social interactions.

Social constructionists criticise the realism which has us believe that things exist independently of their perception. Within social constructionism, knowledge about a truth can be derived from different concerns. For instance, detection of prostate cancer can be an essential health procedure, a controversial issue, or even an unnecessary health related subject. These views may be one way of seeing the detection of the illness phenomenon. Therefore, there can be many potential ways to the notion of truth about this issue.

As it was defined before, the social construction of illness is a sociological theory of knowledge which enables exploration the social concept of illness in particular social contexts. The theory of knowledge in Iran is based on Islamic texts and teaching of the Koran. This concept may appear to be natural to those who accept it, but in reality it is a creation of a particular society (Nettleton 2006). Islamic societies create their own view of the world and their own view on illness and diseases. As this study has been conducted in Iran, a Muslim country, it is noteworthy to elaborate how Islamic and religious beliefs shape the meaning, understanding and perception of illness? Muslims believe that the purpose of life is to pass the many tests that they must undergo during their stay here on this earth and if they pass these examinations or trials, then there will be eternal rewards. They have accepted it as a truth that they would have a great sorrow if they should fail them. Muslims also believe that among the many possible tests, one of the examinations that they can be tested with is ill health. They assume that Allah has given them so many gifts and
blessings that simply cannot be counted all and one of His most impressive blessings to human being is health - both good and bad. They believe that disease does not prove the non-existence of health altogether nor decay the non-existence of body. However, it is an extraordinary blessing when they are healthy and it is also an extraordinary blessing when they are ill. So, how can these two opposite statements be true at the same time? Islam has an elegant yet simple answer to this question. It is Allah who is the Creator and it is He in His Perfection and Wisdom (as well as with all His other attributes) who “runs the show”. Absolutely nothing can occur without His permission. Muslim believed that when He, in His perfect wisdom, decrees good health for them, then they will be healthy. When He in His perfect wisdom decrees ill health for them, then they will suffer from illness. Good health is truly a wonderful blessing and people should be grateful when Allah decrees that for them. It is an honour. But, then ill health is also a marvelous blessing. If a sick person can still remain grateful to Allah through the course of his or her sufferings, trials and tests of illness, and still not oppose his or her destiny and endure patiently, then there will be many rewards and recompenses for them. Their sufferings will be rewarded with spiritual honours and gifts of forgiveness (Jilani 2009).

The social-constructionists proposed various strands of the construction of illness. From the health professional perspective, medical knowledge simply describes disease as a reality of body dysfunction and investigates a scientific procedure for diagnosing and treating. But from sociologist perspective, illness has an entity which is a product of "social reasoning" and "social practice" and does not exist independently of social context (Nettleton 2006). In this regards, illness is a product of a complex phenomenon. This does not mean that patient does not suffer from
bodily dysfunctions or to deny the realities of distress of symptoms. The medical scientists confirm the established illness through (Bury 1986; Nettleton 2006).

Medical knowledge is able to reproduce and reinforce social relations. By development of medical knowledge the social relations has changed since the eighteenth century. Nettleton (2006) summarized these processes in five medical cosmologies, namely, Bedside medicine, Hospital medicine, Laboratory medicine, Surveillance medicine and E-scoped medicine.

1) Bedside medicine (from the 1770s to 1800s) refers to a close interpersonal relationship between doctor and patient. At this stage, the medical knowledge had been heterogeneous based on the doctor's theory of disease. This medical cosmology was based on the role of the practitioner and depended on private fees with perception of sick man as a person and conceptualization of illness as a total psychosomatic disturbance.

2) Hospital medicine (from 1800s to the 1840s) indicates the localization of medicine in hospital. At this stage, a coherent hospital based theory of disease that was based on localized pathology was developed. This medical cosmology was based on the role of clinician and depended on professional career with perception of sick man as a case and conceptualization of illness as an organic lesion.

3) Laboratory medicine (from 1840s to 1870s) refers to the medical knowledge, which was developed and controlled by scientists. This medical cosmology was based on the role of scientist and depended on a scientific career structure with the perception of a sick man as a cell complex and conceptualization of illness as a biochemical process.
4) Surveillance medicine (through the twentieth century) highlights the change to the medical localization from laboratory based to community based. This medical cosmology was based on the role of epidemiologist and depended on professional career structure with the sick man being perceived as a risk assemblage and conceptualization of illness as a latent, deviation from norm.

5) E-scoped medicine (through the twenty-first century) refers to a new medical cosmology which is based on the role of information and depended on a professional career structure with perception of sick man as a expert patient and health seeker and conceptualization of illness as a communications breakdown and interaction of systems. Thus, through this processes, medical knowledge was used to reproduce and restructure the existing social relations.

What does medical success depend on? Apparently, it may be determined by advanced medical technologies. However, in reality it is the outcome of application of medical knowledge and technologies, which are depended on social and political relations. Application of medical knowledge has been challenged by medicalization, which refers to the process in which certain events or conditions of everyday life come to be medical issues. The process of medicalization involves changes in social attitudes and is often intensified by the availability of biomedical and technical treatments (Nettleton 2006).

According to the above discussion on the social construction of medical knowledge, there are different strands of criticism on social constructionism. 1) non-unified perspective: for constructionists, there are differences within the perspective of the reality of the illness (discovery and fabrication perspectives). Thus, social constructionism is not a unified perspective opposite to empiricism which is the basis
of medical science and maintains a unique perspective of the disease to observe its biological manifestations. Therefore, Nettleton (2006:27) cites the work of Lock (1988) who argued that in terms of illness there is a biological reality which must be considered with cultural and social values through the dynamic relationship. 2) Relativism: a further related criticism of social constructionism is referred to the problem of relativism since the constructionists claimed that all knowledge is socially relative. Therefore, there is a main critical issue about the validity of the constructionists' view and how they can determine its validity. 3) Dualism: it refers to viewing the individual and society separately. As biomedical model has founded on the mind/body dualism which means that the mind and the body can be treated separately, social constructionism failed to address the gap between the individual and social aspects of the illness (Burr 2005; Nettleton 2006). In conclusion, social constructionism was developed, expanded, and changed very rapidly and it is expected that it may change over time.

3.6. Applying an appropriate approach

There are different approaches in qualitative research. The major methodologies which are often used in medical research are phenomenology, ethnography and grounded theory which illustrate the variation of interpretation in method related to both ontological and epistemological perspectives within the paradigm (Bailey 1997). A brief explanation of phenomenological and ethnographic approaches and the reason why these two approaches were rejected in favour for grounded theory are illuminated. Then grounded theory as the selected methodological approach in this study is presented in more details.
Phenomenology, rooted in a philosophical tradition developed by Husserl and Heidegger, is an approach to thinking about life experiences. Phenomenology is both a philosophy and a research method (Dempsey & Dempsey 2000:136; Burns & Grove 1999:340). It seeks to discover the essence and meaning of a phenomenon as it is experienced by people (Polit & Beck 2006:219). The purpose of phenomenological research approach is to understand the whole human being as they are lived-in phenomenological terms, to capture the “lived experience” of study participants (Burns & Grove 2003:340; Dempsey & Dempsey 2000:368). In descriptive phenomenology (eidetic) which was developed first by Husserl (1962), researchers attempt to describe lived experiences by bracketing out any preconceived views and intuiting the essence of the phenomenon by remaining open to the meanings attributed to it by those who have experienced it (Polit & Beck 2006:219). Interpretive phenomenology (hermeneutics) which was developed by Heidegger (1962), argue that hermeneutics is a basic characteristic of human existence which focuses on interpreting the meaning of experiences (Polit & Beck 2006:219).

Ethnography has its roots in social anthropology and emerged in 1920s and 1930s when famous anthropologists Malinowski (1922), Boas (1928) and Mead (1935) searched for cultural patterns and rules. Lecompte & Schensul (1999) has argued that ethnographers use culture as a “lens for interpretation” and focus on cultural members, phenomena and problems (Cited in Holloway & Wheeler 2002:135). Although the term “culture” can be defined in various ways, most definitions include patterns of behaviours and values shared by a group or groups. Dempsey & Dempsey (2000:139) argue that the primary purpose of ethnography is to formulate an in-depth description of a culture or subculture of the group being studied. Formulation of an in-depth description of a culture requires an in-depth study
using unstructured interviews and participant observation of group activities, language and customs, while the researcher is physically present among the subjects during the long data collection phase. Polit & Beck (2006:217) argue that ethnography is “a blend of a process and a product: fieldwork and written text”. They have argued that fieldwork is the process by which ethnographers inevitably come to understand a culture through exploring how that culture is communicated and portrayed. However, because culture is not visible and tangible, it is constructed through ethnographic writing.

Phenomenology and ethnography were not fitting and appropriate methodologies for this study, as phenomenology only addresses the lived experience of participants and ethnography interprets people's behaviour within the context of their culturally constituted environment, whereas the purpose of this research was to discover GPs and men’s perceptions and their interaction which were shaped by social constructions through the process of detection of prostate cancer. In other word, the purpose was to explore the explicit ways that social determinants and conditions influence the social process of detection of the disease in the particular context of Iranian society. As a consequence, the social experiences and interactions of the participants were sought. The reason was focusing on the manners in which GPs and patients make sense of their social interactions and exploring the impact of social and cultural constructions it seemed that grounded theory was the most appropriate methodology that allowed the researcher to explore for this issue (Corbin & Strauss 2008).
3.7. Grounded Theory (Straussian approach)

Grounded theory is an approach which was developed in the 1960s by two sociologists, Glaser and Strauss whose theoretical roots were in symbolic interactionism, which focuses on the manner in which people make sense of social interactions and the interpretation they attach to social symbols. The primary purpose of grounded theory is to generate theory from observations of real life as these were occurring (Polit & Beck 2006:222). Grounded theory, as the chosen qualitative approach for this study, is discussed in more details below.

Grounded Theory one of the systematic methods of qualitative research has been defined as a qualitative research approach that uses inductive reasoning to generate the theoretical understandings of the research by grounding or basing the theory in the data being collected' (Dempsey & Dempsey 2000:366). It is a qualitative research approach for investigating social processes and structures and is also a highly systematic approach for studying social experiences and interactions (Chenitz & Swanson 1986; Holloway & Wheeler 2002).

In the 1960s, two sociologists, Barney Glaser and Anselm Strauss, generated grounded theory from using symbolic interactionism to find out health professionals’ interaction with dying patients. They published "the discovery of grounded theory: strategies for qualitative research". Since their original publication in 1967, Glaser and Strauss have disagreed on 'how to analyze the data' and this has resulted in splitting grounded theory in two approaches. Therefore, Strauss and Juliet Corbin in 1990 published an alternative view of grounded theory entitled "basics of qualitative research: grounded theory procedures and techniques". This approach involves three
types of coding including open, axial, and selective coding. Using the paradigm to help identify linkage among categories, this approach was named Straussian paradigm. This was followed by Glaser (1992) who was disagreeing with some of the procedures advocated by Strauss and Corbin. He published a rebuttal in 1992 entitled "emergence versus forcing: basics of grounded theory analysis" to highlight the difference in what he argued was original grounded theory. He proposed the coding in three types including open, selective, theoretical coding. He believed that the outcome of grounded theory is to discover theory rather than conceptual description which were the outcome of the Straussian approach. This approach of grounded theory was named Glaserian approach (Charmaz 2006; Holloway & Wheeler 2002).

These two approaches of grounded theory have different perspectives, which resulted in constructivist and objectivist grounded theory. Constructivist grounded theory has its roots in an interpretivism (naturalism) paradigm, but objectivism grounded theory is rooted in positivism paradigm. The Glaserian approach is an objectivist grounded theory and based on etic positioning, where the researcher is separate from and looks in on the social realities. However, the Straussian approach is a constructivist grounded theory and based on emic position, where the researchers create the theory of a social process through their own understanding of the social realities (Charmaz 2006).

Since its creation, grounded theory has been progressively developed based on its original formulation. Although it was first used within the field of sociology, it has been applied by other researchers in different areas. Now, grounded theory is a favoured approach in social medicine and health care to conceptualize behaviour in
complex situations and to understand the impact of health beliefs and experiences (Polit et al. 2001 and Strauss & Corbin 1998).

A theoretical perspective of grounded theory is developed from symbolic interactionism. This framework focuses on the interaction between people and investigates the social behaviours and social roles (Holloway & Wheeler 2002). Symbolic interactionism was the background of Strauss who generated grounded theory along with Glaser (Dey 1999). Therefore, using symbolic interactionism as a theoretical perspective of grounded theory is very common in previous studies. Nevertheless, according to the aims of this study which focus on the men's and GPs' perceptions on the early detection of prostate cancer, social constructionism was applied as the theoretical framework in order to understand the social constructions of the illness rather than just the social and professional interactions.

The purpose of grounded theory study is to understand the concerns, actions and behaviours of a group and to explore those social processes and interactions in a theory (Chenitz & Swanson 1986). Therefore, developing a theory or modifying an existing theory is the objectives in grounded theory. Science is a "social institution" for producing knowledge. This concept has its root in the enlightenment period of western history (from the 1600s to the 1800s). This period began with the study of the natural world by believing in logical reasoning and emphasis on experiences. Then it spread to the study of social life. Social theory is referred to as "a system of interconnected abstractions or ideas that condenses and organizes knowledge about the social world" (Neuman 2000:40). In this regard, a theory is a logical testable model to explain a set of natural phenomena. The method of creating a theory in grounded theory is essentially based on two elements: concepts and propositions.
Concepts are terms which are used to denote abstract perception of phenomena at the empirical level through the use of symbols. Propositions are used to express the relationships between concepts (Chenitz & Swanson 1986; Glaser & Strauss 1967).

Through the process of using grounded theory approach, it is necessary to consider these characteristics including theoretical sensitivity, theoretical sampling, data collection, constant comparison, theoretical memos and filed notes, the literature as a source of data, data analysis, and integration of theory (McCann, Terence et al. 2003; Holloway & Wheeler, 2002). The literature review in grounded theory was illustrated in chapters two. The other features would be more elaborated in this part.

Theoretical sensitivity is defined as the researcher sensitivity to distinguish between the significant and non-significant data in terms of their meanings. This sensitivity can be increased through the research when the researcher interacts with data and think about emerging of a theory (Strauss & Corbin 1998). The sensitivity can be obtained from a primary literature review and from personal (researcher) experiences and/or professional experiences as well (McCann, Terence et al. 2003).

Sampling in grounded theory is guided by theoretical sampling. At the beginning of data collection, purposive sampling is used as the preliminary sampling to help the researcher to select participants who provide sufficient data. As initial data are collected and analysed, inclusion of participants is maintained by theoretical sampling to compare emerging categories and establish conceptual boundaries. According to Glaser & Strauss (1967:45), theoretical sampling is a “process of data collection for generating theory whereby the analyst jointly collects, codes, and analyzes his data and decides what data to collect next and where to find them, in order to develop the theory as it emerges”.

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Time and continuance are the main criteria in theoretical sampling to differentiate this type from other types of sampling. Theoretical sampling in grounded theory is a process of data collection which is planned and continued through the study not before. Therefore, the initial data guide the next plan of data collection for further sampling. This process is continued until the point of data saturation (Strauss & Corbin 1998; Charmaz 2006). There are some indices of data and theory which can help the researcher to establish the achievement of saturation. The data indices allude to repetition in information and confirmation of previously obtained data. The theory index refers to achieve the development of the theory (Denzin & Lincoln, 1994; Holloway & Wheeler 2002).

Developing a theory depends on the meanings obtained from the data collection process. Meaning must be observed within the context in which it occurs (Mishler 1979). There are multiple interpretations of the reality of the meanings. As it is mentioned, there are different techniques and strategies for data collection in the qualitative study. The choice among these techniques depends on the focus of the research and on the purposes of the researcher as well (Wimpenny & Gass 2000).

In grounded theory, in-depth interview is the main sources of data collection. Chenitz & Swanson (1986) classified two approaches of interviewing in grounded theory; the formal and the informal qualitative interview. Regarding the formal interview, it can be noted in three types including unstructured, semi-structured, and structured interview (Baryman & Burgess 1999; Holloway & Wheeler 2002). The informal interview refers to “everyday conversations for the purpose of collecting and validating data”. Observation in the field and using existing literature and documents are other sources of data in grounded theory (Chenitz & Swanson 1986:79).
The constant comparative method is one of important features of Grounded Theory which should be applied from the beginning of the data analysis. It means that all objects should be closely examined and compared in terms of similarities and differences, while constantly asking of the data the neutral question “what category or property of a category does this incident indicate (Strauss and Corbin 1998)?” By comparing concepts and subcategories, the researcher would be able to group them into major categories. When the researcher code and categorize incoming data, he/she compares new categories with those that have already been established. As a result, incoming data would be checked for their fitness with existing categories (Holloway & Wheeler 2002). Charmaz (2006), in this relation also indicates that grounded theory is a comparative method in which the researcher compares data with data, data with categories, and category with category.

Through the process of a research based on grounded theory, the researcher should write field notes and memos and also make diagrams. Field-notes refer to a record of certain events, actions or interactions which have been observed through the interviewing. It should be recorded during or immediately after data collection. Memo-writing refers to a “pivotal intermediate step between data collection and writing drafts of papers” (Charmaz 2006:72). Writing the memos continues throughout the process of the research. It should be recorded analytically and conceptually rather than as a descriptive report of the data setting.

“Memoing” is an inductive technique because it happens during the conceptualising of the data and it is also a deductive technique because the researcher attempts to assess the link between categories and subcategories. In memo writing diagrams can help researcher to represent the structure of the study and to signify the
conceptual relationship that has been developed among categories (Strauss & Corbin 1998). Diagrams are visual representations of data which can be useful for sorting out the various relationships. Diagrams begin to take on form in the stage of axial coding. Integrative diagram can be used to describe early relationships between the category and its subcategories or among several categories (Strauss & Corbin 1998).

Memos and diagrams are essential procedures in research aimed at theory generation, as they allow researchers to keep a record of the analytic process. Memos and diagrams will vary in form and comply over time and by type of coding. Any break in logic quickly becomes evident as thoughts are put down on paper as memos or diagrams (Strauss & Corbin 1998).

Glaser (1992) argued that the grounded theory approach is a general methodology of analysis linked with data collection that uses a systematically applied set of methods to generate an inductive theory about a substantive area. According to Corbin & Strauss (2008), analysis involves examining a substance and its component in order to determine their properties and functions and thereafter utilizing the acquired knowledge to make inferences about the whole data. In making inferences, analysts rely upon professional/ experiential knowledge in order to recognize and give meaning to data. They have argued that there is a difference between initial and later analysis in grounded theory, i.e. in the beginning of the study, analysis is usually more detailed or "microscopic" in order to explore all possibilities and then later tends to be more "general" with the purpose of fully developed and validated interpretations. Microanalysis, which has been discussed in 1998 edition of Strauss and Corbin's book is a kind of coding which is not a structured, static and rigid process. However, it is a free flowing, dynamic and creative one in which an interplay occurs between the
analyst and data during the analytic process (Strauss & Corbin 1998). Corbin & Strauss (2008) have argued that microanalysis is not a different form of coding. Instead, it is a more detailed type of open coding which designed to break open the data to consider all possible meanings. They believed that microanalysis is a valuable analytic means that is like using a high-powered microscope to examine each piece of data. Corbin & Strauss (2008) have argued that its purpose is to generate ideas, to get the researcher deep into the data and to focus on pieces of data that seem relevant but their meaning remains elusive. However, microanalysis complements a more general analysis. Whereas microanalysis looks at the detail, general analysis steps back and looks at the data from a broader perspective.

Corbin & Strauss (2008) have also discussed using analytic tools that are a set of thinking strategies that are adopted by analysts to make sense out of data. These tools can stimulate the analytic process and assist novice researchers to grapple with the mountains of data. Corbin & Strauss (2008) have introduced different analytic tools including the use of questioning, making comparison, thinking about various meaning of a word, drawing upon personal experience, looking at words and language, looking at emotions, looking for the negative cases and looking at the structure and organization of the narrative in terms of time or some other variables.

1. Open coding

As a whole, initial analysis in grounded theory involves what is commonly named coding which means taking raw data and raising it to a conceptual level. Coding is not merely a paraphrasing; instead, it is interacting with data using aforementioned analytic tools (Corbin & Strauss 2008). Glaser (1992) distinguished two types of coding including substantive (open) and theoretical (selective) coding,
but Strauss and Corbin (1990) described three levels of coding consisted of open, axial and selective coding.

Strauss and Corbin (1990:61) described open coding as “the process of breaking down, examining, comparing, conceptualizing, and categorizing data”. It also was defined “the part of analysis that pertains specifically to the naming and categorizing of phenomena through close examination of data” (Strauss & Corbin 1990:62). Dey (1999) presents this as "the first basic analytical step" from which everything else including the phases of axial and selective coding follow. Through this process, the assumptions of the analyst and others about phenomena are questioned or explored which leads to new discoveries (Strauss and Corbin 1990). Conceptualizing in open coding is the first step in theory building, which enables researcher to group similar events, happenings and objects under a common heading or classification using more abstract higher order concept, that is, categories. Grouping concepts into categories is important because it enables the analyst to reduce the number units with which he or she is working. Additionally, they have analytic power, as they have the potential to explain and predict (Strauss and Corbin 1998). After categorization, the specification of properties and their dimensions is carried out and as a result, patterns are appeared. Thus, the foundation and beginning structure for theory building is achieved (Strauss and Corbin 1998).

2. Axial coding

Axial coding is the next step of analytic process, in which “data were put back together in new ways after open coding, by making connections between categories” (Strauss & Corbin 1990:96). This is done by a coding paradigm, which is identified as “an analytic tool devised to help analysts integrate structure with process” (Strauss &
Corbin 1998:123). This paradigm model includes casual condition, phenomenon, context, intervening conditions, action/interaction, and consequences. Using this model helps researcher to link subcategories to categories, and to understand the phenomenon, systematically.

Based on definitions by Strauss and Corbin (1990 and 1998), a causal condition refers to “events, incidents, happenings that lead to the occurrence or development of a phenomenon” (Strauss & Corbin 1990:96). They defined phenomenon as “the central idea, event, happening, incident about which set of actions or interactions are directed at managing, handling, or to which the set of actions related” (Strauss & Corbin 1990:96). Context is defined as “the specific set of properties that pertain to a phenomenon along a dimensional range” (Strauss & Corbin 1990:96). Intervening conditions are the factors that facilitate or constrain the strategies of action/interaction. These factors include “time, space, culture, economic status, technological status, career, history, and individual biography” (Strauss & Corbin 1990:103). Action/interactions refer to the strategies “which are directed at managing, handling, carrying out, responding to a phenomenon as they exist in context or under a specific set of perceived conditions” (Strauss & Corbin 1990:104). The last component of paradigm model is consequence, which refers to “outcomes or results of actions and interactions” (Strauss & Corbin 1990:97).

Strauss & Corbin (1998) in the second edition of their book have argued that labelling conditions as causal, contextual and intervening are ways of trying to sort out some of the complex relationships among conditions and their subsequent relation to action/interaction. They have also discussed that identifying and listing which conditions are causal, contextual or intervening is not so important, rather, what the
analyst should focus on is the complex interweaving of events (conditions) leading up to a problem, an issue or a happening to the people who are responding through some action/interaction, with some sort of consequences.

Glaser (1992) in relation to the paradigm model introduced by Strauss and Corbin argued that “in actuality it teaches the analyst to force a full conceptual description on data with no questions about whether the links are relevant to any emerging theory that really explains how the participants process their main concern” (Glaser 1992:63). He believed that that Strauss’s approach is “full conceptual description” not grounded theory. Glaser mostly put emphasis on emergence instead of forcing data and avoiding asking preconceived questions and methodological techniques.

Corbin & Strauss (2008) in the last edition of their book have an argument in relation to "artificial" distinction between open and axial coding. They have argued that axial coding in previous editions of their book was presented in a separate chapter, because it was thought that it occurred separately from open coding. But then they presented the idea that open coding and axial coding go hand in hand and the distinction between two types of coding is "artificial" and for explanatory purpose. Indeed, although the data are broken apart and concepts are identified to stand for the data, simultaneously, the analyst has to put the data back together again by relating those concepts.

In axial coding, one of the important issues is coding for process. Analyzing data for process in grounded theory is not a separate aspect of analysis. Coding for process is part of axial coding and the building of categories in which instead of looking for properties, the analyst is purposefully looking at action/interaction and
noting movement, sequence, and change as well as how it evolves in response to changes in context or conditions. In other words, coding for process represents the dynamic and evolving nature of action/interaction that occur over time. It may change or sometimes remain the same in response to the situation or context. Process may or may not occur in continuous forms or sequences. Although process is often described by analysts as stages or phases, it also can be examined as sequences or shifts in the nature of action/interaction and as Strauss and Corbin (1998:167) indicate, "not everything that is process can be reduced to stages or phases, nor it should be". Process can be the organizing thread of the theory and without process the theory miss a vital part of its story, i.e. how the action/interaction evolves Strauss and Corbin (1998).

3. Selective coding

Strauss and Corbin (1990:116) have defined selective coding as “the process of selecting the core category, systematically relating it to other categories, validating those relationships, and filling in categories that need further refinement and development”. In other word, selective coding is the process of integrating and refining the theory.

Integration is an ongoing process, which occurs over time beginning with the first step of analysis and often not ending until the final writing. It is an interaction between the analyst and the data throughout the analysis (Strauss & Corbin 1998). Several analytic techniques can be used to facilitate the integration process including sorting and reviewing memos, writing the storyline memo, using diagrams (Strauss & Corbin 1998).
Discovering the core category is the next step in selective coding. When the major emerging categories linked, it is the time to pull the theory together around a core category (Chenitz and Swanson 1986). The core category represents the main theme of research. Strauss and Corbin (1998) have argued that in an exaggerated sense, it consists of all the products of analysis condensed in a few words that seem to explain what "this research is all about". To choose core category, some criteria were illuminated by Strauss and Corbin (1998) as follows: 1) It must be central, i.e. all other categories should be related to it 2) It must appear frequently in the data, 3) The explanation which evolves by the relating the categories should be logical and consistent 4) The phrase used to describe the central category should be sufficiently abstract 5) Analytical refinement of the concept should be resulted in the growth of theory in depth and explanatory power and 6) The category should be able to explain variation as well as the main point made by the data.

Refining the theory is carried out when the researcher has outlined the overarching theoretical scheme. Refining the theory consists of reviewing the scheme for internal consistency and for gaps in logic, filling in poorly developed categories, trimming theory and validating the theoretical scheme (Strauss & Corbin 1998). To review the scheme for internal consistency and logic, storyline memo and diagrams can be checked and if they are clear and show the flow of data in a logical manner, then consistency and logic should follow. Filling in poorly developed categories can be done through review of memos or raw data, looking for data that might have been overlooked, or through further theoretical sampling. For trimming the theory, the extraneous concepts, which do not seem to fit the theory, should be dropped. These usually are concepts that never were developed, probably because they did not appear much in data or seemed to trail off into nowhere. Finally, the theoretical scheme is
validated by comparing it to raw data, doing a type of high-level comparative analysis, or by presenting it to respondents and requesting them to comment on how well it seems to fit their cases. A theory that is grounded in data should be familiar to participants, and although it might not fit every aspect of their cases, the larger concepts should apply.

Integration of a theory is not just a static description of situation by linkages between categories. But the process of occurrence should be taken into account. A theory can be considered substantive or formal theory (Glaser & Strauss 1967:32). Substantive theory is created from a single study with a particular context and applied to a specific setting and situation. This type of theory can be generated from a small and limited project. Formal theory emerges from different studies with many situations and settings. It is more general than substantive theory (Strauss & Corbin 1998).

Since the creation of grounded theory, it has been progressively developed based on its original formulation. Although it was first used within the field of sociology, it has been applied by other researchers in different areas. Now, grounded theory is a favoured approach in social medicine and health care to conceptualize behaviour in complex situations and to understand the impact of health beliefs and experiences (Polit et al. 2001; Strauss & Corbin 1998).

The delay on the detection of prostate cancer indicates that it was not just a medical problem. Based on the controversial aspects of the early detection of prostate cancer, there is not enough evidence on factors which probably contributed to the construction of prostate cancer as a social problem in comparison with breast cancer. This study aimed to understand the social constructions of the illness from men's and
GPs perspectives. To achieve the aims of the study, mixed methods was my interest and among different qualitative approaches which could guide the first phase of my mix method study, I chose grounded theory, as I believed that it is a suitable approach to understand the social conditions and interactions of social constructions on the early detection of prostate cancer for the following reasons:

1) Grounded theory is a highly systematic research strategy to study the social process of the early detection of prostate cancer. 2) It can be an appropriate method for exploring men’s perceptions through the process of prostate cancer detection. 3) As Launer (1996) has noted, “general practitioner is an ideal testing ground for social constructionist ideas”, therefore, it seems that using social constructionism may give a wider theoretical perspective to find out more about men’s beliefs and general practitioner’s perceptions of the early detection of prostate cancer.

In this study the data were analysed using the constructivist grounded theory (Straussian paradigm). There are several reasons for choosing this approach of grounded theory. Using the paradigm model of constructivist grounded theory was helped to use this method easily for a novice grounded theorist. Moreover, the paradigm guided the process of data analysis in a standard procedure and framework. Finally, using the paradigm model helped me to avoid a time-consuming procedure and lengthy process of data analysis.
Methodology of quantitative phase of the study
3.8. An overview of quantitative research

Quantitative research can be described as a systematic investigation of inquiry. This approach is rested on assumption that all evidences are rooted in objective reality and can be measured directly or indirectly through the senses. Based on this philosophical assumption, this approach is often associated with the positivism and applied by this paradigm. The research investigation could be planned systematically in a logical and organised manner from the statement of a problem to identification of research questions and hypothesis, using formal instruments and methods of measurement to collect data, analysis the numeric data with statistical procedures, and evaluation of results to accept or refuse hypothesis. Measurement is the central point to the quantitative approach and the concepts of the inquiry must be operationlised to measurable variables (Polit & Beck, 2006, Creswell & Plano Clark, 2007).

In medical sciences, the positivist paradigm is combined with observational and experimental studies and stresses the biological aspects of the diseases. The main aims of this approach are to test a deductive hypothesis, which moves from the general to the specific and to seek generalization of the findings. This has so far been the focus of the medical literature on prostate cancer (Fossey et al. 2002).

Traditionally, the quantitative research has been often based on the scientific method of inquiry. The scientific method is rooted in positivism, which was discussed and presented formerly in this chapter (Fossey et al. 2002). The characteristics of this method were classified in four categories (Dempsey & Dempsey 2000). The outlines of these characteristics are given below.
1- **Order** which refers to a set of systematic steps including statement of problem, definition of research method and material, collecting and analyzing the data, and formulation of conclusion.

2- **Control** means elimination or reduction of impact of confounding variables from the result of the research. Variable was defined 'an image, perception or concept that is capable of measurement' (Kumar 2005:55) and it can have more than one value such as height and weight. Confounding variable was defined 'the mixing of the effect of an extraneous variable with the effects of the exposure and disease of interest' (Greenberg et al. 2001:149). For example, through the study of relationship between oral contraceptives and cerebro-vascular accidents, the researcher must take method to control the effects of stress, diet, and smoking as confounding variables.

3- **Empiricism** means that the scientific evidences of research must be gathered objectively. This philosophical characteristic, which was formulated by John Locke in the 17th century, emphasizes the role of experience and sensory perception (Dempsey & Dempsey 2000).

4- **Generalizability** indicates that the gathered data from the sample can be representative of the target population. This characteristic of quantitative research enables to generalize the results to a broader group and to apply the findings that were drawn from the sample to the study population (Dempsey & Dempsey 2000).

The scientific method has some limitations. The main limitation is related to restriction in measurement of psychosocial concepts. In this regard, it is not possible to identify an appropriate indicator to operationalise all concepts especially social,
The method of the quantitative studies can be classified from three different perspectives including 1) 'the number of contacts with the study population, 2) the reference period of the study, and 3) the nature of the investigation' (Kumar 2005:93).

From the first perspective, the quantitative phase of the study was designed in three groups. 1) The cross-sectional study which 'analyze data collected on a group of subjects at one time rather than over a period of time' (Dawson & Trapp 2001:9). This method is used to determine what is happening right now. 2) The before-and-after study is actually two set of cross-sectional study which refers to investigate the changes in variable at two times. 3) The longitudinal study is used to determine the pattern of changes through the period of study.

Based on the reference period perspective, the quantitative research can be categorized as retrospective, prospective, and retrospective-prospective designs. The retrospective design is used to study a phenomenon, which has happened in the past. The prospective design is applied to study the outcome of a phenomenon, which is likely to happen in the future. Retrospective-prospective design is carried out to study the trend in a phenomenon on past and future.

Regarding the nature of the investigation, the quantitative studied can be classified as observational when the subjects are merely observed and interventional studies are those in which some intervention is performed (Dawson & Trapp 2001). The observational studies can be subdivided into descriptive and analytical surveys.
Descriptive surveys, such as cross-sectional studies, are used in medical research to: 1) provide data regarding the magnitude of the diseases such as incidence, prevalence, mortality and morbidity rates and ratios, 2) provide clues to diseases aetiology to help the formulation of an aetiological hypothesis, and 3) provide background data for planning, organizing and evaluating health services.

In contrast to descriptive surveys which look at entire populations, the analytical surveys' subject of interest is the individual within the population. The object is not to formulate, but to test hypotheses. This type of observational surveys can be subdivided into a) group-based such as ecological and trend studies, and b) individual-based such as case-control and cohort studies (Rothman & Greenland, 1998; Abramson & Abramson, 2008).

The interventional (experimental) studies provide scientific proof of aetiological or risk factors, and offer a method of measuring the effectiveness and efficacy of health services for the prevention, control and treatment of diseases in order to improve the public health. This type of medical studies can be subdivided into 1) individual-based studies such as randomized controlled or clinical trials which are based on patients as unit of study, 2) group-based studies such as community trials which are based on communities as unit of study (Abramson & Abramson, 2008).

3.9. Survey

In this study to conduct the second phase, an analytic individual-based survey was conducted to determine the extent to which the findings from the qualitative phase of this study were applicable to a wider population of GPs in Iran, Mashhad. The method of survey has been presented in chapter seven which contains
rationalization of doing the survey, the research questions, the survey variables and the measurement scales, the processes of developing questionnaires, the study population and data setting, the data collection processes, and finally the method of data processing in more details.

3.10. Integration of qualitative and quantitative studies

To integrate the qualitative data collected from the field and quantitative data gathered through classic epidemiological research approach, the mixed method analysis take place after both the qualitative and quantitative data analyses on the same phenomenon were completed separately. Then the different results are converged by comparing and contrasting the different results and drawing inferences across categories during the interpretation (Creswell & Clark 2007, Dubois et al. 2009). In addition to searching for converging and contradictory findings between two datasets, pertinent literature and professional experience are used to complete the integration process.
Phase I: Qualitative study

Perceptions and experiences of
Iranian men and General Practitioners' on the early detection of prostate cancer:
A qualitative study using Grounded Theory
Chapter 4: Method of the qualitative research
4.1. Introduction

To achieve the aims of this study, as it was mentioned in the methodology chapter, a mixed method of qualitative and quantitative approaches was adopted. In qualitative part (Phase 1), the study was carried out based on grounded theory with theoretical perspective of social constructionism. Using a semi-structured interview guideline, 12 Iranian men with diagnosed prostate cancer along with 12 Iranian GPs were interviewed.

To describe the method of phase 1, firstly the setting of study and the rationales for making decision to do the study in those settings are discussed. A profile of participants recruited in this study including patients and general practitioners are given afterward. I then elaborate sampling and the process of recruitment, data sources and the process of data collection. The practical issues of transcription and translation as well as the process of data analysis are argued later. This part is concluded by explaining the ethical considerations and strategies for maintaining rigour.

4.2. Study setting

This study was carried out in Mashhad, a big city in the North-East of Iran which is the second biggest city after Tehran, the capital of Iran. In this study, patients with prostate cancer who referred to both private and governmental hospitals and also general practitioners who were practising in private and public health clinics were recruited in the study. The reason for recruitment of patients with prostate cancer instead of healthy men was that they had experienced the illness and the stages of detection and the aim of this study was exploring their perceptions and experiences of
prostate cancer. Additionally, they were easily accessible in the governmental and private hospitals and clinics. Whereas healthy men had no or poor knowledge about prostate cancer and was not easily reached in the community. The rationale for recruitment the patients and GPs from both governmental and private sectors was to provide a good diversity of experiences of people belonged to different social classes. Because, in Iranian society, wealthy and educated people usually use medical services in the private sectors and doctor-patient relationship is somehow influenced by their social class. So having patients recruited from different social classes could help me to gain insight into the diverse experiences of patients and GPs in the process of early detection of prostate cancer.

4.3. Study Participants

Participants in this study were selected from two populations in Mashhad, Iran. The first population was consisted of men who had histopathologically confirmed prostate cancer. The second population was GPs who were members of the Medical Council of Iran and had medical practice authority in Mashhad.

Patients

Patients participated in this study were men who had histopathologically confirmed prostate cancer attended Omid (referral centre for cancer), Quaem and Emam-Reza training hospitals, Mashhad University of Medical Sciences. The patients were eligible for participating if their specialist confirmed their eligibility to be included in the study. All confirmed cases could take part in the study, irrespective of their age, cancer stage, and treatment procedure. Therefore, among 19 confirmed cases 12 patients were interviewed. Patients, who were visibly upset and also patients with
diagnosed mental illness were excluded. Outlines of demographic characteristics of the participants have been presented in Table 4.1.

<table>
<thead>
<tr>
<th>ID NO</th>
<th>Age</th>
<th>Marital status</th>
<th>Education</th>
<th>Occupation</th>
<th>Insurance</th>
<th>place of interview</th>
<th>beginning of illness</th>
<th>yr since beginning of illness</th>
<th>yr since beginning of therapy</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>72</td>
<td>Married</td>
<td>Graduated</td>
<td>Lawyer</td>
<td>G &amp; P</td>
<td>House</td>
<td>bone pain</td>
<td>12</td>
<td>10</td>
</tr>
<tr>
<td>2</td>
<td>73</td>
<td>Married</td>
<td>Primary school</td>
<td>Tailor</td>
<td>G &amp; P</td>
<td>House</td>
<td>LUTS</td>
<td>5</td>
<td>4</td>
</tr>
<tr>
<td>3</td>
<td>61</td>
<td>Married</td>
<td>uneducated</td>
<td>Labourer</td>
<td>G</td>
<td>Hospital</td>
<td>LUTS</td>
<td>5</td>
<td>3</td>
</tr>
<tr>
<td>4</td>
<td>67</td>
<td>Married</td>
<td>Primary school</td>
<td>Farmer</td>
<td>G</td>
<td>Hospital</td>
<td>LUTS</td>
<td>6</td>
<td>2</td>
</tr>
<tr>
<td>5</td>
<td>56</td>
<td>Single</td>
<td>Graduated</td>
<td>Engineer</td>
<td>G&amp;P</td>
<td>House</td>
<td>Asymptomatic</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>6</td>
<td>55</td>
<td>Married</td>
<td>Primary school</td>
<td>Labourer</td>
<td>G&amp;P</td>
<td>House</td>
<td>LUTS</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>7</td>
<td>65</td>
<td>Married</td>
<td>Primary school</td>
<td>Labourer</td>
<td>G</td>
<td>House</td>
<td>LUTS</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>8</td>
<td>65</td>
<td>Married</td>
<td>High school</td>
<td>Office worker</td>
<td>G &amp; P</td>
<td>House</td>
<td>LUTS</td>
<td>7</td>
<td>5</td>
</tr>
<tr>
<td>9</td>
<td>70</td>
<td>Married</td>
<td>MD</td>
<td>GP</td>
<td>G&amp;P</td>
<td>private clinic</td>
<td>Asymptomatic</td>
<td>0</td>
<td>5</td>
</tr>
<tr>
<td>10</td>
<td>78</td>
<td>Married</td>
<td>Graduated</td>
<td>Teacher</td>
<td>G&amp;P</td>
<td>House</td>
<td>LUTS</td>
<td>12</td>
<td>2</td>
</tr>
<tr>
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<td>80</td>
<td>Married</td>
<td>Graduated</td>
<td>Lawyer</td>
<td>G&amp;P</td>
<td>House</td>
<td>LUTS</td>
<td>6</td>
<td>3</td>
</tr>
<tr>
<td>12</td>
<td>63</td>
<td>Married</td>
<td>Primary school</td>
<td>Farmer</td>
<td>G</td>
<td>House</td>
<td>LUTS</td>
<td>2</td>
<td>1</td>
</tr>
</tbody>
</table>

MD=Medical Doctor & P=Governmental and Private, G=Governmental; P= Private, GP=General Practitioner; yr=years, LUTS; lower urinary tract symptoms

The participants were between 55-80 years in age (the mean was 67 years). All the participants were literate apart from one. Five participants were graduated from university. All of them were covered by the National Health Insurance but eight were additionally supported by private health insurance. The majority of interviews were carried out at the participants’ houses. This provided an opportunity and freedom for the men to discuss their perceptions and experiences in greater depth. Out of twelve participants who experienced the illness; nine of the men’s illnesses begun by the manifestation of lower urinary tract symptoms and one by low back pain. Two other
participants had not experienced any symptoms and prostate cancer was diagnosed either by routine or screening tests.

**General Practitioners**

GPs who were members of the Medical Council of Iran and had medical practice authority in Mashhad were eligible to participate in this study. GPs could take part in the study if they were practicing medicine either in the private system or health network clinics of Mashhad University of Medical Sciences. Through the data collection period, 12 GPs were interviewed from private and governmental sectors. Outlines of demographic details of this group of the participants have been presented in Table 4.2.

It was attempted to interview different generations of GPs working in both private and governmental systems. The participants were between 32-70 years in age (the mean was 45 years). The maximum and minimum periods of their practicing medicine were 7 and 42 years respectively (the mean was 16 years). Out of twelve participants, five were practicing in Iranian National and Treatment Network, and the same numbers were working in private clinics which were supported and managed by physicians. Two of the GPs were practiced in charity clinics which were managed by non-physicians and supported by religious non-governmental organizations.

The majority of GPs were male who were keen to be interviewed about the early detection of prostate cancer, as they were mostly involved with men seeking diagnosis for prostate cancer. However, two female physicians were interviewed, as they usually were less involved in the process of prostate cancer detection than male physicians. In order to gain their perceptions and experiences the interview were
conducted with two of them, both in private and governmental health clinics, in the areas with a large population.

<table>
<thead>
<tr>
<th>No</th>
<th>Gender</th>
<th>Age</th>
<th>Since yrs Graduated</th>
<th>Place of Interview</th>
<th>Employment</th>
<th>General view on PCS</th>
</tr>
</thead>
<tbody>
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<td>1</td>
<td>M</td>
<td>37</td>
<td>7</td>
<td>clinic</td>
<td>Charity</td>
<td>negative</td>
</tr>
<tr>
<td>2</td>
<td>M</td>
<td>41</td>
<td>10</td>
<td>clinic</td>
<td>NHTN</td>
<td>positive</td>
</tr>
<tr>
<td>3</td>
<td>M</td>
<td>46</td>
<td>11</td>
<td>clinic</td>
<td>NHTN</td>
<td>controversial</td>
</tr>
<tr>
<td>4</td>
<td>M</td>
<td>39</td>
<td>10</td>
<td>clinic</td>
<td>NHTN</td>
<td>positive</td>
</tr>
<tr>
<td>5</td>
<td>M</td>
<td>32</td>
<td>7</td>
<td>house</td>
<td>NHTN</td>
<td>controversial</td>
</tr>
<tr>
<td>6</td>
<td>M</td>
<td>44</td>
<td>10</td>
<td>house</td>
<td>NHTN</td>
<td>controversial</td>
</tr>
<tr>
<td>7</td>
<td>M</td>
<td>67</td>
<td>40</td>
<td>clinic</td>
<td>private</td>
<td>controversial</td>
</tr>
<tr>
<td>8</td>
<td>M</td>
<td>39</td>
<td>12</td>
<td>clinic</td>
<td>private</td>
<td>positive</td>
</tr>
<tr>
<td>9</td>
<td>F</td>
<td>35</td>
<td>8</td>
<td>clinic</td>
<td>Charity</td>
<td>controversial</td>
</tr>
<tr>
<td>10</td>
<td>M</td>
<td>70</td>
<td>42</td>
<td>clinic</td>
<td>private</td>
<td>negative</td>
</tr>
<tr>
<td>11</td>
<td>M</td>
<td>52</td>
<td>25</td>
<td>clinic</td>
<td>private</td>
<td>controversial</td>
</tr>
<tr>
<td>12</td>
<td>F</td>
<td>37</td>
<td>10</td>
<td>clinic</td>
<td>private</td>
<td>positive</td>
</tr>
</tbody>
</table>

M: male, F: female, NHTN: National Health & Treatment Network, PCS: Prostate Cancer Screening

4.4. Sampling

According to the methodology of grounded theory, sampling was guided by theoretical sampling. As Glaser and Strauss (1967: P.45) have noted “theoretical sampling is the process of data collection for generating theory whereby the analyst jointly collects, codes, and analyzes his data and decides what data to collect next and where to find them, in order to develop his theory as it emerges”. In the initial stage of sampling, the method of purposive sampling was used to select those most likely to provide sufficient data related to the beliefs about early detection of prostate cancer. Constant comparative method of analysis was used throughout the sampling to produce categories. The selection of the participants was continued until data saturation, i.e. till the time when there was no new data for adding to the categories. The data was saturated after interviewing 12 patients and 12 GPs from both private and governmental sectors.
4.5. Recruitment

All subjects were participated in this study voluntarily. The recruitment process was involved several steps. In the beginning, an introductory meeting was arranged with participants to explain the purpose and method of the study. Then, participants received a written information sheet (Appendix 1) about the research which had been translated in Persian. They were given an opportunity to study the sheet and to ask any related question. If they agreed to participate in the study, after signing the informed consent (Appendix 2), they were interviewed at a time and place which was convenient to them.

4.6. Data sources

Data were obtained by interviewing with 12 Iranian GPs and also 12 men with prostate cancer in Mashhad using an interview guide containing a set of topics related to the research questions. Field notes were another source of data that were immediately taken after interview and all nonverbal behaviours of participants during the interview were included as recommended by (Chenitz & Swanson, 1986). Demographic data were obtained at the beginning of interview using a brief questionnaire which contained some questions in relation to age, gender, marital status, educational background, occupation, insurance status and type of employment. Certain occurrences and events in the setting that seemed interested were noted in a diary which reminded me of the events and actions/ interactions in the field and triggered my thinking process. The literature was another source of data which helped me to generate more questions and to guide theoretical sampling (Holloway & Wheeler 2002).
4.7. Data collection

Using a semi-structured face to face interview guide (Appendix 3), all subjects were interviewed by the investigator. An interview-guide was used to focus on the main topics of the study and to cover all probing points. The interview guide was useful to ask similar questions of participants congruent with research questions and objectives from all and to manage time of interview. Interviews were carried out face-to-face with purposive selected sample. Each interview lasted between 45 to 60 minutes. Most of the patients were interviewed in their house on their request, but a few of them were interviewed in one of the interview rooms of out-patient clinic in both hospitals. GPs were interviewed in their clinics in their free times, usually before or after their consultations.

Participants were encouraged to talk freely about their beliefs, feelings, and experiences regarding the early detection of prostate cancer explored through probing questions. Based on the process of the interview and the participants’ responses, the sequencing of questions was different for each individual. To have an active interview, a good relationship with the participants was established. In this respect, I tried to establish a relationship of equality and happiness with the participants before and during the interview. By active listening to the participants’ perspective and giving voice to their concerns I was able to empower them. Through this process, fortunately, trust in each other was built up and this helped me to look into the unknown aspects of the participant’s perceptions and experiences. In relation to GPs, I encouraged them to elucidate freely their beliefs regarding screening of the disease and also to elaborate the process of their decision-making about diagnostic process, referral and follow-up procedures.
To obtain accurate data all interviews were audio taped. This strategy helped me to have eye contact with participants and to pay attention to what they are exactly expressing. To avoid any disturbance and interruption during the interview, field-notes were made after the interviews. All interviews were conducted in Persian. Conducting interviews in Persian was for the reason that common language of the researcher/participant could provide the opportunity for me to immerse himself in the actual words used by the participants and this enhanced producing accurate data. In addition, it helped me to make decision based on the data as they were being produced in the process of data collection through redirecting questions and this could strengthen the study and make data collection more efficient (Esposite 2001).

4.8. Transcription & Translation

Transcription of the interview is an important practical issue. The recorded interviews were fully transcribed in Persian. To avoid the transcription errors, all interviews were transcribed by the investigator. In this regard, each interview was listened several times to understand the actual meaning of the statements which were used by the participants and to make sense of participants’ expressions, based on the interview atmosphere. Then the interviews were transcribed word by word and sentence by sentence. At the end of transcription process, the transcribed interviews were rechecked for accuracy.

The transcribed data were translated from Persian to English by the researcher whose native language and education was in the same dialect as the interviewees. This manner could minimize inherent threats to the validity of cross-language translation. Translation is defined as the transfer of meanings from a source language to a target
language. Therefore, the investigator had a role of interpreter of a conversation with the participant, considering the individual situation and psychosociocultural context of the source language (Esposite 2001). To check the use of an appropriate vocabulary and grammatical structure, two translated interviews were validated by two different translators who were native Persian speakers and experts in English in Mashhad, Iran, as well as native English academics in the UK, Language Centre, University of Surrey. This helped me to validate the translation and to establish the trustworthiness of this study (Esposite 2001).

4.9. Data analysis

Data were analyzed immediately after each interview using the procedure described in GT by Strauss & Corbin (1998). This procedure has three levels including open coding, axial coding, and selective coding. Coding was carried out in two stages: at first by hand, and then through using MAXqda2 software. The MAXqda program helped me to organize the textual data into codes, subcategories and categories, and to facilitate management of a large volume of text. It also allowed me to develop a hierarchy of codes for narratives. The investigator read line-by-line each interview and identified which statements had meaning related to a particular code (a single statement could be coded for multiple categories). Coding was carried out through breaking down and conceptualizing of the data. The MAXqda also allowed for the development of sub codes under each original code, related to a main category discussed by the participants (Charmaz, 2006). Then, the coded segments retrieved by the program and used for writing memos on codes and categories.
In the second stage, based on transformation and reduction of the initial codes, the initial categories were identified by the investigator. The major categories were discovered by linking all categories to each other with comparing for similarities, differences, and connections. In the final stage, the core category was selected to formulate a theoretical scheme (Holloway & Wheeler 2002).

4.10. Analytic process

The analytic process of grounded theory, which was concurrent with data collection, was based on constant comparative method to establish analytic distinctions and to compare data at different level of analytic work (Glaser & Strauss 1967). According to Strauss and Corbin’s coding procedure, the process of analysis passes from one phase to another (Strauss & Corbin 1998). These phases could be summarized as: 1) categorizing the data by open coding, 2) making connection between categories by axial coding and 3) focusing on a core category by selective coding.

- Open coding

Strauss and Corbin defined Open coding as “the analytic process of breaking down, examining, comparing, conceptualizing and categorizing data” (Strauss & Corbin 1990). Based on this definition, open coding was employed to examine participants' transcribed interviews by words, phrases, lines and paragraphs.

Coding in grounded theory is the foundation of data analysis, it is a process of defining what a segment of data is about, and naming the actions or events found within. To be more flexible in coding process, the following strategies proposed by Charmaz (2006), were used: being close to the data, trying to be open minded, making
relationship between data and research topic and aims, focusing on how the participant expresses himself (e.g. idioms) and tacit assumptions such as proverbs, ironical sentences or words, examples and comparisons, and finally using simple codes.

Through the open coding process, it was attempted to discover what was happened in the data and what was it mean and then to select a proper name for them as the initial codes (Strauss & Corbin 1998). The initial coding process resulted in 297 various codes for men’s interviews and 252 for GPs interview. The initial codes were examined to identify their characteristics and compared with other codes within the same interview or in different interviews to find similarities and differences. Then, similar codes were grouped together, from which initial subcategories emerged (Charmaz 2006). As a result, 38 subcategories were derived from the data of men’s interview and 34 from GPs interview. Subcategories gave a greater explanatory power to the data as analysis continued. Finally, the subcategories were abstracted to three major categories for men’s data including 1) making sense of the illness 2) seeking help and 3) seeking diagnosis and four major categories for GPs’ data including 1) observation 2) communication 3) reflection and 4) making decision.

- **Axial coding (Developing paradigm)**

In the next step of analytic process, axial coding was carried out in which “data were put back together in new ways after open coding, by making connections between categories” (Strauss & Corbin 1990, P. 96). This was done by a coding paradigm, which is identified as “an analytic tool devised to help analysts integrate structure with process” (Strauss & Corbin 1998, P. 123). This paradigm model includes casual condition, phenomenon, context, intervening conditions,
actions/interactions, and consequences. Using this model helped me to link subcategories to categories, and to understand the phenomenon, systematically.

To provide more clarity, I would give an example of one of the phenomenon emerged from men’s data in this study entitled: "Making sense of the illness" which was the first major phenomenon that men experienced through the process of prostate cancer detection. Urinary symptom was the core and main causal condition led to the occurrence or development of this phenomenon. Intensity of the illness, which its dimensional range could change from mild to severe during the illness progression, was the main context in which this phenomenon was occurred. To make sense of the illness, there were also some intervening conditions including lack of knowledge, viewing the symptoms as normal aging issues, feeling of being healthy, interference of urinary symptoms with social life and also its impact on doing rituals. Denial, self-therapy and self-monitoring were the actions/interactions taken by the participants in response to this phenomenon. Participants’ failure in self-therapy resulted in illness disclosing as the consequence of this harmonic process.

Using paradigm model, the initial categories emerged from men’s data, for instance, were abstracted into three major categories (phenomena) including making sense of the illness, seeking help and seeking diagnosis. Each phenomenon has been presented in the chapter of findings in a paradigm model.

- **Selective coding**

Selective coding is the process of identifying the core category, integrating the categories, and bringing process into the analysis (Strauss & Corbin 1998). Identifying the core category is the first step in integration, as integration means
linking categories around a central or core category and refining the resulting theoretical formulation. The core category is the concept that all other concepts will be related to. It has analytic power and has the ability to explain or convey "theoretically" what the research is all about (Strauss & Corbin 2008). To identify the core category, I asked of data: "What is that special category that ties together all of different categories to create a coherent story about early detection of prostate cancer"? In other words, an attempt was made to choose the category that appeared to have the greatest explanatory relevance and highest potential for linking all of the other categories together among the many categories developed over the course of the study. However, I thought that none of the categories had the aforementioned criterion and felt another abstract phrase as core category, a conceptual idea under which all the other categories could be considered. The core category of men and GPs data was defined as “seeking to know the illness” and “interacting to assess the risk of prostate cancer”, respectively.

Process is ongoing action/interaction taken in response to situation, often with the purpose of reaching a goal or handling a problem. The actions/interactions occur over time, involve different sequences of different activities and have a sense of purpose and continuity. Process is often described in developmental stages, implying a progressive nature to it (Corbin & Strauss 2008). When I analyzed for process I asked of data the following questions: What is going on here? What are the problems or situations as defined by participants? How are participants responding to these through actions/interactions? What conditions connect one sequence of events to another? How do the consequences of one set of actions/interactions play into the next sequence of action/interactions?
Using the aforementioned process analysis, I could illustrate a continuous social process in the detection of prostate cancer from men and GP's perspective. For men, the process were presented as a three-stage detection process which was started off from making sense of the illness, continued by seeking help and terminated with seeking a diagnosis for the detection of prostate cancer. However, it was difficult to determine where one period ends and the other begins. Through the process of prostate cancer detection, men’s perception gradually transformed from an individual issue to a social and medical concern. For GPs, developing process analysis, I could offer an integration of multiple experiences of detection process including 1) observation 2) communication 3) reflection and 4) making decision. The detection process did not occur just as a biologic phenomenon. Instead, it was influenced by a combination of psychological and socio-cultural conditions and constructions which surrounded the detection process.

Two categories of "seeking to know the illness" and "interacting to assess the risk of prostate cancer" emerged from men and GPs' data were recognized as the basic social processes in the study, as they occurred over time throughout the process. The integration of these two main categories was resulted in informed decision-making in the process of prostate cancer detection.

4.11. Rigour

Rigour in qualitative research refers to integrity and competence (Holloway & Wheeler 2002). It has three components including credibility, auditability, and fittingness (Chiovitti & Piran 2003). Ensuring rigour in GT is not only based on evaluation of detailed transcript which is used for collecting, coding, analyzing, and
presenting data, but also depends on the theory generated from the data (Glaser & Strauss 1967).

Credibility includes activities that increase the probability that credible findings will be produced (Lincoln & Guba 1985). In order to ensure credibility and trustworthiness of the findings in this study, the participants guided the research process. Although in this study it was not possible to use participants’ own language in the theoretical schemes, the use of two different professional translators (from Persian to English) and review of translated interviews by me to minimize potential mistranslations (Esposite 2001). To maintain credibility and fittingness of the study representativeness of data was checked Sandelowski (1986). For this reason, three transcribed interviews were given to the participants to see whether the participants recognize the data to be true to their experiences (Holloway & Wheeler 2002; Streubert-Speziale & Carpenter 2003). The other issues discussed by Sandelowski (1986) for credibility was considered in this study including explanation of how the data processed through the process of analysis and also incorporating examples of diagrams, memos and the actual placement of data into categories. In addition, the process of coding, categorizing, writing memos and diagramming were overseen by the supervisors who were expert in qualitative research.

Auditability or confirmability refers to a recording of research activities over time that another individual can follow, that is, they follow the path of the researcher and the way he or she arrived at the codes, categories and interpretations (Holloway & Wheeler 2002; Streubert-Speziale & Carpenter 2003). To achieve this goal, it was clarified how I got interested in the topic, what was the aim of the study, how and
why participants in this study were selected, how the data were collected, and what was the nature of the setting in which data collected (Sandlowski 1986).

Fittingness, also defined as transferability, means that the research findings in one context can be transferred to similar situations or has meaning to similar participants (Chiovitti & Piran 2003; Holloway & Wheeler 2002). In this study, socio-demographic data of GPs and men with prostate cancer and also the characteristic of study setting were identified to help the reader compare this population and setting with those identified in other studies. Moreover, the similarities between the findings of this study and relevant literature to each category were demonstrated.

4.12. Ethical considerations

Approval to conduct both phases of this study was sought from the Iranian National Ethics Committee, Ministry of Health and Medical Education (Appendix 5) and also from the Research Ethics Committee, University of Surrey (Appendix 6). The participants were not exposed to any clinical risk and hazard such as interventions in diagnostic or therapeutic procedures. All participants in this study received verbal and a written information sheet (Appendix 1) about the purpose of the study and were asked to complete a consent form (Appendix 2).

In the first phase of the study, if clinical issues occurred during the interview, referral to counseling sections or participants’ GPs was undertaken. Following completing consent form, interview was recorded. All participants were assured that their information will be confidential and will be used anonymously. All information of participants, such as tapes recorded was stored in a locked area at the University of Surrey and was saved until the end of the project.
Chapter 5: Findings from qualitative study
**Introduction**

In this chapter, the findings of qualitative phase of study are presented in two parts. In Part 1, attempt was made to discuss Iranian men's perceptions and experiences about early detection of prostate cancer. The findings of the study illustrated a continuous social process in the detection of prostate cancer, which started off from making sense of the illness, continued by seeking help and terminated with seeking a diagnosis for the detection of prostate cancer.

In Part 2, findings emerged from the analysis of Iranian general practitioners' interviews in relation to the detection process of prostate cancer is presented. Through analysis the concepts concerned to different aspects of the early detection of prostate cancer were emerged. Following categorization of the emerged concepts, four major categories (phenomena) were developed including 1) observation 2) communication 3) reflection, and 4) making decision. These phenomena developed over time and resulted in "referring" which was the consequence of this process. At the end of each part a summary of findings is presented.
Part 1:

5.1. Men’s perceptions and experiences
5.1.1. An overview of men's emerged categories

Figure 5.1: Men's perception and experiences in the process of prostate cancer detection
Making sense of the illness was the first major phenomenon that participants experienced through the process of prostate cancer detection (Figure 5.1). It refers to the physical and emotional reactions of the participants when they encountered initially to the illness. Urinary symptom was the core and main causal condition led to the occurrence or development of the making sense of the illness phenomenon. Intensity of the illness, which its dimensional range could change from mild to severe during the illness progression, was the main context in which this phenomenon was formed. To make sense of the illness, there were also some intervening conditions, which could act as either trigger or barrier in relation to the action/interaction strategies taken within the context of the phenomenon. Interference of urinary symptoms with social life and its impact on doing rituals were intervening conditions which was triggers to make sense of the illness. In contrast to the triggers, there were some barriers. One of the most important barriers was lack of knowledge. Other barriers to make sense of the illness included viewing the symptoms as normal aging issues and a temporary problem, and feeling of being healthy.

Action/interactions taken by the participants in response to the first phenomenon resulted in disclosing the illness. In other words, the outcome (disclosing the illness) was formed by interaction between the conditions (causal, intervening and contextual conditions) which affected the phenomenon and the actions/interactions, which were taken to handle the phenomenon. From this harmonic process, disclosing emerged as its consequence.

The seeking help was the second phenomenon, which was experienced by the participants through the process of illness detection (Figure 5.1). It is noteworthy that disclosing, which was the outcome of the first phenomenon, itself, became the main
causal condition for the seeking help phenomenon. The data illustrated that the disclosing often happened because of failure in self-therapy or progress of the illness intensity. In this stage, participants believed that external help is needed, but their eventual contact with helpers or helping agencies were different. The results of this study showed that seeking help was an active process for majority of the participants. Starting of this process was indirect and the extent of this phenomenon depended on their knowledge. Therefore, knowledge about the illness was identified as the context of the seeking help with a dimensional range of low to high. Through the experience of the illness, the participants gained their knowledge in a complex process.

Like the first phenomenon, different triggers and/or barriers influenced this phenomenon and affected the action/interactions strategies. The main triggers for seeking help were gaining informed awareness, the role of wife and other family members and professional referral systems. Using lay referral systems and lack of support were the main barriers in the process of seeking help.

Through the seeking help phenomenon, interaction between different intervening conditions and context resulted in at least two major actions/interactions including using herbal medicine and seeking medical care. Due to failure in using herbal medicine and/or its impact of the symptoms, the participants sought medical help. In this process they realized that their ill health issue was a prostatic disorder rather than just urinary dysfunction. Therefore, action/interactions taken by the participants in response to the second phenomenon resulted in understanding prostatic disorder.
The seeking diagnosis was the third phenomenon, which was experienced by the participants through the process of illness detection (Figure 5.1). Understanding prostate disorder, which was the outcome of the first phenomenon, itself, became the main causal condition for the seeking diagnosis phenomenon.

Like the two former phenomena, there were many different casual, intervening, and contextual conditions, which influenced the phenomenon of seeking diagnosis. From the participants’ point of view, the most important conditions, which encouraged them to contribute in the process of seeking diagnosis, were stress and anxiety from labeling the illness as a prostate problem not as a urinary problem plus progression of the illness, failure in herbal therapy, insisting of their families to follow the diagnosis and possibility of malignancy.

From the participants’ perspective, in addition to the biological suspected problems, there were some psychosocial issues that could influence the phenomenon of seeking diagnosis. Similar to the previous phenomena, these factors can facilitate or impede the participants’ views to make an appropriate decision. The main triggers for seeking diagnosis were support of family, support of trusted physician and belief about the controllability of the illness. Masculinity with its social, sexual, and physical aspects, embarrassment about digital rectal examination, fear of biopsy and fear of cancer diagnosis were the main barriers in the process of seeking diagnosis.

Through the seeking diagnosis phenomenon, interaction between different intervening conditions resulted in two major actions/interactions including struggling for diagnosis, relinquishing final decision to trusted physician and sacrificing.
Actions/interactions taken by the participants through the seeking diagnosis phenomenon resulted in confirming prostate cancer, which intensely influenced men’s view in this stage. Accepting of illness as a cancer was easier for participants who had richer information in relation to their illness.

Through the detection process, “seeking to know the illness” was the core category, which emerged from the data of men’s interviews. This core category was the main concept that all other categories were related to. More detail of this category is discussed in the conclusion chapter.

To better understand the major categories, an attempt was made to present more details of them and their intervening conditions along with samples of quotes expressed by men through the process of prostate cancer diagnosis.
5.1.2. Making sense of the illness

This category was the first major category, which the participants experienced through the detection process (Figure 5.2). Making sense of the illness refers to the emotional and physical reactions of the participants when they encountered initially to the illness. In reality, there was an interaction between wellness and the initiation of the illness.

*Other deviant casuals include 'low back pain' (due to metastasis).

**Other deviant intervening conditions are 'death of colleague' and 'routine check up'.
This major category was influenced by different conditions. In grounded theory, conditions “are sets of events or happenings pertaining to a phenomenon” (Strauss & Corbin, 1998, P; 130). They may be shifted and changed through the process of the phenomenon. Because of the variety of conditions and their interactions to each other, it was tried to classify them into three groups including causal, intervening, and contextual conditions to be able to sort out the complex relationships between them and also their impact on the phenomenon of making sense of the illness.

5.1.2.1. Urinary symptoms

Urinary symptoms, was the core and main causal condition which led to the occurrence or development of the making sense of the illness phenomenon. The majority of the participants indicated that urinary problems helped them to sense the illness. But, three of the participants exposed to the illness through deviant causal conditions including lower back pain (due to metastatic symptoms), chance (understanding having prostate problem by routine tests), and self assessment (discovering a high PSA test during routine check up).

Out of the twelve participants, nine participants recognized their illness by the appearance of urinary problems. Urinary problems included a wide spectrum of symptoms from an acute urinary problem like retention to a chronic symptom such as weak or interrupted flow of urine. Some of the participants experienced the illness by acute urinary retention: “I suddenly felt that I need to go to rest room but it (urine) didn’t come” (M. 6) or having difficulty in holding back urine or starting urination:

“Around three years ago, my illness started suddenly. I went to toilet more than usual. It came very slowly and so I had to force to pass my urine (M. 4)”.
However, some of the participants stated that their urinary problems developed intermittently. In other word, they did not happen regularly but built up over a long period of time. One of the participants told his story in this regard:

“My story started from 7 years ago, when we went to Tehran with my family in my son’s car. Suddenly, I felt that I needed toilet. He (his son) stopped and I tried, but a few drops came out. Just after a few kilometers, it was started again. It happened many times until we got to Semnan (A city between Tehran and Mashhad) and I went to a clinic. Using catheter, it was drained. Nevertheless, the problem didn’t happen for two years. I forgot it until it happened again, so I thought it is a temporary difficulty and will disappear soon. However, it continued and turned from bad to worse” (M. 8).

5.1.2.2. Deviant causes of sensing the illness

- **Lower back pain**

Some of the participants made sense of the illness by unusual causal conditions. For example, one of them did not have any urinary problem. He understood that he became ill by sense of severe low back pain. This meaning is evident in the following statement:

“I think the start of the story comes back to the time when my daughter and I wanted to go to Tehran. I picked up her suitcase using one hand to put it on the train. When the train started to depart, I felt my back was twisted. I felt a pain in my back. I thought that all pain that I had in my pelvis and my back was something to do with lifting the suitcase” (M. 1).

- **High prostate specific antigen test**

Conversely, two participants experienced the illness without any symptoms, neither urinary problems nor bone pain. In this group, a high prostate specific antigen was an important index for beginning to make sense of the illness. It was discovered just accidentally for one of them who suffered from diabetes and arthritis and was seeking relief for his pain. However, through the clinical examinations and routine
laboratory tests, his physician realized that his prostate specific antigen was very high. Then, he was referred to an urologist for more assessment. He elaborated:

"I think that for me it was a special situation. About two years ago, I got diabetes and routinely I checked my blood sugar. Then I started having articular pain and it was recurrent ..., after three months it became worse. Therefore, I went to visit a general practitioner. After 7 to 8 months clinical examination and doing routine tests for diagnosis of my articular pain, he said to me "your PSA is high and you may have got a prostate problem as well". So he referred me to an urologist" (M. 5).

The belief that prostate specific antigen is a good index became the beginning of a tragic story for a healthy man who was a general practitioner. He decided to rule out prostate cancer by this test without having any related symptoms. However, he confronted with a high prostate specific antigen and he made sense of the illness, incredibly. In this regard, he indicated:

"When I was 65 years old, I studied a paper in Today Medicine Journal about the prostate specific antigen test and I understood that it is a very good index for prostate cancer screening. At that time I didn’t have any symptoms, so I said to myself, it is better to have a prostate specific antigen test. Unfortunately, it was high, 26 μg/L. In such a way, my unwanted illness was started" (M. 9).

The above causal conditions were the first part of the illness puzzle. However, their properties such as intensity and pain had an important role to form the next complementary part of this puzzle.

5.1.2.3. Impact of the illness

Intensity and pain of the illness were the main contexts in which the phenomenon of making sense of the illness was formed and both were the important factors, which affected men’s illness perception. During the illness progression, their dimensional range changed from mild to severe. These dimensions influenced
selection of the different actions/interactions strategies. With regard to the intensity, one of the participants pointed out:

"I tolerated my illness for 3 years. After that, I couldn't tolerate anymore, because I was not able to control my urine. The intensity of my illness changed my mind and I tried to know more about my illness" (M, 11).

Pain was another context in which making sense of the illness was occurred. One of the participants complained of the acute urinary retention and painful urination. The following extract shows a man's pain:

"I was a healthy man and as a labourer I lived with my arms' power (proverb; it means that he was healthy and worked by himself without need to anybody else). Suddenly, I got urinary retention and painful urination. As a man, I never cried before but I cried because of this pain, it was horrible" (M, 3).

To make sense of the illness, there were some intervening conditions, which could act as either a trigger or a barrier regarding action/interaction strategies taken within the context of the phenomenon. Interference with social life, ritual (e.g. Hajj), and death of colleagues were the most important intervening conditions, which acted as triggers for making sense of the illness. Lack of knowledge, normal aspects of aging, viewing illness as a temporary issue, and feeling of being healthy were the intervening conditions, which acted as barriers.

5.1.2.4. Interference with social life

Interference with social life was a social intervening condition. In the Islamic culture, getting urinary problem was a socially troublesome event for the majority of the participants. They needed to be clean for daily prayers. Therefore, they were not able to have group prayer in the mosque. Moreover, there was a social limitation to
attend familial or social ceremonies. This meaning is evident in the following statement:

“It was a dirty illness. I was in a big trouble when my illness begun. You know, I couldn’t go to mosque and especially the holy shrine of Emam Reza. I worked there as a volunteer one day per week. However, it put me in hard circumstances in my social life” (M, 6).

Ritual was another religious intervening condition, which refers to some of the Islamic religious ceremonies such as performing Hajj. Hajji (a pilgrim to Mecca) should be Tahir (clean) during the performance of Hajj by having Wudu (statutory ablution according to Islamic Shariah) before Salat (prayer) and also his body and dress should not be polluted with Najasah (dirty stuff). Urine is one of the Najasahs. Urination is one of the things, which make Wudu invalid. Having urinary problems such as urinary frequency or urinary dribbling, made performing Hajj very difficult for the men in this study. Therefore, they tried to treat this problem before going to Hajj. In this regard, one of the participants indicated:

“I registered for Hajj many years ago. At the meantime, I got urinary problem. However, by this problem, I thought it is difficult to go to Hajj. Therefore, I tried to solve this problem as soon as possible” (M, 2).

Death of the colleagues because of prostate cancer was another intervening condition, which acted as a trigger. This factor had a great influence on the participants’ perception to make sense of the illness. This concept is evident in the following statements:

“Seven years ago, one of my colleagues who was my close friend died of prostate cancer in a short time. You know, his cancer started by metastatic symptoms (bone pain). It was a depressing event for me. I’m pretty private person when I faced with strong emotions; I said to myself: “look he was a healthy man without any urinary problem. How can this be happening to me, why not try to control the illness earlier?” (M. 9).
In contrast to the triggers, there were some barriers, which interfered with the process of the early detection of prostate cancer. As it was mentioned already, some of the most important barriers to make sense of illness included lack of knowledge, normal aging issues, temporary problems, and feeling of being healthy.

5.1.2.5. Lack of knowledge

The findings of the study showed that knowledge about the illness was poor among the participants. They did not know what the cause of their illness was and how they could control it. In addition, they were unable to answer many other questions about the illness. Most of them said that they had never heard anything about the prostate gland and some of them did not still know where the prostate gland was located in the body. This meaning has been pointed out in the following extract:

"Actually I didn’t know anything about prostate. Well, physicians just know but lay people actually, em... they don’t know. For example, I didn’t know where the prostate is. I didn’t know what the relationship between my illness and my testicles are” (M.2).

Some of the urinary symptoms, such as having difficulty in starting urination or interrupted flow of urine, perceived unimportant or as a normal aspect of ageing and therefore were disregarded medically: "I didn’t think that it was something serious. I thought it might be because of flu or something related to my old age" (M.7). Due to the lack of knowledge and information about the illness, some of the participants took their illness, lightly. They thought that their illness was not an important or serious problem: "I didn’t consider it serious. I just thought that it was nothing important” (M.8). Some participants thought that it could be a temporary dysfunction: "I thought it was a simple dysfunction and temporary issue and may go away by itself” (M.2)
5.1.2.6. Feeling of being healthy

Feeling of being healthy refers to a general feeling of being right and confident as a healthy man and being able to do all the things ones would like to. The majority of participants imagined themselves powerful and healthy and liked to be always seen as strong in the society. Having a masculine perspective, they usually didn’t like to be viewed as people who need help or to be considered weak. This concept is evident in the following statement:

“I was strong and a sportsman and I hadn’t experienced any problem or symptoms” (M. 9). “I was very strong and fit. I’d never visited a doctor for health care before” (M. 6).

Based on this feeling, they thought that they were not only strong but also could keep themselves healthy and fit throughout their whole life. The following extract shows this feeling:

“I thought that I would always be healthy. I never experienced urinary dysfunction and I’d never expected this problem. I didn’t really understand how my illness was started” (M. 6).

Through the experience of the initial symptoms of the illness, the participants attempted to manage and handle the illness by choosing hiding strategy: “I thought that it’s not too important and it will be OK spontaneously and hid it from my family” (M. 4). The hiding means to keep the illness symptoms secret from family and/or friends. Adopting this strategy, the participants took different actions/interactions including denial, self-therapy and self-monitoring of the illness to manage the illness. This strategy often led to delay in seeking appropriate help and decision-making, as well.

5.1.2.7. Symptoms management

Denial refers to refusal to accept that the illness has developed. Some of the participants for the reason that they thought their illness was not an important issue
were reluctant to accept their illness. Some of the participants with respect to this issue indicated:

"I had not any information about my illness. I didn't consider it serious. Therefore, when it was started I didn't like to accept my illness" (M.3).

Self-monitoring was a tactic, which was used by some of the participants. They observed their symptoms and checked progress or regression of the illness. The intensity of the illness influenced this strategy. In this regard, one of the participants reflected:

"I am a sensitive person. When I'd got retention for the first time, I tried to monitor and to follow this urinary problem myself. I tried to drink less water and tea. After a few months, I understood that it become worse and needed more attention" (M, 8).

Self-therapy was another approach used by some of the participants to control the illness. They used this method based on their previous knowledge and experiences and also their particular beliefs and tried to keep it covert. It is evident in the following statement:

"Basically, I was a good-tempered man without any trouble for my wife or my children. You know, I always remember this poet from my primary school: "I wish that if I'm not a flower, try not to be a thorn and if I can't help other people, try not to be trouble for them". This was my symbol to follow. So, when I got urinary problem, I attempted not to pressurize my family and tried to sort it out myself" (M, 8).

Action/interactions taken by the participants in response to the first phenomenon resulted in the illness disclosing. In other words, the outcome (disclosing the illness) was formed by interaction between the conditions, which affected the phenomenon, and the actions/interactions that were taken as strategies to handle the phenomenon. Through this process, gradually the illness transformed from an individual issue to a familial and/or social concern.
This phenomenon with all its conditions and action/interactions elaborated that the first stage of the process of illness detection could be making sense of the illness as a continued, progressive, and serious situation. From this harmonic process, disclosing emerged as its consequence. Nevertheless, the main challenge of this phenomenon was the time of disclosing and period of its process, which was different for individuals.

5.1.2.8. Conclusion

Making sense of the illness was the first major phenomenon that participants experienced through the process of prostate cancer detection. It refers to the physical and emotional reactions of the participants when they encountered initially to the illness. Urinary symptom was the core and main causal condition led to the occurrence or development of the making sense of the illness phenomenon. Intensity of the illness, which its dimensional range could change from mild to severe during the illness progression, was the main context in which this phenomenon was formed. To make sense of the illness, there were also some intervening conditions, which could act as either trigger or barrier in relation to the action/interaction strategies taken within the context of the phenomenon. Interference of urinary symptoms with social life and also its impact on doing rituals were intervening conditions, which was triggers to make sense of the illness. In contrast to the triggers, there were some barriers. One of the most important barriers was lack of knowledge. Other barriers to make sense of the illness included viewing the symptoms as normal aging issues and a temporary problem, and also feeling of being healthy.

Action/interactions taken by the participants in response to the first phenomenon resulted in the illness disclosing. In other words, the outcome (disclosing the illness) was formed by interaction between the conditions (causal, intervening and
contextual conditions) which affected the phenomenon and the actions/interactions, which were taken to handle the phenomenon. From this harmonic process, disclosing emerged as its consequence. This process resulted to shape a new phenomenon which was named seeking help.
5.1.3. Seeking help

The seeking help refers to the second phenomenon, which was experienced by the participants through the process of illness detection (Figure 5.3). After making sense of the illness, the majority of the participants believed that external help is needed, but their eventual contact with helpers or helping agencies were different. The results of this study showed that seeking help was an active process for majority of the participants. Starting of this process was indirect and the extent of this phenomenon was depended on their knowledge. Therefore, knowledge about the illness was identified as the context of the seeking help with a dimensional range of low to high.

Figure 5.3: Phenomenon 2; Seeking help and its categories and subcategories
Like the first phenomenon, different triggers and/or barriers influenced this phenomenon and affected the action/interactions strategies. The main trigger and barrier were the role of the wife and lay friends, respectively.

Depending on the effects of the intervening conditions and context of this phenomenon, there was a challenge between two basic strategies including traditional customs and modern medical approach for seeking help. In this regard, the majority of the participants experienced herbal care instead of and/or along with being informed about modern medical approaches by family doctor, general practitioner, and/or health professional kin. These actions and interactions resulted in labelling the illness, which was the consequence of this phenomenon.

5.1.3.1. Disclosing the illness

It is noteworthy that disclosing, which was the outcome of the first phenomenon, itself, became the main causal condition for the seeking help phenomenon. The data illustrated that the disclosing often happened because of failure in self-therapy or progress of the illness intensity. Moreover, the finding of this study showed that the initial approach by men for seeking help was likely indirect. The participants often tended to view their spouses and/or friends as a primary source for help. It is notable that when the participants sought help from health system, they were often focused on urinary symptoms. They less likely disclosed the psychosocial aspects of their illness. One of the participants elaborated on how he did decide to disclose his illness and to seek help:

"I got retention a long time ago and tried to manage it myself. It happened many times. Fortunately, my management was often successful and for a few months, I didn't have any problem. However, later it came back while it had been worse. I got worried and felt that it is more serious than what I imagined and I thought it needs more attention. Therefore, I decided to
see a general practitioner who was my old friend and to talk with him about my urinary problem” (M. 8)

5.1.3.2. Knowledge

Knowledge was the context in which the second phenomenon was occurred. The knowledge is defined as “the information, understanding and skills that somebody gains through education or experience” (Oxford Dictionary, 2005). Analysis of data showed that the participants’ information about their illness was different to each other. Initially, their knowledge about the illness, especially care and control of the illness was very low. Nevertheless, through experience of the illness, participants gradually gained more information from different sources such as family, especially their wives, friends who had the same illness or health professionals. Moreover, with the passage of time and being involved with more investigation, their knowledge transformed from lay information to an informed awareness. This changing of the knowledge dimension helped them to seek the appropriate approaches and to make better management of the illness.

When they understood that there is a relationship between their symptoms and the prostate gland, their mind changed towards seeking deeper knowledge about the illness, instead of superficial information. Therefore, they attempted to pay more attention to the illness:

“When I understood the source of the illness, I attempted to follow it through getting more knowledge” (M.10).

5.1.3.3. Role of wife

Within this phenomenon, the wife had an important role in the help-seeking process, for this reason deemed as a trigger. Understanding the illness, its nature, its
progress and its cause made a great change in the participants’ knowledge and helped them for a better management of the illness. This understanding was mainly due to the help and support of their wives. They had an important role to handle the illness and to seek appropriate help. Wives were very active and sensitive in the process of their husbands’ illness. They monitored their husbands’ behaviours and tried to understand their problems. They had an important role in changing their husbands’ mind about knowing more about the illness and seeking or taking an appropriate decision. The following statement shows this reality:

“After several months of having urinary problem, I didn’t take it serious and I thought it’s a temporary issue. However, later when my wife realized my problem, she sought advice from a health professional and explained clearly for me. So, at that time I understood... Oh! I need to be serious” (M. 12).

In addition, the participants’ wives had an important role in the management of symptoms. Through the process of their diagnosis, they always accompanied their husbands, from the time of being concerned about the symptoms to the time, they went to out patient clinics and hospitals to seek medical help. In this regard, one of the participants elaborated:

“I tried to hide my problem from my wife. However, finally, she understood. She called our family physician and took an appointment. At that time, I was feeling very bad. Therefore, she explained the whole story to the doctor. He (doctor) referred us to a specialist” (M, 6).

5.1.3.4. Role of other family members

In Iranian society, the family is still a very important social unit. Regarding the socio-cultural background, parents have a special role in the Iranian family. Therefore, all the family members try to have respect for each other. For example, if they have any health problem, their children try to help them. In case of urinary problems, after the wife, participants’ sons, and/or son-in-laws were the first people, who were chosen
for disclosing of the illness by the participants. Hence, role of family members also was a trigger in the process of seeking help. This meaning is evident in the following statement:

"I had urinary problem for several years. You know, I had difficulty in passing urine. Unfortunately, my self-therapy was not successful. Therefore, due to a very close relationship with my older son-in-law, I explained my problem for him and he supported me during that hard time" (M, 4).

Availability of some facility for counselling varied for the participant. Dependent on the social status, there were different sources of seeking help. Due to job, or social relationships, some of the family members' of the participants were able to become the main source of counseling for seeking help. With regard to this point, one of the participants pointed out:

"After 3 months, I decided to tell my problem to my older son, because he worked in a hospital for a few years. So, he had a very good relationship with doctors and nurses and I thought he could help me" (M, 2).

5.1.3.5. Referral systems

There were two referral systems including professional and lay referral systems. The former acted as a trigger and the latter as a barrier for the process of seeking help. One of the most important sources of the professional help was participants' trusted physicians. These physicians could be a general practitioner, or specialist. They were trusted counselors from the participants' perspective and gave them more information about different aspects of the illness such as the nature of the illness, its progress, its management and also referring them to an expert urologist. One of the participants stated:

"I tolerated my illness for three years. After that, I couldn't, because I wasn't able to control my urine. The severity of my illness changed my mind and I tried to know more. I went to a general
A general practitioner gave me more detail about my illness and referred me to an urologist" (M. 11).

The success of the professional referral system depended either on the technical communication skills or on the nature of social relationship between patient and doctor (Scambler, 2003). Due to the unsatisfactory contacts with specialists, some of the participants preferred to go back to their trusted general practitioner for gaining more information about their illness. It is obvious in the following extract:

"I understood that my illness becomes worse and I needed to talk to somebody who I could trust him, because my specialist was so busy and he just said me: "you need to go to Tehran for biopsy of prostate". However, I wanted to know why I should go to Tehran and do biopsy. Therefore, I decided to see a general practitioner whom I knew well" (M. 8).

The second referral system, which acted as barrier, was lay referral system, which could be identified as a non-systematic non-professional referral system. Regarding the lay referral system, the participants referred to friends or family who had experienced the same urinary problems. Therefore, before or through seeking professional medical help, the participants or their family attempted to gain more details about different aspects of the illness from their friends, especially about the illness, its consequences, and patients' quality of life. Despite a positive and encouraging role of the wives to follow for diagnosis of the illness, the friends often provoked them into delaying the detection or treatment of the illness. The following statement reveals this concept:

"I’d got urinary problems for several months. I saw that it’s not tolerable. Therefore, I decided to see my friend who had the same illness. He said to me" don’t worry; you can treat it by herbal medicine". He emphasized “don’t have any operation on your... you would be in a big trouble then” (M. 3).

In the lay referral system, their friends informed the participants about the social, sexual, and emotional consequences of the illness. The majority of these friends
experienced the same illness. Nevertheless, having a low awareness of prostate cancer sometime resulted in refusal of seeking professional help for a long time. In this regard, one of the participants elaborated:

“Well, one of my friends had got the same illness and he was operated, but he got two problems, urinary incontinence and sexual inability. This was an important experience, you know. So, I preferred to avoid treatment for a long time” (M. 10).

### 5.1.3.6. Lack of support

Regarding the professional referral system, there was not enough support in Iranian health systems for the early detection of prostate cancer in both private and governmental health care systems. Participants in this study expressed their experiences of not receiving good enough support in terms of informational and financial support. With respect to the former, they expected health professionals to answer their questions and to give necessary information about their illness particularly in relation to diagnostic and treatment procedures. However, they did not find somebody to support them to gain informed awareness. As a result, they felt that they lost their time and their life:

“You know, I didn’t know my illness and I had so many questions. Therefore, actually, I wasn’t able to find appropriate answers. People need to know about the illness’s symptoms, prevention, diagnosis and therapy procedures. Therefore, there wasn’t anybody to guide me in a right way. Therefore, I wasted my time, my life. This was not just my responsibility” (M. 2).

In relation to the latter, i.e. financial support participant, also criticize health system and health insurance organizations as well as doctors:

“The health system did nothing for me, everybody was looking for his own benefit, doctors and health systems were looking for money. You know, due to the lack of insurance support, I had to sell my house to be able to pay my treatment expenses, everything was just ready for the wealthy group, you know” (M. 5).
It seems that lack of a systematic referral approach contributed to the reason why the participants were viewed as reluctant to seek help and why they used this system less often.

Through the seeking help, interaction between different intervening conditions and context resulted in at least two major actions including using herbal medicine and seeking medical care.

5.1.3.7. Using herbal medication

There was a significant positive attitude towards the using herbal medicine among the participants. The older generation, which included most of the participants in this study, has a strong belief on the traditional medicine. This method has it roots in Iranian society for many centuries. Being an herbalist is an inherited job in Iranian society and most of the products, which they have, are gained from raw dried herbs. Because of easy accessibility, low cost, and safety, the majority of participants preferred to use herbal medicine before experienced any modern medical approaches. In this regard, some of the participants, especially those who did not have acute symptoms such as retention, sought management of the illness by using herbal medicine. This meaning is evident in the following statements:

"At first, I thought it (urinary dysfunction) wasn’t an important issue. I had a friend who was a very expert herbalist and we called him doctor. I went to his herb shop and told my story. He gave me some herbal powder with especial order. I took it and it was useful for a few months” (M. 4).

Considering the lack of knowledge about the illness and easy access to herbal medicine, some of the participants used this approach for a long time. The findings illustrated that using herbal medicine often led to delay in seeking medical help. In this regard, one of the participants indicated:
"I explained my urinary problem to my friend. He told me; "don't worry I had the same problem and I sort it out by using herbs". He referred me to a famous herbalist. He gave me some powder and it was useful. I took it for several times. But, after one year my illness became worse and I understood my illness was different from my friend's and I couldn't cure it by just herbal medicine" (M. 3).

By experiencing the failure in herbal medicine to cover their problem or due to progression of the illness, the majority of the participants believed that they need to seek other medical care options.

### 5.1.3.8. Seeking medical help

Due to the lack of awareness of helping resources or because of inaccessibility and expense of available resources, the majority of participants avoid seeking medical help at the early stages of their illness. Nevertheless, because of failure in using herbal medicine and/or the impact of the symptoms, the participants sought medical help. This meaning is apparent in the following extract:

"I got retention and tried to use some herbal medicine. Nevertheless, it's not helpful. Therefore, I went to a clinic and it was passed by catheter. Fortunately, for a few months, I was OK. However, later it came back, worse than previous time. I got worried and decided to seek medical help seriously" (M. 8).

Seeking medical help had different meanings for the participant. Some of them just looked for alleviating the emergency problems such as urinary retention. However, they wanted to understand what the cause of their problem was. They would like to know was it important or not, or whether there was any chance of being cured? It seemed that such questions showed their pre-occupation and concern.
5.1.3.9. Understanding prostate problem

Understanding this point that the urinary problem was rooted in their prostate gland was a dramatic revelation for some. The issue was important to make a decision when the participants knew more about it and about the complexity of the next process. One of them indicated:

"Knowledge is a good point like a light. But for me, it was terrible to know what my illness is. It is easy for somebody who doesn’t know anything" (M.9).

5.1.3.10. Conclusion

The seeking help was the second phenomenon, which was experienced by the participants through the process of illness detection. It is noteworthy that disclosing, which was the outcome of the first phenomenon, itself, became the main causal condition for the seeking help phenomenon. The data illustrated that the disclosing often happened because of failure in self-therapy or progress of the illness intensity. In this stage, participants believed that external help is needed, but their eventual contact with helpers or helping agencies were different. The results of this study showed that seeking help was an active process for majority of the participants. Starting of this process was indirect and the extent of this phenomenon was depended on their knowledge. Therefore, knowledge about the illness was identified as the context of the seeking help with a dimensional range of low to high. Through the experience of the illness, the participants gained their knowledge in a complex process.

Like the first phenomenon, different triggers and/or barriers influenced this phenomenon and affected the action/interactions strategies. The main triggers for seeking help were gaining informed awareness, the role of wife and other family
members and also professional referral systems. Using lay referral systems and lack of support were the main barriers in the process of seeking help.

Through the seeking help phenomenon, interaction between different intervening conditions and context resulted in at least two major actions/interactions including using herbal medicine and seeking medical care. Due to failure in using herbal medicine and/or its impact of the symptoms, the participants sought medical help. In this process they realized that their ill health issue was a prostatic disorder rather than just urinary dysfunction. Therefore, action/interactions taken by the participants in response to the second phenomenon resulted in understanding prostatic disorder. This understanding resulted to shape seeking help phenomenon.
5.1.4. Seeking diagnosis

Seeking diagnosis was the third phenomenon of the detection process, which was experienced by the participants through the process of illness detection (Figure 5.4). As the consequence of seeking help phenomenon, participants realized that their ill health issue was a prostatic disorder instead of just urinary dysfunction. Thus understanding prostatic disorder became the main causal condition for the seeking diagnosis phenomenon. This phenomenon describes the diagnosis process and its conditions and actions/interactions.

Figure 5.4: Phenomenon 3; Decision-making and its categories and subcategories
Like two other phenomena, there were many different casual, intervening, and contextual conditions, which influenced the phenomenon of seeking diagnosis. From the participants’ point of view, the most important conditions which encouraged them to contribute in the process of seeking diagnosis were stress and anxiety from labelling the illness as a prostate problem not as a urinary problem plus progression of the illness, failure in herbal therapy, insisting of their families to follow the diagnosis, possibility of malignancy, and/or controllability of the illness.

From the participants’ perspective, in addition to the biological suspected problems, there were some psychosocial issues, which could influence the phenomenon of seeking diagnosis. Similar to the previous phenomena, these factors can facilitate or delay making an appropriate decision. The main triggers for seeking diagnosis were support of family, support of trusted physician and belief about the controllability of the illness. Masculinity with its social, sexual, and physical aspects, embarrassment about digital rectal exam, fear of biopsy and fear of cancer diagnosis were the main barriers in the process of seeking diagnosis.

Since the participants had decided to make a decision about their illness, they just received support from their family and sometimes from a trusted physician. Unfortunately, there is no system like primary cancer care to support patients in Iran. Nevertheless, from sociological point of view there were still two important social constructs to support the patients including support of family and trusted physician.

5.1.4.1. Support of the family

Familial support especially support from participants’ wives was one of the triggers for the phenomenon of seeking diagnosis. In Iran, the familial support has its
root in Iranian culture and Islamic ideology. In this regard, care of father and mother is a holy subject. The belief is that supporting parents will be associated with Allah's (God) definite support of individuals. From the sociological point of view, man as a father has a unique role not only in the family but also in the society. Therefore, by supporting the father, other family members would be respected in the family and society. In addition, for wife husband has a basic and particular role for consistency and authority of the family and she would try her best to protect him. In this regard, a participant’s wife illustrated (field note):

“I have forgotten everything and I’m just thinking about my husband. I love him, and I try to support him as far as it’s possible. He wanted to hide his urinary problem, but I understood that. I took an appointment from our family doctor. He referred us to an expert specialist. Before and after diagnosis and you know, during treatment, I was with him. I’m ready to sale my jewelleries for his health and to do all my best” (M’s 6 wife).

5.1.4.2. Support of trusted physicians

Some of the participants received support from trusted physicians as well as their family. Having this type of support depended on the participants’ social class, i.e. participants with higher social class consulted with their family doctors about how to seek diagnosis. Even participants who had not this advantage for counseling tried to trust health professionals for making an appropriate decision.

“I have a very close friend who is a general practitioner. Through my illness, I tried to have counseling with him. Before doing anything, I went to see him in order to take his advice, because I trusted him” (M. 8).

5.1.4.3. Belief about the illness controllability

Belief about the controllability of the illness was another trigger. Through the process of the illness, the majority of participants understood that the early detection would have influences on the curability and controllability of the illness:
"Look, consulting with one of my relatives who was living in Germany gave me a good view about curability of the illness. He told me; “don’t worry prostate cancer can be cured”. I knew that there were many different methods for controlling, but decision-making became easy when I understood that my illness was controllable" (M. 2).

5.1.4.4 Masculinity

The diagnosis-seeking process was influenced by different intervening conditions. One of the most important conditions was masculinity with its social, sexual, and physical dimensions, which acted as barrier in the process of seeking diagnosis. It is noteworthy to mention that Iranian society has a male dominant culture. As a result, man has an overriding role in this society especially in the generation the participants of this study belonged to. They are living traditionally and managing their families based on a patriarchal culture. In these conditions, male identity or masculinity plays an important role in decision-making.

The findings of this study illustrated that participants argued that the illness consequences such as impotence was a gender issue rather than a sex problem or just a physical side-effect of prostate cancer. In other words, it was presented that impotence was not merely an individual or personal problem, but it was a social concern as well. The participants described this consequence as a failure and thought that this failure had spoiled their social identity:

“Sex is an important issue for men and it is their identity. This illness related to men’s identity. When a man loses his sex, he loses his masculinity. For this reason, I deleted my operation on prostate” (M. 10).

Moreover, they thought that this issue was not considered seriously in the medical investigations. They believed that physician viewed sex as a subordinated sense, whereas it was something that made their social identity. In this regard, one of the participants elaborated:
“Unfortunately, physicians just pay attention to the illness and not to me. Yes, I need my health and I do need to save my identity. The side effect of the treatment is painful. Most of physicians think that sex is an isolated and subordinated sense. But, it is not, because sex is our social sense, social identity” (M. 10).

Participants also criticized physicians for not understanding the social impairment associated with impotence instead of its physical harm:

“Doctors think that impotence is an inability to achieve erection, no it is like a joke for me at my age, but I have a feeling of impotence in my family and my social life. They can’t understand what has happened for my social life. Just the person who’s lost this sense is able to understand this changing” (M. 10).

Incontinence was another consequence of the illness, which had an intervening role in decision-making. Considering masculinity, males often do not like to be considered weak. Lack of muscular control such as incontinence may suggest a failure and would raise the participants’ concern. Some of the participants knew what had happened to their friends after surgery. They were aware that their friends were unable to have control of their body and lost their physical power through incontinence. For some of them, this failure led to social isolation. They could not go to the mosque, attend religious or social ceremonies, go to travel or go shopping, as they bothered because of urinary incontinence. Consequently, some of the participants preferred to delay in seeking diagnosis because of these social consequences. In this regard, one of the participants indicated:

“Before making decision, I asked one of my friends who had the same illness. You know, he wasn’t happy because he couldn’t control his urine, as it leaked by itself. It was very difficult for him to go to mosque or to holy shrine of Emam Reza. It was so stressful” (M. 4).

This participant elaborated that his consultation with specialist did not help him to make appropriate decision, as the doctor believed that: “it was a usual side effect for all patients who’ve got the same illness” (M. 4).
5.1.4.5. Embarrassment about digital rectal exam

Performing digital rectal examination was another intervening condition in detection process, which also operated as a barrier. Digital rectal examination, as part of routine physical examination, is one of the most common tests for the early detection of prostate cancer. However, the digital rectal examination has been reported to be an uncomfortable and embarrassing method, irrespective of the examiners’ level of experience (Macias et al. 2000; Nagler et al. 2005). The findings from this study showed that some of the participants avoided getting a digital rectal examination because they felt uncomfortable, and it was an embarrassing test for them. Additionally, their physicians often did not explain sufficiently about it, whereas men needed to be justified for doing the test. The extract below is typical of the responses on this issue:

“The first time that my doctor wanted to do an anal examination, without any preparation, he told me just lies down for this examination. I lost my temper and I got worried. I said, “Could you please tell me what this check up is?” I have protected myself for many many years and no one did such thing with me. Then, the doctor laughed and said: ‘you’re right. I should have already explained it for you’” (M. 2).

If physicians provide more information and explain the importance of examination in advance, obviously men will co-operate more and will actively contribute in the process of illness detection, because they would be convinced about the reasons for which rectal examination is being performed:

“Doctors should speak to the patients, and then it will be done much easier. Because a 60-year-old man doesn’t like to have, his anus checked up. In fact I think, it’s a bit putting-down him to have his anus examined. Of course, I think this work is needed and it can make a difference. The patient should know more that why such an examination is necessary to be carried out” (M. 2).
5.1.4.6. Fearing of biopsy

Data analysis demonstrated that fear of biopsy was one of the intervening conditions in seeking diagnosis. Biopsy of prostate is an aggressive and painful procedure. Moreover, the majority of the participants stated some other aspects of the biopsy in addition to its pain and stress including their friends' experiences, its failure and repetition of the test. The feelings and attitudes of participants' friends had profound influence on their decision for doing biopsy, which is evident in the following sentences:

"My friend had very bad experience of his biopsy. He said; "it was very painful". I was really scared and it was difficult for me to decide whether I go for biopsy or not. Moreover, I was worried about its failure" (M. 2).

5.1.4.7. Struggling for diagnosis

The analysis of data revealed that through the seeking diagnosis phenomenon, interaction between different intervening conditions resulted in two major actions/interactions including struggling for diagnosis, relinquishing final decision to trusted physician and sacrificing. Considering the suspicious malignancy at this stage of the detection process, participants were uncertain about the reality of the illness and diagnosis and wanted to know more. In fact, they struggled to rule out the prostate cancer:

"My specialist told me that if I refuse medical care, it might become malignant. So, I accepted it because I wanted to prevent malignancy" (M. 10).

To achieve this meaning, the majority of the participants attempted to be visited by different urologists and tried to seek more information about the illness. This concept is seen in the following expression:
"For me the period of diagnosis was a long time and it took more than 8 months... Everyday, going to this clinic, that clinic, getting appointment from this specialist and that one, giving this test and that test, oh, that was very difficult" (M.5).

5.1.4.8. Relinquishing final decision to trusted physician

Through this phenomenon, the participants understood that detection of the illness and medical interventions were necessary. They also realized that there was not any other choice to control their illness alone. Based on acquired knowledge especially suspected malignancy and also severity of the illness, they attempted to relinquish the responsibility of the decision for detection and control of the illness to the trusted physician. This physician could be a general practitioner or a specialist. Nevertheless, the doctor-patient’s relationship had significant influences on relinquishing control of the illness to the physicians. The participants in this situation trusted the decisions of the physician confidently. In this regard, one of the participants explained:

“I had a good and friendly relationship with my physicians Dr. R. and Dr. M. They respected me; they explained my problem so clearly to clarify the matter and try to make me understand the problem. I liked them too. However, I did not have the same relation with other physicians” (M, 2).

5.1.4.9. Sacrificing

Through the seeking-diagnosis process, the participants did not receive sufficient information about the side effects of the illness. However, due to the impact of the illness, it seemed that they accepted the consequences. They selected sacrificing as a strategy for controlling the illness. From this perception, they felt that it was necessary to sacrifice their gender and social identity for being healthy. This is obvious in the following extract:
"My doctor wanted to know, did it (impotence) matter for me or it was not a big issue to be impotent. I said to him: ‘oh, it's not too important for me and my wife as well and we accepted it’. He was concerned about my sexual relationships, but we accepted it just for my health’ (M. 1).

Those participants who did not have sufficient knowledge about the illness, often complained of therapy consequences and they had a negative perception about this issue. They felt that they had forgone their social identity with this illness:

"I accepted this problem (impotence). However, it was very painful, not physical, you know, because I lost my masculinity, my social identity. Really, I can’t explain this issue. For me, sex is part of my social life. I lost all my social life. At first, I thought that I sacrificed my sex only, but now I think that my identity has been sacrificed too" (M. 10).

5.1.4.10. Confirming the illness diagnosis

Actions/interactions taken by the participants in response to the third phenomenon resulted in confirming prostate cancer, which intensely influenced men’s view through the seeking-diagnosis. In Iran, people are usually afraid of cancer. They often think that cancer means death. Encountering cancer can be very painful for them. In this culture, the diagnosis of cancer means tolerating an intractable pain, hopelessness, and a prolonged period of wasting time before death. Therefore, in Iranian society, cancer is often seen as a disaster. This concept is obvious in the expression of this participant:

"I had two kinds of feelings in two stages. At the first stage, when I had just an elevated PSA, I didn’t really think that it was serious. Therefore, I wasn’t too worried. However, at the next stage when I encountered with positive result of the biopsy, I became very anxious and took it very seriously. This cancer became my thinking, my working, my sleeping, and everything. At that time, I felt my illness. I said to myself: ‘don't feed a dead snake in your sleeve’ (proverb) (M. 9).

Understanding the reality of the illness was difficult for the participants. This understanding was also harder for those participants who had not enough knowledge
about the illness.

5.1.4.11. Conclusion

The seeking diagnosis was the third phenomenon, which was experienced by the participants through the process of illness detection. Understanding prostate disorder, which was the outcome of the first phenomenon, itself, became the main causal condition for the seeking diagnosis phenomenon.

Like the two other phenomena, there were many different casual, intervening, and contextual conditions that influenced the phenomenon of seeking diagnosis. From the participants’ point of view, the most important conditions that encouraged them to contribute in the process of seeking diagnosis were stress and anxiety from labelling the illness as a prostate problem not as a urinary problem plus progression of the illness, failure in herbal therapy, insisting of their families to follow the diagnosis and possibility of malignancy.

From the participants' perspective, in addition to the biological suspected problems, there were some psychosocial issues, which could influence the phenomenon of seeking diagnosis. Similar to the previous phenomena, these factors can facilitate or impede the participants' views to make an appropriate decision. The main triggers for seeking diagnosis were support of family, support of trusted physician and belief about the controllability of the illness. Masculinity with its social, sexual, and physical aspects, embarrassment about digital rectal examination, fear of biopsy and fear of cancer diagnosis were the main barriers in the process of seeking diagnosis.
The analysis of data revealed that through the seeking diagnosis phenomenon, interaction between different intervening conditions resulted in two major actions/interactions including struggling for diagnosis, relinquishing final decision to trusted physician and sacrificing.

The analysis of data highlighted that actions/interactions taken by the participants through the seeking diagnosis phenomenon resulted in confirming prostate cancer, which intensely influenced men's view in this stage. Accepting of illness as a cancer was easier for participants who had richer information in relation to their illness.

5.1.5. Summary

To sum up, prostate cancer entails a significant period of management, which could be considered before the individuals seeking any clinical interventions. This period is more dependent on the psychosocial aspects of the illness than the clinical concerns. Men with prostate cancer defined the illness as a social experience as opposed to the clinical manifestations that are often viewed from a medical perspective. The findings of this study articulated three periodical phenomena which happened for the participants through the early illness experiences including making sense of the illness, seeking-help and seeking diagnosis of the disease. Within this period, the main psychosocial aspect of the illness was knowledge. Knowledge was viewed as a lively process for the participants and it was gradually transformed through the progression of the illness from an individual problem to a social issue.
Part 2:

5.2. GPs' interactions
5.2.1. An overview of GP's emerged categories

Figure 5.5: GPs' perception and practice process on the detection of prostate cancer

Assessing risk of prostate cancer

Sequential actions & interactions

Seeking diagnosis
- Symptomatic men
  1. LUTS
  2. Bone pain

Observation

Seeking risk of the illness
- Asymptomatic men
  1. Check up
  2. Suspected

Assessing risk of prostate cancer

Patients' conditions
- Awareness
- Language
- Embarrassment
- Social class
- Culture

Health System conditions
- GPs' position
- Lack of policy
- Load of work
- Specialization

GP's characteristics
- Knowledge
- Experiences
- Gender
- Communication skills

Detection criteria
- Burden of the illness
- Natural history
- Risk factor
- Physical examination
- The detection tests

Making decision

Non-professional constructions
- Personal knowledge
- Familial support
- Social life

Professional constructions
- Positive perception
- Negative perception

Consequence

Public urban clinics
- Lack of policy
- Insufficient feedback

Personal clinics
- Self-identified guideline
- Sufficient feedback

Referring
- Active referring

Passive referring
- Public rural clinics
  - Lack of policy

Passive referring
- Public urban clinics
  - Lack of policy

Lack of feedback
In this part the findings emerged from the analysis of Iranian general practitioners' interviews in relation to the detection process of prostate cancer will be presented. Through analysis, the concepts concerned to different aspects of the early detection of prostate cancer were emerged. The process of data analysis was presented in the previous chapter. Following categorization of the emerged concepts, four major categories (phenomena) were developed including 1) observation 2) communication 3) reflection, and 4) making decision. These phenomena with their conditions and consequences have been illustrated in Figure 5.5. As it is seen in the diagram, the phenomena developed over time and resulted in "referring" which was the consequence of this process.

The findings showed a systematic relationship between the phenomena and the wide spectrums of biological conditions and social constructions. According to the findings, the detection process did not occur just as a biologic phenomenon. Instead, it was influenced by some conditions, which surrounded the detection process. The main intervening conditions, which influenced the major categories, included 1) socio-cultural constructions of the illness and 2) professional constructions of the disease.

These conditions gradually influenced the development of GPs' actions/interactions through the process of prostate cancer detection. To summarize the overall process, "Observation" of men who sought professional help was the first phenomenon. The next sequential phenomena were developed at the different stages of actions/interactions. Following the first phenomenon, "Communication" was the next phenomenon, which affected by intervening circumstances of patients' conditions and GPs' characteristics. "Reflection", as the third phenomenon, was
developed under impact of health system conditions and the illness detection criteria. Then “making decision” was the fourth phenomenon which influenced by professional perceptions and non-professional contexts. This phenomenon resulted in men’s “referring” to specialist as the consequence of the detection process of prostate cancer by GPs (Figure 5.5).

Through the detection process, “interacting to assess the risk of prostate cancer” was the core category, which emerged from the data of GPs’ interviews. This core category was the main concept that all other categories of GPs’ interviews were related to. More detail of this category is discussed in the concluding chapter.

To better understand the emerged categories, an attempt was made to present more details of the phenomena and their intervening conditions along with samples of quotes expressed by the GPs in the process of practising towards detection of prostate cancer.

5.2.2. Observing men’s problems

One of the illnesses that GPs face with and need to make decision is prostate cancer. Although GPs’ age and gender could affect the number of patients with prostate cancer who refer to them, however their approach with these cases is similar, i.e. they either face with the patients who are symptomatic cases of prostate cancer or patients who have come with another complaint or even for routine periodical check up to seek risk of the illness. In this part the observation of GPs with both symptomatic and asymptomatic men are discussed.
5.2.2.1. Observing symptomatic men

The symptomatic patients mainly came to the GPs with urinary symptoms to seek the cause of their symptoms. These patients, who were usually elder, complained of acute symptoms such as urinary retention instead of a chronic change in the function of their urinary system. Sometimes they might complain of non-urinary symptoms such as osteopathy in lower back area or pelvis.

5.2.2.1.1. Typical symptoms

As it was already mentioned, the GPs illustrated that most of their patients were elderly men who complained of urinary symptoms. However the type and severity of the symptoms might be different. In this circumstance, GPs did not often concentrated on prostate cancer firstly unless they were aware of the disease through their practical experiences. One of the GPs in this regard said:

"It is not easy to approach prostate cancer in patient with urinary symptoms. I think that all of GPs in Observation with elderly men who complain of urinary symptoms have to think about the prostate cancer, in addition to concentration on BPH (benign prostatic hypertrophy). You know, the majority of men, who are seeking medical cares for urinary symptoms, come to GPs at the end stages of their illness" (GP, 4).

5.2.2.1.2. Atypical Symptoms (Bone pain)

Seeking medical care sometime happens by a man who was suffering from low back pain or some kinds of bone pain in their pelvic area. This type of pain may be due to invasion of prostate cancer metastasis. As bone pain (osteopathy) could have various etiologies, it was relatively normal that GPs missed to think initially about prostate cancer. This could result in delaying the detection of prostate cancer. One of the GPs in this relation commented:
"For me it was so painful to accept that one of my cases who suffered from lower back pain for a long time and was under treatment just with painkillers and self-physiotherapy, had cancer. When I did a lower back radiography for him, I saw something suspicious, which helped me to think about prostate cancer. Approaching these cases that come with osteopathy is not easy. Therefore, in confronting with a man aged 60 or older we have to think about prostate cancer to achieve to minimum missing rate" (GP, 12).

5.2.2.2. Facing asymptomatic men

Sometimes GPs were confronted with some cases that had no symptoms. In these circumstances, GPs either faced with a man who was actively seeking risk of prostate cancer or man who was seeking medical care for other reasons, but GPs recognized them as suspected cases of prostate cancer.

5.2.2.2.1. Coming for check up

In some cases, the patient was a healthy man who had come to be reassured about not having malignant disease, expected GP to make him calm, and free of concern, especially in the cases with positive familial history of prostate cancer. On the other hand, because of controversial issues, which surrounded detection and treatment of prostate cancer, it was not simple for GP to make a right decision. This issue is obvious in the following GPs' statement:

"Managing a symptomatic patient to discover a prostate disorder is easier than advising a healthy man who is seeking help to be checked up for prostate cancer. For these cases that the pathological phase of the illness has probably been started so earlier than the clinical phase, screening could be a good strategy, but for me it is not easy to make an appropriate decision" (GP, 2).

Based on the GPs' experiences, participants' intentions of coming to GPs could be different but whatever it was, it was that much strong which could make them worried and encouraged them to follow the case. One of the GPs referred to cases that
had lost their father and older brother because of prostate cancer and for this reason, they came to seek GP’s advice for possible ways of prostate cancer prevention.

“I believe that having a familial history is very helpful. For example, I had patients whose fathers had died because of prostate cancer and they’d come to me to seek information. In fact they were seeking my advice to know what they need to do in terms of prevention” (GP, 1).

In addition to personal motivation of men for checking up, their wives had also a significant role in this process. Having familial positive history of prostate cancer especially in cases which followed by death, wives attempted to follow the subject earlier and faster than their husbands did. One of the GPs has addressed this issue:

“Sometimes wives come to me to follow their husband’s problem in their absence. I have the experience of consultation with a woman who had come to consult with me about her husband’s familial history of prostate cancer. Despite absence of her husband, I could give her useful information and it is interesting that after a couple of days they both came to me. After physical examination and screening tests I became suspicious to prostate cancer and referred him to a specialist” (GP, 4).

5.2.2.2. Suspected cases

Having doubt about prostate cancer or thinking about it in consultations could be helpful, because it assists GPs not to ignore this disease in their practice. Although the field of GPs practice is so wide, but focusing on certain diseases in certain ages can help them to bear in mind that their patient might be a case of prostate cancer. This is particularly can be useful for men who come for another complaint which is not related to prostate cancer. Thinking about this illness in Iran is important because many patients who have the suspicious symptoms of prostate cancer do not express their problems apart from urgent circumstances. Therefore, GPs need to think about these kinds of the illness. One of the GPs commented that it has became a kind of
habit for him to ask older men about diabetes, hypertension and urinary symptoms regardless of the common complain for which patients have come to his clinic.

"I detected diabetes or cancer in my patients who had come to seek my help for a simple disease like common cold. I realized that these kinds of symptoms are not important for them. For example, decreasing urinary flow or urinary terminal dripping can be considered as a normal ageing issue for men who do not care these symptoms. So, I try to convince the patient or his relatives to do the preliminary investigations" (GP, 7).

In Iranian society, healthy men are not keen to be screened for various diseases, but men aged 50 years or older who come to GPs for any reason should be given some information and advice on serious chronic diseases like cancer. Some of the GPs pointed out that they have been very curious in relation to elderly men. One of the GPs in this study elaborated that men’s age can be a helpful factor to think about prostate cancer.

"I think that it would be good if the patients whose age is more than 45-50 to be screened for prostate cancer. I personally focus more on chronic diseases, metabolic diseases and cancers after this age. Unfortunately, I had patients whose prostate disease had been started but they didn’t care about it. This is very important to think about and to be able to diagnose the illness in the early stages" (GP, 3).

GP’s Observation with the illness often resulted in their actions/interactions with socio-cultural constructions as well as professional conditions of the disease to manage their practice. The actions/interactions taken by GPs through the first phenomenon (observation) resulted in three sequential phenomena included “communication”, “reflection”, and “making decision”.

5.2.3. Communication

In the process of prostate cancer detection, making an active communication between physician and patient had a basic and crucial role in continuing the process of
diagnosis and treatment of the illness. In this stage, the extent of this relation was not too broad, but gradually with a mutual understanding of patient and doctor of the same issue, i.e. patient's need to know about his illness, the interaction became more extended. Knowing this point was very important that which factors influenced the extent of the actions/interactions between patient and physician and from those which factors acted as a facilitator or barrier. According to GPs’ perspective, two main groups of intervening factors affected their actions/interactions including 1) patients’ socio-cultural conditions and 2) GPs’ professional characteristics. These conditions will be discussed in detail below.

5.2.3.1. Patients’ socio-cultural conditions

Even though both patients and doctors’ characteristics were influential for the degree of interaction, patients’ conditions seemed more important. The reason was that their conditions could considerably facilitate the process of the detection, vice versa act as a barrier, and postpone the process of the illness detection and treatment for several years. Patients’ conditions have been already discussed in previous part of this chapter from men's point of view. However, in this part some of these conditions will be discussed from GPs’ perspectives.

5.2.3.1.1. Awareness

Patients usually came to GPs with a combination of symptoms. Probably they had experienced these symptoms at the same time, but the importance of those different symptoms was probably different for them based on their knowledge about the illness. For this reason, they usually expressed the symptoms, which were more
important from their personal point of view. One of the GPs in this regard commented:

"Patients talk more about the symptoms which they suffer more from them. For example, I had a patient who’d come to my clinic by acute urinary retention. This was an important symptom for him but at the same time he thought that frequency and terminal dribbling are not important" (GP, 6).

There is a question that whether it is 'not knowing the symptoms' or 'not considering the symptoms important'. GPs in this study mentioned both. One of them commented:

"In fact they don’t know anything about prostate cancer, apart from situations that they have seen somebody in their family with prostate cancer, otherwise they don’t know anything" (GP, 3).

Another GP pointed to the minimization of symptoms by men:

"Indeed men opposite of women assume many symptoms just as ordinary things and have no enough information about it" (GP, 6).

In addition, participants were not able to found a logical relationship between the symptoms. Indeed physician had to ask them about related signs and symptoms to be able to find their relationships. This stage could be named as the phase of reciprocal understanding of the symptoms by the patient and physician.

The matter that most of the men did not know what prostate gland was and where it was located was also important, because it was a part of their body that they neither could see nor palpate it. In addition, they were not able to understand its function directly. It was different with breast that women know a lot about it. The other point was that nobody informed men of the physiology and function of this gland and in fact no need was felt by men to know about it. In these circumstances, it
was normal that their information about prostate gland was poor. One of the GPs asked this question from medical society that why men were not familiar with this part of the body:

"This point that generally men don’t know what prostate is and where it is and which symptoms will be appeared after its dysfunction is one issue. However, issue that very important is why they don’t know? I think finding a response for the latter question is much more important than the former" (GP, 2).

Indeed, why men had a poor awareness of prostate or were not aware at all? It seems that this issue should be addressed more broadly and comprehensively. In a wider perspective, the issue of “men’s health” or “health from men’s point of view” should be taken into account. One of the GPs in this study criticized the health system for not providing enough information for men about prostate diseases:

“My question is what information men receive about prostate cancer in our society. I don’t know how western countries have dealt with this issue. However, in our country, there is no good attention towards training of men’s health issues in the public. We should see what knowledge we’ve given to the society regarding prostate that expect them to know about it" (GP, 4).

It seems that in addition to the biological issues about prostate gland like being invisible and impalpable, other factors like cultural, social and socio-cultural barriers for following the prostate-related symptoms and dysfunctions should be considered. Socially men’s health has taken less attention in comparison with other aspects of public health. This particular social attitude has had impact on masculinity. It is a cultural notion in the societies that boys from childhood are being taught that they should be strong, tolerate pain and not to cry. In addition, addressing men’s sexual issues and discussing male genitourinary problems have been deemed as social taboo. Even in male groups, talking about these issues seems unpleasant and rude and it is preferred to discuss it indirectly and with particular terms. The only social unit that
permits this kind of discussion is family circle, especially in marital relationships between wife and husband. In this study, many GPs pointed out that most of the men came to clinic and sought medical care for genitourinary system along with their wives. Therefore, wives could have a key role in men’s health in general and in the detection process of prostate cancer in particular. The role of familial support will be discussed in the section related to the non-professional contexts, which affect GPs practice.

5.2.3.1.2. Language

The other patients’ condition that GPs referred to it as a barrier was the patients’ language. The dilemma from GPs’ point of view was that sometimes patients made sense of the symptoms, but had problem in expressing their symptoms using lay language and unclear words. One of the GPs with respect to language barrier commented:

“They can express their problems using their special accent and terms. I should know those terms to be able to understand them. For example they don’t use the word “urine”, instead they say “PISHAB (to get rid of waste water from the body)”; or may say “I’ve got problem in the bathroom”. You can’t understand what it means” (GP, 4).

Sometimes participants knew their symptoms but were unable to find a suitable term to explain it. For example, they did not recognize the difference between dysuria and pain or terminal dribbling and urinary retention. They might consider all the same:

Sometimes they can’t describe the real symptom at all, for example dysuria is something simple to explain, but I had a patient who didn’t know how to express it” (GP, 4).

The inability to express the symptoms in a right way was more common in men compare with their wives. It seems that men were not skilful in expressing their
physical and emotional problems. Additionally, as they had less contact with health systems they had not enough information to express their symptoms clearly.

5.2.3.3. Embarrassment

Embarrassment in expressing genitourinary symptoms was one of the other issues, which GPs discussed it in their patients. Basically men were not keen for somebody to invade their privacy. As long as they were being asked about genitourinary symptoms their answers were short, incomplete and vague. In addition, they tried to change the subject of discussion. One of the GPs explained his experience in this regard:

I, as a male GP, get information about the genitourinary problems of my patients hardly and indirectly. It's not easy; you need to ask something from your patient that you are aware that giving answer to them is difficult for the patients. So I try to spend a lot of time and to be careful not to miss the patients, because sometimes they've told me: "if I knew that you're going to ask such questions I didn't come to you", so I’m very careful" (GP, 8).

The issue of embarrassment was more highlighted when the GP was female. In this circumstance, both patient and doctor avoided to continue discussion about the symptoms. On the other hand, female GPs had the opportunity to get enough information through patients’ wives especially in the cases where wives accompanied their husbands and had an active role in following the illness. The following extract illustrates the experience of one female GP:

“As a female GP, I’m practising for nine years in this local clinic. Through this period of time, my relationships with my patients were so good and because of that, now, I feel I’m their family and trusted physician. Therefore, there is no difference if my patients are male or female, young or elderly, they comfortably come to me. However, it is clear that it is embarrassing for my male patients to talk about their sexual and urinary problems. However, for the reason that I have a good relationship with their wives, I am able to get the answers of my questions easily. Of course I’ve got this opportunity gradually and after nine years” (GP, 11).
The aforementioned conditions emphasized on men's problems in expressing their urinary problems; but it seemed that these conditions were influenced by social and cultural status of the patients, which are discussed below.

5.2.3.1.4. Social class

The social class of the patients was another criterion, which affected the interaction between patient and doctor. The patients who were living in areas with lower social class usually went to the public or charity clinics. These clinics due to having lower cost had larger number of patients. For this reason, both doctors and patients did not find sufficient time to build relationship and to have good interaction.

"I am working in a clinic in poor area of city. There are many patients who come to this clinic and sometimes I need to visit 70-80 patients from 4.00-9.00 p.m. In this circumstance to what extent, I would be able to build a relationship. Even if I want to, the other patients criticise me, because I have to see all of them" (GP, 1).

Men's perception of health and illness were different in different areas within varied social classes. It could be dependent on men's education, job and income. Also having access to health services and social support resources could affect their attitudes and behaviours towards their health:

"My interaction with my patients in my personal clinic and the public clinic which I'm working in the morning is completely different. They are living in different areas with different social classes" (GP, 1).

Some of the patients attempted to get medical cares through the cheapest and easiest way. They did not accept a long process of following the illness. Therefore, they preferred to be recovered from symptoms rather than involving in a long-term process of illness management. In this regard, one of the GPs indicated;
"If I advise the patients to follow their illness they don't accept. From their perspective when a doctor cures their illness just by one prescription, he is a good doctor. They don't like physicians who order different tests" (GP, 3).

It seems that patients' conditions might be constructed by GPs in terms of their social life. They thought that illness was a threatening factor in the ongoing process of their life. It could threaten their other social constructions, for instance, their job. In this social condition, job was structured to be all their life. Suffering from a chronic illness could be difficult for a man who had been retired but had to work hard somewhere else to support his family financially. Whereas patients from high social class had no or less problem in terms of money, insurance or job. They even looked for sick leave. One of the GPs explored the reaction of one of his low-income patients in response to prescribing some detection test in such a way:

"When I requested PSA and scan for him he said: "Doctor! Please give me medicine because I have no time to do these tests and if I leave my workplace and go for tests, I'll lose my job. I trust your clinical decision, so there is no need to do such tests" (GP, 4).

5.2.3.1.5. Culture

One of the other patients' conditions was their cultural beliefs. It is likely that despite all suitable social circumstances for paying attention to health, cultural issues has significant impact on men's health seeking behaviours. The main point is not that these cultural influences are right or wrong. The main concern is their impact on men's health. Overall, from cultural point of view, men's attitudes on their health and controlling their illnesses can be discussed in three categories. The first group of men was the ones who looked at the illness through the lens of spirituality and had less attention to the biological or environmental causes of the diseases:

"Some people think the illnesses that they've got are their destiny and are a kind of God's will or God's test or a means of getting clear from adversities of sins" (GP, 7).
The second group was men who thought that the cause of diseases is genetic or environmental factors. For this reason, they tried to be careful about their health especially their habits like diets, sleep and exercise. They consulted with physicians as soon as being faced with any health problem and asked for medical advice. They had a good co-operation with the physicians and tried to follow all of the physicians’ orders.

"The second group is those men who believe in prevention and control of their health and illness. Some of them are very sensitive to routine check up" (GP, 5).

However, the GPs describe a third group had no belief. In fact, they believed neither in spiritual causes nor in biological reasons. The unique characteristic of this group was not being attentive to personal health. They easily ignored the mild symptoms and sought medical advice only when they suffered from serious symptoms.

"A group of men think neither in prevention nor follow up of their illness. They don’t care about their health as well as their symptoms, unless they get a severe symptom like urinary retention" (GP, 1).

The backgrounds of these diverse attitudes will be discussed in detail in the discussion chapter, but it is worthy to note here that in spite of religious advice by Islam which emphasizes on health and hygiene and make people responsible regarding maintaining their health and also its recommendation for following illnesses and finding cure, nowadays a cultural vacuum is felt in this regard in the Iranian society. Addressing this issue more than adhering to an ideological value can have dramatic impacts on the community health.
5.2.3.2. GPs’ characteristics

According to the findings of this study, different characteristics of GPs including their knowledge, experience, gender and also their role in the process of early detection had significant influence on their perception.

5.2.3.2.1. Knowledge

General practitioners’ knowledge concerning prostate cancer had a certain relationship with the time of their graduation. Although the level of the GPs’ knowledge was different, nevertheless they had enough information to manage their patients. Although they were mostly practising in relation to the general diseases, they were expert in terms of detection process of prostate cancer. It seems that improvement of Iranian GPs’ knowledge is related to the recent health requirements, which are completely different with three or four last decades. Medical curriculum nowadays is more concentrated on chronic disease as well as infectious and communicable diseases. Therefore, young and newly graduated GPs have richer information in relation to the early detection of prostate cancer. The early detection of prostate cancer was a privilege for the last generation of Iranian GPs. They were more optimistic comparing to recent graduated GPs.

“When we’ve been medical student (40 years ago) we’ve been involved so much in illnesses like tuberculosis, typhoid and the other fatal infectious diseases. At that time, it was emphasized on DRE and physical exams for early detection of prostate cancer and there was no idea about these different tests that are recommended today. However, nowadays we are able to detect the illness at the early stages using these tests and I think this is a good opportunity” (GP, 7).

The analysis of data showed that GPs taken part in this study had neither been optimistic about early detection of prostate cancer nor about early interventions such as radical prostatectomy. They were not only pessimistic about early detection of
prostate cancer but also showed doubt about early interventions of specialists particularly urologists. They criticized rushing in doing surgery and ignoring watchful waiting which is a well-known and recommended approach to manage men with prostate cancer.

“As a newly graduated GP, I think early diagnosis can not be helpful in all circumstances. I think we shouldn’t easily decide about surgery in these cases. Why watchful waiting method is not being considered in Iran? Whereas it’s one of the recommended approaches to prostate cancer; I think urologists in our country because of whatever reason has less attention to this point” (GP, 5).

As it is understood from the GPs’ views, there is dissimilarity between previous and recent graduated GPs in terms of their beliefs and attitudes towards the early detection of prostate cancer. Therefore, the perspectives of elderly GPs because of their long-term experiences should be considered important. This issue will be discussed in more details in the next chapter.

5.2.3.2.2. Experiences

In Iran having experience in medical practice is one of the factors which create a balance between GPs’ training in the medical schools and the experience that they gain through managing the illness in their practice in the society. Medical curriculum in Iran has been developed based on western countries’ curricula in medicine, whereas the social constructions are different in Iran and Western countries. It does not mean that educational standards in medicine should not be taken into account in Iran, but it means that medical practising just based on a westernized training is associated with some problems in implementation. For instance, lay people in Iran have a low level of knowledge about illnesses, so physicians have been taught to decide about the patients themselves and without sharing patients in decision-making.
This issue would be more serious in relation to cancers particularly prostate cancer, because in addition to having no good information, patients are not being informed of having cancer, while in western countries people not only gain information on different illnesses through a variety of sources, but also they are informed about the process of diagnosis and treatment. They are also being informed about the illness trajectory, different treatment options and the post-treatment complications and medications’ side-effects. For this reason, they share in decision-making for their treatment. However, in Iran the social circumstances are very different. As a result, GPs’ experience has an influential role in their practice. In this study, GPs with more experience were more interested to detect the prostate cancer at its early stages. One of the GPs who had 40 years of medical practice commented:

"According to my experience, I think if the patient needed my help in whatever stage, either in the phase of early detection or referral or post treatment he must be helped. Because firstly the patient himself doesn’t know which serious disease, he’s got. Secondly if he knew he didn’t know what to do. Even he might make a wrong decision. For instance, I had a friend who got prostate cancer and fortunately, he was at the early stages of disease based on the biopsy, but he didn’t care and he didn’t accept to do surgery" (GP, 7).

Based on the findings of the current study, GPs who paid attention to the illness complications had a different attitude on the early detection of prostate cancer. For example, one of the GPs said that his patients who had prostate cancer for a long time and was being tested regularly for the level of PSA, died because of heart attack and not prostate cancer. For this reason, he was not keen on the early medical intervention after detection of prostate cancer:

"As I know, some patients are just routinely being tested after diagnosis; one of them who were my patient died because of heart attack and not due to prostate cancer. Therefore, if you ask me about early detection, I would say that I don’t agree with it. Based on my personal experience, my first choice for my patients is not to do an early intervention, because it can be a bigger disaster than prostate cancer itself. I don’t care about what urologists advise" (GP, 10).
Experiencing prostate cancer by GPs themselves was another factor, which influenced GPs views regarding importance of early detection. For example, one of the GPs, who had prostate cancer and had experienced the process of early detection himself, had a negative impression about early intervention for the patients with prostate cancer. His experiences and views are obvious in the following extract:

“I’ve experienced that early intervention is a tragedy. As a GP, I got prostate cancer and I did PSA test and biopsy for early detection, which were positive; but I think I rushed in doing surgery. I could live with this illness for many years without any problem” (GP, 10).

5.2.3.2.3. Gender & age

In addition to the impact of GPs’ knowledge and experience on their belief in the early detection of prostate cancer, differences in GPs age and gender were also important and their role could not be overlooked. Particularly, prostate cancer is a gender-related illness and has clinical features and post-treatment complications that are specifically related to men.

In religious and traditional societies like Iran, patients are keen to be examined by the same gender, except from the urgent circumstances. This concept becomes more serious regarding the illnesses, which are related someway to the genital system. Based on this social construct, after Iranian revolution, which was developed under leadership of religious scholars, men are not permitted to do the special course on obstetrics and gynecology any more. In addition, women are not allowed to do the special courses on urology. Generally, in Iranian society men with male-related illnesses are interested to go to male physicians. The following extract, which has been presented by a female GP, reveals this reality:

“As a female GP, I’ve got few male patients with urinary problems, although generally I have a lot of male patients. For this reason, I’ve approached limited cases of prostate cancer, except of
local patients whom I know them for years and I realized their urinary symptoms indirectly through talking to their wives. Of course, I followed these patients” (GP, 12).

In addition, male patients’ particularly elderly men are more comfortable to talk about their genital symptoms with GPs who are in the same age or even are older. Because of socio-cultural and ethical issues embedded in Iranian culture, they are not at ease to share these problems with the GPs who are at the same age of their offspring. In contrast, they are very comfortable with the elderly physicians. One of the GPs who was interviewed in this study and was in the age of 67 said that his patients describe their personal and sexual problems with him very easily and comfortably.

"Considering my age (67 Y.), I am as a family physician for my patients. Therefore, they let me know about their problems easily and comfortably, even their sexual issues and I think this is because of my age and my close relationships with my patients. For instance, one elderly man who’s living in a village didn’t tell his problems to the young doctor in their village. However, when he came to me he explained everything comfortably. He said me: “they took me to a young doctor and it was too hard for me to talk to him, but I am very comfortable with you” (GP, 7).

5.2.3.2.4. Communication skills

Building an active relationship is an important strategy for the GPs to engage more with men, to encourage them, and to gain more information to perceive the illness. Considering the aforementioned GPs’ characteristics, it seems that their success in establishing a good relationship depends on their ability to use different types of communication skills such as visual, verbal, and emotional relationship. GPs have been trained to use these skills through their education in medical college. Nevertheless, they have been trained how to manage communications in hospitals instead of community fields. Anyhow, applying these skills is a fundamental issue of their interaction with patients, although it is a little different in hospital and
community. In fact, physicians should employ their art of communication, i.e. having a face-to-face contact with the patients. The physicians should go ahead with the patients step-by-step and encourage them to express themselves. In these circumstances, patients gradually find themselves in a friendly atmosphere and try to elaborate their problems. If GPs sympathize with patients, they are able to understand the illness in more detail. This meaning is evident in the following statement.

"In my view, I've got this experience that whenever patients understood doctor's good intention to help them, it's a big achievement and in this circumstance they let the doctor to enter into their private world" (GP, 6).

The main point in patient-doctor relationship is realizing and perceiving the illness in more detail. This is a ground which needs to be more focused on and it becomes more important in relation to the people with a lower social class. Therefore, the physician needs to spend enough time to understand their patients' perceptions rather than just to prescribe some medicines. As one of the GPs participated in this study indicated:

"I personally spend 85% of my time for obtaining history. Only 10-15% of my time is spent for physical examination and just 3-5% for the other clinical issues" (GP, 4).

At this stage of the detection process of prostate cancer, communication between GPs and their patients was resulted in starting to deal with the illness. Through the detection process and from this consequence, the third phenomenon i.e. "reflection" was developed.

5.2.4. Reflection

After observation and building communication, physicians usually had retrograde reactions which could be subjective or objective. They attempted to review
the illness criteria in their mind to evaluate the relationship between obtained data with their subjective information about prostate cancer.

5.2.4. Detection criteria

To detect the possibility of prostate cancer, they needed to review some important epidemiological aspects of the illness and also the available facilities to manage clinical symptoms of the illness in the health system.

5.2.4.1. Burden of the illness

The greatest risk factor for prostate cancer is age. The older age has the greater risk of the disease. This risk increases significantly after the age of 50 in men who have no family history of the disease and after the age of 40 in men who have had a close relative with prostate cancer. Moreover, based on the report by Parkin (2001) and his colleagues, about two-thirds of all prostate cancer cases are diagnosed in men with age 65 and older. This evidence as good epidemiological information could encourage GPs for thinking about prostate cancer, particularly thinking about increasing men’s life expectancy in Iran within the last three decades. It was pointed out by one of the GPs in this study:

“Well, I think the average men’s life expectancy is around 70-72 years. Therefore, as long as men’s age is increased the risk of prostate cancer is also increased. I think that the rate of prostate cancer in Iran now is much higher than before” (GP, 7).

It seems that GPs knowledge about increased risk of prostate cancer makes them sensitive to discover age related disease like cancer.
5.2.4.1.2. Rate of the illness

In contrast to age as an important epidemiological risk factor, there is not sufficient information about the incidence and prevalence of the illness in Iran. The GPs in this study believed that with increasing average life expectancy in Iran the rate of prostate cancer will increase. However, they were enthusiastic to know the burden and the rate of the disease in Iranian male population. They thought that having this information is the prerequisite for planning appropriate programs for screening of prostate cancer. One of GPs in this study elaborated:

“In Iran, we have no information about incidence of prostate cancer. I don’t mean that screening is not important, but I think the priorities should be considered. I mean we should know about the burden of diseases and then decide about proper detection programs. It is not right that we use the screening strategies of other countries” (GP, 8).

5.2.4.1.3. Natural history of the illness

Prostate cancer has a very slow development in comparison with other cancers. Some GPs in this study believed that a man could have an asymptomatic prostate cancer but dies because of other diseases. They inquired that in this condition, how the necessity of screening can be justified, because without early detection of prostate cancer a patient might live for a long time without having any serious problem, unless in the case of metastatic symptoms appearance:

“Although I accept that when metastatic symptoms were seen, the physician is unable to do anything helpful. However, to be honest, predicting how quick the tumour is growing is difficult. So talking about the importance of screening would be problematic” (GP, 1).

5.2.4.1.4. Risk of the illness

Nowadays, it is clear that all men are at risk for developing prostate cancer. However, the main questions are 1) To what extent men are at risk for prostate cancer,
2) Is it a hereditary cancer and, if not, 3) What are the important environmental risk factors of prostate cancer. GPs in this study stated that they have not a conclusive etiological perception on prostate cancer.

“Well, I think I would agree at the moment for prevention of prostate cancer. But...you know, there is confusion around the risk of the illness” (GP, 4).

5.2.4.1.5. Physical examination

Based on the collected data, one of the practising points, which strike the mind of GPs, was physical examination. Although it was a routine practising procedure after taking history, but there were social and cultural limitations in doing the physical examination in the suspected cases of prostate cancer. Digital rectal examination is one of the routine tests in the detection process of prostate cancer. Based on the findings of this study, which were discussed in the previous part of this chapter, this test was an uncomfortable test and males often avoided accepting the test. This reaction of patients influenced the GPs’ practice and they tried to avoid doing digital rectal examination. This meaning is evident in the following quote in which one of the GPs described the social, cultural and religious issues related to this procedure:

“We cannot do rectal examination easily in this area for the reason of socio-cultural issues, because people who live here, they don’t culturally accept being examined for this purpose. They don’t like it. They think it’s embarrassing, or imagine that it’s a kind of disregarding their privacy. In addition, from religious point of view, they are not happy with it; they don’t have a good feeling. In addition, younger men very unlikely accept this examination, so considering these circumstances, I really do not do this examination, I mean in reality I cannot do it” (GPs, 3).

Occasionally, some of the GPs had no problem for doing this test. They tried to provide more information and explain the importance of examination in advance. Therefore, patients needed to be justified first. It is interesting that patients’
acceptance in this study was in direct relationship with the GPs’ characteristics such as their age and gender. They accepted to have more cooperation with older male GPs in comparison with younger or female GPs.

5.2.4.1.6. The detection tests

In addition to physical examinations, there are some para-clinical tests, which can be used to detect a suspected prostate cancer. Among these tests, PSA and TRUS are two important tests, which can be applied by GPs, to manage their suspected cases of prostate cancer. These tests have both medical and social aspects. The medical aspects of these tests were discussed in Chapter Three (Literature Review). Nevertheless, in this chapter, attempt was made to consider some of their social aspects. In this regard, the acceptability and possibility of doing these tests were discussed by the GPs in this study.

5.2.4.1.7. Acceptability of detection tests

Despite discomforting and embarrassing nature of digital rectal examination, PSA and TRUS were tests that are more acceptable for both patients and GPs. Based on the findings of this study; these tests were acceptable for both patients and GPs. The reason was that:

- Firstly, there was not any psychosocial barrier such as embarrassment adhered to doing these tests: “in terms of social and cultural issues, men are more satisfied to have these tests instead of DRE” (GP, 2).

- Secondly, in comparison with DRE, prescribing of this test was often associated with more cooperation between GPs and their patients: “when you emphasize on DRE, you often lose your patients’ cooperation” (GP, 6).
The third reason for acceptability of these tests from GPs' point of view was simplicity, safety, and repeatability: “to be honest, I prefer these tests, because they are repeatable and simple” (GP, 5).

The last reason was that for female physicians ordering these tests were the easiest way to manage suspicious cases: “As a female GP if I found a suspicious case I order an ultrasound and PSA at first, because they are more acceptable than DRE” (GP, 9).

5.2.4.1.8. Possibility of doing detection tests

Even though PSA and TRUS were acceptable for both GPs and patients but there were some limitations in terms of their cost. This limitation was mainly in relation to lack of health insurance support for GPs to have the liberty to request PSA for the suspected cases. One of the GPs commented:

“Regarding PSA test, unfortunately health insurance does not accept to pay to GPs, so we cannot order this test. But some patients accept to do it privately and pay the test cost themselves” (GP, 1).

It is a question that whether GP could order PSA or not. Insurance agencies in order to protect their benefits try to limit the number of tests that can be ordered by GPs. For this reason, they know PSA as a specific test, which can be only ordered by the specialists. Whereas, the reality is that PSA is not a specific test for prostate cancer diagnosis. It is a screening test and is used to detect the illness at the early stages. It is therefore seemed logical that GPs could order it. Indeed, biopsy is a specific test to diagnose prostate cancer definitely. It seems that the wrong approach of insurance agencies with GPs is due to the lack of a clear national policy in relation to GPs’ role in the process of early detection of prostate cancer.

The reality is that they just practise based on their personal decisions, whereas if there was a defined protocol offered by the health system to all GPs, the outcome of
detection of prostate cancer was very different. It is quite clear when each GP approaches the patients based on his/her personal experience and knowledge there is no identical and unique program for the detection. It seems that it is necessary for Iranian Health System to attempt for standardization of primary cancer care.

5.2.4.2. Health system

It is not sufficient for a GP working in the community to be able to treat patients. As a health administrator, he/she should be able to take specific preventive measures and advise about how to promote health. Policy formulation, planning, administration and management of cancer care are areas, which must be provided by Iranian Health System. Unfortunately, there is not a linkage between this system and GPs for primary and secondary cancer care.

5.2.4.2.1. GPs’ position

GPs in this study commented that they have no defined position in the health system to screen cancers especially prostate cancer. They believed that this issue influenced their motivation to have an active role in the process of the early detection of prostate cancer. Therefore, they preferred to be less involved in this process. This concept was more obvious in the governmental health system. One of the GPs in this regard indicated:

“We don’t know what our role as GP is in the early diagnosis of cancers. The reality is that we are able to do something but the health system doesn’t value our position. Who would detriment? Just people and patients! We have closer relationships with the patients, so if the system let us to play our role, we would be very helpful” (GP, 6).

In fact, with passage of time GPs role in the process of early detection of cancers is being neglected. Now there is confusion about the fields of GPs practising.
They are not involved actively through the process of the illness detection. In this study, the majority of the GPs thought that they had not a significant role within this process from both the health system and specialists’ perspectives.

5.2.4.2.2. Lack of policy

For prostate cancer, even if it is diagnosed at the early stages, there should be defined policies. However, the Iranian GPs are practicing now according to their personal decision rather than using a unique guideline. In fact, they don’t follow a certain policy. It is the responsibility of policy makers in health system to provide this protocol. It is not GPs’ duty. They could just implement the legislations. When there is no defined protocol each GP acts based on his/her personal view. Therefore, it is not possible to say which approach is right or wrong. They have their own reasons for what they are doing.

“Well, there is confusion about detection of prostate cancer. We don’t know whether we should order PSA or not; we don’t know basically the early detection of prostate cancer is reasonable or not? We do need a transparent and clear guideline for the early detection of prostate cancer” (GP, 2).

5.2.4.2.3. Load of work

The GPs participated in this study asserted that they must visit a large number of patients during their daily practices. General clinics, either private or governmental admit many patients. Presumably, the reason is that medical services are accessible easily through general clinics for everybody. Consequently, GPs have no sufficient time to spend on talking with an elderly man who’s got serious problem. Moreover, GPs stated that there is a misunderstanding between people that they should come to
clinics for every single health issue; especially this was something popular among women:

“They come to the clinics just after getting a headache, most of their illnesses do not need any treatment; even sometimes the medications that we prescribe because of their insistence, are not necessary” (GP, 1).

One of the GPs complained that why they have not a standard range of working hour and why does nobody think about this issue. He commented that in this cultural context a lot of time, which should be spent on detection of chronic and serious diseases like cancer, is lost. These meanings are evident in the following statements:

“Because of our workload we’ve got problem in relation to time. In one working day, I should visit over 40-50 patients. On the other hand, counseling and giving information to the patients has no place in our health system. It doesn’t mean giving service. Medical service means writing a prescription for the patient in which you should order few medications and that’s it” (GP, 8).

5.2.4.2.5. Specialization

Regarding the detection of chronic diseases and seeking medical care, there is an especial professional construction in Iranian health system, i.e. specialization. This issue has its roots in socio-cultural contexts. Specialization is being as an indicator to provide a better health services and also referring to specialist seems to be a higher social position. Therefore, in relation to the detection of prostate cancer, the specialists make the final decision and GPs role is being neglected. One of the GPs indicated that:

“I don’t want to condemn specialization and doing advanced courses in medicine, but tendency to specialization is one of the reasons that our potential abilities in diagnosis and treatment are being ignored” (GP, 3).
Nowadays, it is going to be a routine attitude that people for many usual and simple illnesses, which can be absolutely diagnosed and treated by the GPs, prefer to be visited by the specialists. Whereas they can receive these services much better, cheaper and earlier from GPs. There is a question that who is responsible for this kind of health attitude and behaviour, the health service providers or people? Do GPs have not enough authority in their practice, the specialists have lost their authority, or there are some other cultural and/or socioeconomic reasons? Therefore, it seems to be necessary to revise this social construction of the illness. One of the GPs indicated that engagement of the health system would help to eliminate or correct these wrong attitudes:

"I think the health system has role to alter this attitude among people anyway. Although recently the government has employed some GPs as "family physician" but it is a health program just for rural population who receive medical care from governmental health systems" (GP, 6).

However, it seems to be difficult to modify and control the specialization construction of the chronic diseases particularly cancer in the disorganized situations of private and governmental medical settings in the urban areas. In general, providing health services by specialists has been resulted in increasing the cost of detection and treatment. These conditions will impose an economic burden on the doctor-patient relationship.

5.2.5. Making decisions

Through the reflection phenomenon, GPs attempted to make an appropriate decision in the detection of the disease. This stage had two kinds of intervening conditions including 1) professional constructions of the illness, which were related to GPs perceptions, and 2) non-professional constructions of the illness, which were
related to patients’ socio-cultural issues. In this part attempt was made to discuss more about these intervening conditions.

5.2.5.1. Non-professional constructions

Non-professional constructions of the illness refer to a multi-dimensional psychosocial structure of the illness. This structure is based on personal knowledge, familial attitude, and social life.

5.2.5.1.1. Personal Knowledge of patients

According to the participants’ experience, the process of prostate cancer detection put the patients in a stressful situation. Although in Iran physicians do not directly inform their patients of cancer, but they realize it very soon, especially those people who are educated. After being informed, some of them start to fight with themselves and show aggressive behaviour. Sometimes they think that they have been victimized and ask themselves why me? If they know that what their illness is in reality, they will show a stronger reaction. For this reason, sometimes they ignore to follow the process of their diagnosis and treatment. Some other times they become confused because of going to different doctors with different detection and therapeutic approaches. One of the GPs commented that the possible reason for patients' confusion might be poor knowledge about the illness:

“In my view there is really a gap here. The reason of the patients’ confusion might be not having enough knowledge or something else. But indeed we don't know what happen to them, there is not enough evidence about this” (GP, 4).

Lack of knowledge is a critical issue. Indeed, GPs in this study indicated that their patients had little information about prostate cancer. However, based on the evidence, which were previously presented in the part one of this chapter (men’s
perceptions and experiences), it seems that men's cognition about cancer in general and prostate cancer in particular is more important than men's knowledge. Many patients are reluctant to accept their illness. In contrast, some patients try to cope with their illness. It seems that understanding the process of developing patients' cognition is more crucial than understanding their level of knowledge about prostate cancer.

5.2.5.1.2. Familial attitude

The other issue which based on GPs views was influential in their decision-making was the role of family in the process of detection of prostate cancer. Iran is a traditional and closed society and within this society, family has a unique function especially in the previous generations. In spite of paternalism, women have a significant role in terms of managing the household. In terms of family construction, wife has a fundamental role in family health. In this regards, wives have two significant roles. First, they are very sensitive to family members' health and regularly monitor their health status. Secondly, they have a very important role in following up the family members' illness. One of the GPs in the following extract has elaborated the role of wives:

"Generally men have less attention to their illnesses but this is vise versa in women. I would say that nearly all of my prostate cancer patients came to me with advice and insistence of their wives. I sometimes compare their role with nurses, but I think their role is even more important. They always contact me and ask their questions. Even they call me to ask my views on specialist prescriptions and how to do their orders. I had patients that without their wives' attempt they have not been alive now" (GP, 7).
5.2.5.1.3. Social life

Issues related to the social life were other issues, which according to GPs affected the process of decision-making. Three subcategories including social trust, social support and social identity were emerged from this category.

5.2.5.1.3.1 Social trust

Social trust is one of the important aspects of the complex situation of making-decision on detection of prostate cancer and treatment as well. Considering that the majority of men have not enough knowledge or a dynamic cognitive view on detection and treatment of prostate cancer, trusting is an influential factor in doctor-patient relationship, which resulted in relinquishing the final decision-making to the physicians. It seems that the level of social trust among male population is lower than female, because men are more involved with complicated social issues than women are. One of the GPs in this relation indicated that form his point of view doctor-patient relationship is fragile, because patients think that physicians advise them to do the diagnostic or treatment procedures to earn more money themselves. This GP believed that this kind of thinking has a serious socio-cultural burden that has taken very little attention by the medical society.

"I remember some patients which have been suspicious for having prostate cancer but they've been in doubt to go to the specialists. They were financially OK but didn't trust them. I introduced some specialists to them but they were still in doubt to go to, may be because of issues like “under table” or I don’t know something else” (GP, 2).

5.2.5.1.3.2. Social support

Cancerous patients definitely need social support, which can be financial and/or emotional. The financial support might be provided from family, and/or health
insurance agencies. The insurance agencies can decline their expenditures, but they have no active role to support all patients' demands and they do not support the over-cost of detection and therapy procedures. Unluckily, health insurance services without supplementary insurance are not enough, and it is clear that not all patients could benefit from supplementary insurance. Indeed, there is only one non-governmental organization (NGO), named “Centre for specific diseases”, which is able to provide some supportive services. For example, it supports the cancerous patients to provide some medications, which are not produced in Iran. Therefore, at the time being, the main supportive source for these patients is their families. In fact detection and treatment of cancers including prostate cancer is not deemed as health programs’ priorities. For these reasons, many patients are personally trying to solve their problems on their own. One of the GPs in this study discussed this topic.

"Regarding the financial issues, it is very difficult not only for patients but also for physicians to make an appropriate decision. Many of my patients, which are living in slum areas, are not able to pay the cost of cancer such as prostate cancer. So, before making any decision, I try to help them to solve this issue" (GP, 2).

In addition to financial support, one of the required health services for these patients is counselling, which can be provided by GPs. It is being given by the GPs anyway, but it is not purposive and planned. One of the GPs criticized the way that people think about counselling and indicated:

"Unfortunately, the reality is that people don’t know counselling as a type of health services, they think that just writing some medications would be useful. I think we’ve got a huge gap in our health system in this regard” (GP, 5).

It seems that people need to be justified with respect to importance of counselling in health care.
5.2.5.1.3.3. Social identity

Social identity is another component of social life, which has specific influence on making decision regarding detection or treatment of prostate cancer. This category was discussed in more details in part one of this chapter (men’s perception and experiences). Social identity is a unique criterion of prostate cancer and refers to impact of the illness consequences such as impotence on men’s social life. The impact of this factor is different from man to man and it depends on the factors such as men and their wives' age and also their social class. It seems that specialists should consider this factor after detection of prostate cancer and before selecting therapeutic procedure. However, GPs in this study indicated that their patients and/or their wives often come for counselling and like to know their GPs advice. Therefore, GPs also need to consider this criterion in their decision-making in detection process. One of the GPs indicated:

"Look, I don’t like to involve in a subject which is not related to my practice. However, my patients through their detection and treatment process often worried about their illness and they have many unanswered questions, which their specialists didn't spend enough time to explain them and they come back to me to ask their questions. Really, what can I do?" (GP. 1).

According to the study findings, if GPs did not consider this point through the process of detection, they encountered with their patients’ criticism. One of the GPs who had the experience of being criticized by one of his patient commented:

"Around 20 years ago I had a patient who was a businessman and got prostate cancer and then specialists recommended him orchidectomy. He did it, but then felt himself as a victim and he was so depressed and angry because of that. He always criticized me for not making him aware of the post-operational complications" (GP, 7).
5.2.5.2. Professional constructions

In addition to the aforementioned non-professional constructions, there was another condition i.e. GPs perceptions about the outcome of the detection process, which had a significant role in developing decision-making phenomenon. The properties of the professional constructions were the outcome of detection and treatment of prostate cancer and its dimension could be varied from positive to negative.

5.2.5.2.1. Positive professional perception

Some of the GPs in this study commented that in the circumstances that on the one hand there was no screening program and from the other hand patient frequently came to the clinic at the end stage of their illness, early detection for prostate cancer could be a good strategy, particularly for men who were in the age of 50-60. It could help physicians to detect prostate cancer in early stages.

"In my view, detection of cancer diseases such as prostate cancer at the early stages is better than the end stages" (GP, 1).

Regarding the mortality and prognosis of prostate cancer, the GPs elaborated that the early detection of the illness could decrease the mortality rate. They emphasized that it could affect the morbidity as well.

"For me, mortality and prognosis of prostate cancer is very important and I think we can improve the epidemiological indices by the early detection" (GP, 4).

Another GP expressed his positive perception on screening programs by its role in reducing the treatment cost. He pointed out that when the patients either had metastatic symptoms or had no symptom, i.e. were asymptomatic, they usually had a lengthy period of diagnosis, which was costly as well.
"I think that one of the positive aspects of screening can be the lower cost of diagnosis and treatment at the early stage" (GP, 4).

They concluded that using screening methods could clearly affect the length of diagnostic period and the type of treatment. Therefore, patients certainly would have a shorter process of involvement for prostate cancer detection and treatment.

5.2.5.2. Negative perceptions

A minority of GPs, in contrast, expressed their negative impression on the screening programs emphasizing the impact of the early medical interventions, which raise some key questions. They question was "is there any real difference between screening and non-screening situations"? On the other words, they could not find any answer to this question that "is there any difference between treatment protocol in early and late diagnosis of the illness"?

"Look, a patient who has no symptom and won’t have any in the future and even will die because of another disease, why he should undergo the surgery and suffer from surgical complications following operation. I think it’s not logical, so in this sense I’ve got a negative perception on screening" (GP, 11).

5.2.6. Referring

Referring was the final phenomenon in the process of GPs’ practising to manage detection of prostate cancer. Based on the practice setting, referring could be active or passive.

5.2.6.1. Active referring

Active referring refers to a referral construction, which had a self-identified guideline, a clear administrative approach, and feedback from specialists. This kind of referring was carried out just in private GPs’ clinic. Within this referral system, GPs
and their patients had active role through the detection process. The referral policy was made by GPs and they knew who and why, when, and where should be referred. This policy might be similar or completely different among different GPs.

"Most of my patients, whom I’m their family physician, they let me know about the process of their referral. I refer them with a complete medical history to the well-known specialists" (GP, 7).

In this referral system, GPs often followed their patients and received feedback from specialists either directly or through their patients indirectly.

"Sometimes I call them (specialists) and fortunately most of them give me feedback. Also the patients’ relatives particularly their wives let me know about the process of patient’s follow up” (GP, 1).

The referral system that was mostly active in private clinics, followed by trusted GPs who had a close relationship with their patients. Unfortunately, just a small number of patients were referred to specialists through this system.

"In private clinic it is possible to have an active referring, because the number of patients is small. They know me well and we have a close-relationship" (GP, 4).

5.2,6,2. Passive referring

In spite of active referring, in passive referral system, there was not a clear policy; a well identified administrative procedure, and/or receiving feedback. In Iran, the referral systems are different in rural and urban areas. Nowadays, in rural areas, health services are provided just by governmental and special supportive insurance, which called “rural insurance”. In this system, there is a recognized referral system. Although feedback has been acknowledged and expected in this system, it is usually insufficient. One of the GPs about the quality of this referral system commented:

"We have referral system but it is just for referring patient for some special health services; for
example for particular diagnostic tests or treatment. There isn't any identified policy for different types of diseases. For instance, I don't know when I should refer my patients. It is depends on me not health policy" (GP, 5).

In urban areas, the public clinics, which can be a governmental, private, or charitable clinic, are providing health services. In this type of health systems, referring patient to the specialist is a passive process. Due to the large number of patients and lack of time for GPs, there is no policy for the illnesses like prostate cancer, and subsequently there is no clear administrative procedure.

"Managing patients in urban public clinics is very different. It doesn't matter that clinic to be governmental, private or charitable. In public clinics, GPs have to see many patients. For instance, in one afternoon and night shift from three to 10 p.m, I may visit 180 patients. With such huge amount of work, we have no time to advise patients or refer them appropriately. So our referral is not purposive" (GP, 1).

The findings also showed that unfortunately there was no feedback system to GPs. In other words, GPs neither had any information about their patients nor about what the specialists carried out. One of the GPs in this regard reflected:

"This has a bad impact on our motivation for referral. If we get the feedback from specialists we would be encouraged to refer our patients correctly" (GP, 4).
5.2.7. Summary

Through the detection process, GP’s observation either direct or indirect resulted in their actions/interactions with socio-cultural constructions as well as professional conditions of the illness to manage their practice. The actions/interactions taken by GPs through the first phenomenon resulted in four sequential phenomena included “observation”, “communication”, “reflection”, and “making decision”.

Building an active relationship between physician and patient had a basic and crucial role in the process of prostate cancer detection. In this stage, the extent of this relation was not too broad, but gradually with a mutual understanding of patient and doctor of the same issue, i.e. patient’s need to know about his illness, the interaction became more extended. At this stage of the detection process of prostate cancer, communication between GPs and their patients was resulted in starting to deal with the suspected disease. Through the detection process and from this consequence, the third phenomenon i.e. “reflection” on the disease was developed. GPs usually had retrograde reactions, which could be subjective or objective. They attempted to review the illness criteria in their mind to evaluate the relationship between obtained data with their subjective information about prostate cancer. After reflection phenomenon, GPs started to make decision in the detection of prostate cancer. This stage had two kinds of intervening conditions including 1) professional constructions of the disease that were related to GPs perceptions and 2) non-professional constructions of the illness which were related to patients’ socio-cultural issues. Referring was the final phenomenon in the process of GPs’ practising to manage detection of prostate cancer.
Chapter 6: Discussion on qualitative findings
6.1. Introduction

In this chapter, the findings of qualitative phase of study are discussed. Firstly, the findings of Iranian men’s perceptions and experiences about early detection of prostate cancer are discussed. Then, findings emerged from the analysis of Iranian general practitioners’ data in relation to the detection process of prostate cancer would be discussed.

6.2. Discussion on men’s perceptions

The findings of the study illustrated a continuous social process in the detection of prostate cancer. The process started off from making sense of the illness, continued by seeking help and terminated with seeking a diagnosis for the detection of the prostate cancer. However, it was difficult to determine where one period ends and the other begins. Through the process of prostate cancer detection, men’s perceptions gradually transformed from an individual issues to a social and medical concern. Therefore, the men’s perception in this study was formulated in the theoretical scheme of detection processing of prostate cancer. This theoretical scheme elaborates the processing of prostate cancer detection in three stages including 1) individual processing of the illness, 2) social processing of the sickness, and 3) medical processing of the disease.

The men’s perceptions processing of prostate cancer detection has five parallel attributes including 1) illness identity, 2) strategy, 3) actions, 4) intervening factors, 5) social concepts (Table 6.1).
Table 6.1: The men’s perceptions processing of prostate cancer detection and its attributes

<table>
<thead>
<tr>
<th>Process attributes</th>
<th>Men’s Illness process</th>
<th>Sickness process</th>
<th>Disease process</th>
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<tbody>
<tr>
<td>Identity</td>
<td>Urinary symptoms</td>
<td>Prostatic disorder</td>
<td>Suspected malignancy</td>
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<tr>
<td>Strategy</td>
<td>Hiding</td>
<td>Disclosing</td>
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<td>Actions</td>
<td>Self-monitoring</td>
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<td>Intervening factors</td>
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<td>Musicality (emotional aspects)</td>
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Based on the process attributes, identity is the label the Iranian men used to describe their ill health problems. It was started by urinary problems, continued with prostatic disorder, and ended with suspected prostate malignancy. Strategy is a plan that the participants used to manage the illness including hiding, disclosing and struggling. Action in this model refers to the participants’ reactions and behaviours based on various selected strategies. These actions consisted of self-monitoring, seeking help and seeking diagnosis. Through this process, there were some intervening conditions including individual factors, social lay system and social professional systems. Social concept refers to the theoretical meaning of masculinity which may influence the participants’ perceptions in terms of physical, social and emotional dimensions.

In order to explore and discuss the findings, it seems that it is essential to identify the concepts of the processing and meaning of the attributes. As it was already mentioned, the detection of prostate cancer was processed with three stages including illness, sickness, and disease processing.

The men's perceptions processing of prostate cancer detection and its attributes will be discussed in detail below.
6.2.1. The illness processing of prostate cancer detection

"The illness processing" was the first stage of men's perceptions. This stage focused more on individual aspects of the illness and the physical aspects of masculinity was the main social concept which affected the duration of the process. The main phenomenon of this process which was named "making sense of the illness" was often resulted in delayed detection of prostate cancer.

Feeling ill refers immediately to perceiving sensations of the illness by symptoms (Armstrong 2003). The symptom is described as a subjective experience of a condition that individuals perceive as changes from normal function (Giardino & Wolf 1993). The findings of this study showed that urinary difficulty was the main symptom of the illness, which the participants experienced during the illness.

These results are in agreement with previous studies, which found that the urinary symptoms are common problems of ageing men. Boyle et al. (2003) in a multinational study to evaluate the prevalence of lower urinary tract symptoms among men from the Netherlands, France, the UK, and South Korea, reported that the prevalence of the lower urinary tract symptoms increased by age and this would support the results of this study.

The impact of the urinary symptoms is related to symptoms experience. Based on Armstrong’s (2003) model, urinary symptoms experience refers to men’s perceptions of the intensity (strength), timing (duration and frequency), level of perceived distress, and meaning of symptoms. Although these symptoms are common, it seems that the effects on quality of life are substantially low. According to this issue, only a third of Swedish men with urinary symptoms sought help for their
symptoms (Andersson et al. 2004). Therefore, it is important to understand to what extent they managed and controlled the experienced symptoms.

According to the findings of this study, the strategy which was used to handle the symptoms experience was hiding or denial of the symptoms. This strategy often applied at the beginning of the illness to manage the symptoms. The findings of this study suggested that the hiding strategy is a reflection of the impact of the symptoms on the social construction of the illness. Denial of the symptoms could have resulted in delaying the detection of prostate cancer.

Using the aforementioned strategy, the action that participants took to manage their urinary dysfunctions was self-monitoring. Based on the natural history of the symptoms, the participants preferred to normalize and/or minimize their urinary problems as a temporary issue (Gray et al. 2000). In line with previous study, it is common for the ageing male to have non-specific urinary symptoms and to perceive it as a normal aspect of ageing (Mitteness 1987; Stenner et al. 1998; Brittain et al. 2001). Roberts et al. (1994) reported that there were some difficulties for men to find appropriate terms to talk about urinary symptoms with health professionals. The above strategies, normalization and minimization reactions were reflected from social constructions of the illness.

While the illness process was a self-identification of men's ill health, however, some intervening factors influenced men's illness processing in this stage of detection process. The findings of this study suggest that men's sense of masculinity had a significant role as the main intervening condition of making sense of the illness. Masculinity as a social concept of the illness refers to men's social knowledge about their symptoms and it could interfere with men's actions / interactions to manage the
illness process in private. Moreover, the findings of this study revealed that the more knowledge of the social concept of the illness, the greater the likelihood that men would prefer to disclose the symptoms and thus lead to early detection of prostate cancer (sickness processing).

6.2.2. The sickness processing of prostate cancer detection

“The sickness processing” was the second stage of men’s perceptions. At this stage, men’s perceptions focused more on social aspects of prostate cancer and masculinity with its social dimensions was highlighted. The main social concept of sickness processing was social identity. The major phenomenon of this process was named “seeking help” which was begun by disclosing of the symptoms. The timeline of the sickness processing was significantly related to men’s symptoms experiences, e.g. symptoms’ intensity, frequency, distress and meaning (Armstrong 2003).

Through the sickness process the participants realized that their ill health issue was a prostatic disorder rather than just urinary dysfunction. From men’s perspective, lack of knowledge was the main factor that led to not understanding the cause of their symptoms. Findings from this study confirm previous studies that have found the lack of awareness about the illness as the most common issue in men with urinary symptoms as well as high-risk male population (Shaw et al. 2007; Livingston et al. 2002; Pruthi et al. 2006). However, the experience of the symptoms served as a basis for obtaining more information about the illness (Armstrong, 2003). Regarding the social aspects of the knowledge, Marshal (1998) indicated that: “the social origins of knowledge are seen as related to the possibility of grasping truth” (Marshal 1998, p.343). Through the experience of the illness, the participants gained their knowledge in a complex process. Within the social interaction, they interpret, select, and organize
their knowledge to form their perception about the illness. For this reason, the knowledge is a dynamic phenomenon, which can be developed, improved, and changed through the illness process and it has deep influence on both beliefs and perceptions. Therefore, in spite of poor knowledge of the participants at the beginning of the illness, men gained more knowledge about their symptoms through the experience of the symptoms. Then, they encountered difficulties with labelling the problem as a prostatic disorder instead of urinary symptoms.

Due to failure in self-therapy from one hand and the increased severity of the symptoms from the other hand, the participants were obliged to disclose their problems to others. The findings of this study supported the view that the more visible and intense the symptoms, the greater the likelihood that the participants would disclose their urinary problems to others for seeking help and this view has been supported by Hays et al. (1993) and Mansergh et al (1995).

Seeking help was a process which resulted from the disclosure strategy, and thus the participants accessed different referral systems including the family member especially their spouse, close reliable friends who experienced the same illness, and finally a trusted authoritative professional or health care practitioner. Such a process of seeking help involving consultation with the family members, friends, and the health professionals has been previously reported by Freidson (1970). In general, it can be argued that the help-seeking process includes two periods: a preclinical period before contact with the physician or the emergency room via lay referral system (family members and/or friends), and a clinical period through involvement of health care professionals, as noted by Morse & Johnson (1991).
Irrespective of the lay referral system, the patterns of men’s help-seeking behaviours and social factors determining these behaviours had important consequences in health care system. Previous research supports the popular belief that men are often unwilling to seek help from health professionals (Padesky & Hammen 1981; Thom 1986; Husaini et al. 1994). Moreover, men appear to spend less time with physicians during their visits than women, and receive less advice from health professionals (Courtenay 2000). Therefore, it is important to understand how masculinity ideologies relate to the men’s help-seeking behaviours? In this study, men’s wives mostly took them to the doctors, and thus gained more information from their consultations in comparison with the times when they were visited on their own.

In terms of the role of family members in seeking-help, the findings of this study showed that the participants preferred to discuss their urinary problems with their spouses initially, while they sought help from others. This finding is in agreement with the view that men generally seek most of their health care support from their spouse (Antonucci & Akiyama 1987; Harrison et al. 1995; Gray et al. 2000). This support made a great opportunity for the participants to gain more knowledge, to understand the nature of the symptoms, and to manage the illness in an appropriate way. These results have similarly been reported previously by George and Fleming (2004) who have consistently demonstrated that the wife can play a significant role in encouraging men to seek professional help and making them aware of issues about the early detection of the disease.

In addition to disclosing to the wives, some of the participants sought help from their friends who experienced similar urinary symptoms. As a result of being aware of some psychosocial dilemmas of the illness, especially its therapeutic
consequences such as incontinence and impotence, some of participants either avoided or delayed using medical cares.

6.2.3. The disease processing of prostate cancer detection

“The disease processing” was the final stage of men’s perceptions. At this stage, men’s perceptions focused more on psychosocial aspects of prostate cancer. The main social concept of disease processing was emotional aspect of masculinity. The main phenomenon of this process was named “seeking diagnosis”. The timeline of the disease processing was significantly revealed the psychosocial aspects of the disease. At this stage of detection processing, men’s ill health issue converted from a prostatic disorder to a suspected malignancy.

In Iran men are not informed about their cancer by their family and physicians. Therefore, they have no idea about the cause of their symptoms at the beginning so that they have no active role in following their illness. Making the cancer hidden from the patients has root in social stereotypes about malignant diseases. People usually have a negative impression about cancer. Cancer means death and is deemed as an incurable disease. Therefore, the participants’ family and their physicians often attempt to hide the prostate cancer confirmation from patients. However, men become gradually suspect of their malignant diseases when they reach to the end stages and have to undergo chemotherapy or radiotherapy.

Suspected malignancy as the label of men’s ill health at this stage of detection processing led them to select struggling as the next strategy after hiding and disclosing of the symptoms. Regarding the emotional aspects of the disease, they struggled to rule out the suspected malignancy and defined the disease as a benign and
urable disease. Although, some of the participants realized that they have cancer at the end stages of treatment procedures and their awareness had a positive influence on facilitating the detection process.

Seeking diagnosis as the main action of the disease processing of prostate cancer detection had two medical and social aspects. The medical aspects of seeking diagnosis will be discussed in the next section of this chapter. But social aspect which focuses on social factors is logically unrelated to the medical issues, but can have dramatic influences on the men’s decision for seeking diagnosis (Eisenberg 1979). One of these social issues which revealed in this study was the patient-doctor relationship that had an important role in seeking diagnosis. In this respect, there were some important issues including the difficulties of establishing this relationship from the patient’s point of view rather than the clinician’s (Jackson & Kroenke 1999). Bensing (1991) has argued that the communicative aspect of this relationship is influenced by behaviour of physicians and their communication skills. This study revealed a negative perception of men regarding patient-doctor relationship. Irrespective of poor patient-doctor relationship, authority of physicians and patients’ confidence in health professionals were important characteristics of seeking diagnosis, which were presented by the participants. This finding has been similarly reported by previous authors, such as, Kraetschmer et al. (2004) who have consistently demonstrated that most patients prefer trusted physicians and want to share in decision-making.

Regarding the intervening factors in seeking diagnosis, it seems that specialist may have an important role through the diagnosis process. But the findings of this study indicated that GPs had a significant role through the detection process
particularly in the sickness processing and disease processing of prostate cancer detection. GPs' interactions will be discussed in more details in the next section of this chapter.

6.2.4. The social construction of men's perceptions

The study findings indicated that masculinity was the major social construction through the men's perceptions processing of prostate cancer detection. These findings support the view that the contextual conditions of prostate cancer symptoms (urinary dysfunctions) are most closely concerned with men’s urogenital system. Therefore, these dysfunctions might adversely influence men’s gender as well as men’s sexual activity. Gender refers to the socio-cultural distinctions between masculine and feminine and indicates their different social roles and functions. In this regard, masculinity is a social construction (Chapple & Ziebland 2002). Therefore, it is necessary to explain the effects of prostate cancer on men’s sense of masculinity and then to find out the links between masculinity and the early detection of the illness. In general, prostate cancer as a gender threatened disorder is a highly social constructed illness. For this reason, masculinity shapes men’s health behaviours. Through the different stages of detection processing, masculinity was represented with three figures including 1) physical concept of masculinity which was more effective on the illness processing, 2) the social concepts of the masculinity which had more influence on the sickness processing, and 3) the emotional meaning of masculinity which was more visible in the disease processing of prostate cancer detection.

The findings of this study confirms previous research which have shown that men do not like to express their symptoms and are more reluctant to talk about their
physical dysfunctions unless in a really serious condition such as having acute urinary retention (Chapple & Ziebland 2002; Kelly 2004). It seems that social construction of prostate cancer forms men’s action strategy to manage the symptoms by self-monitoring. Using this strategy, masculinity became a barrier in the early diagnosis of the illness and often led to delay in seeking help and seeking diagnosis.

In male dominant societies, like Iran, men have a significant individual role in the family and society as a whole. They prefer to maintain this social position strongly and do not like to be considered weak. Based on this belief, men feel that they would lose their power and become disabled if people become aware of their urinary problems. Such an approach to gender position in Iranian society led them to manage their illness through non-disclosure of the symptoms. Therefore, maintenance of masculinity had a significant influence on the participants’ perceptions about the urinary symptoms.

The findings of this study showed a salient relationship between masculinity and men’s help-seeking behaviour. The inter-relationship between masculinity and men’s help-seeking behaviour, as found in this study, have similarly been reported by Courtenay (2000) who has consistently demonstrated the social construction of masculinity as an important influence on men’s seeking-help behaviour. This finding also confirms previous research that had identified a significant role of masculinity in men’s help-seeking behaviours (Addis & Mahalik 2003).

Moreover, the findings of this study demonstrated that seeking a diagnosis has been complicated by the unwanted side effects of the therapeutic procedures of the illness such as impotence and incontinence. The findings of the study by Kiss and
Meryn (2001) support the view that the side effects of prostate cancer affect the masculine aspects of male identity (Chapple & Ziebland 2002).

In summary, through the detection process, the social dimensions of the illness were gradually extended. This extension was affected by different social factors such as masculinity, the role of family (wife), GPs’ interactions and specialist role. These factors had an inclusive effect instead of an isolated consequence. Regarding the significant role of GPs through the detection processing especially seeking help and seeking diagnosis, the findings from the GPs’ interviews are discussed in the next section with other social constructions of prostate cancer.
6.3. Discussion on GPs’ interactions

Iranian general practitioners (GPs) although work in a general field of medicine, but they mostly practice in one or more especial fields such as Internal medicine, Pediatrics, Gynecology, Communicable diseases, etc.. For this reason, GPs address diseases like cancer less. Nevertheless, as they approach a variety of illnesses and also different groups of people, they have the opportunity to deal with a broad spectrum of patients’ and therefore, they are able to provide them different services from prevention to diagnosis and treatment. They could be a key person in these different stages and this is the unique privilege of GPs practice.

As discussed in section one of this chapter, through the process of prostate cancer detection GPs played an important role. Using a socio-epidemiological perspective and grounded theory approach with theoretical perspective of social constructionism, attempt was made to explore Iranian GPs’ experience through the detection process of prostate cancer. To analyze the findings from the GPs’ interviews an appropriate health professional framework was sought.

Taking research questions into account, three assumptions were considered to develop a health professional framework including 1) focus on the detection process of prostate cancer, 2) concentration on the professional construction of the illness and 3) deliberation the role of social organization of the illness.

The results of this study showed that there was not a professional framework to discuss the GPs’ findings and to formulate their interaction process. Therefore, based on the above assumptions, a theoretical scheme was developed to justify the process of the GPs’ interactions through prostate cancer detection. This framework
was named as “GPs’ interactions process of prostate cancer detection” as an emerged professional framework. This framework consisted of two levels of GPs’ interactions including 1) interaction in professional level with clinical and practical processes and 2) interaction in social level with lay system and health system processes (Table 6.2).

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<td>Condition</td>
<td>Doctor-patient relationship</td>
<td>Professional concept of the illness</td>
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<td>Interaction</td>
<td>Communication</td>
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Throughout the detection process, there were interactions between the GPs and different cases including patient, disease, relatives and health system. The conditions and interactions of these four levels would be discussed below in more details.

6.3.1. Professional interactions

At the professional level the GPs were involved with patient and disease. They tried to make communication with patients and attempted to deal with the disease. In this level, the GPs were involved with clinical and practical approaches to manage the process of the detection.

6.3.1.1. Clinical process

In the clinical process of professional interactions, the GPs attempted to make communication with patients to recognize their problem. The level of this relationship
depended on the GPs’ clinical knowledge and technical skills as well as the nature of the social construction of the relationship which existed between them in Iranian society. Freidson (1988, p.207) defined “illness is a type of deviation or deviance from a set of norms representing health or normality”. To return patient to a normal state of health, doctors and patients both need to work together through the socially prescribed role for them. It seemed that to be necessary to explore which factors had been either triggers or barriers through the interaction process of prostate cancer detection.

The findings of this study illustrated that both GPs and men, had general expectations to be involved in the tasks of diagnosis. Men expected that their symptoms to be a temporary issue and wanted to feel well as soon as possible. GPs expected to apply their knowledge and experiences for returning of the patient’s health and welfare through their practicing process. These expectations were congruent with the sick role and doctor’s role model (Scambler 2003). However, the findings of this study confirmed the existing tensions and strains between GPs and patients. There were two types of conflicts which were able to explore the tensions in their relationship including 1) men’s socio-cultural values to express their symptoms and 2) GPs’ own values and criteria to evaluate the symptoms.

In terms of men’s characteristics, their awareness and their social class were the main factors which influenced their symptoms expression. The findings of this study confirmed previous research that showed inadequacy in men’s knowledge and awareness of prostate cancer could influence their interactions through the detection process (Docherty et al. 2007). Moreover, men with a low social and educational level attended less in consultation and were reluctant to express their symptoms in more
detail or to ask questions (Deibert et al. 2007). In contrast, having more knowledge about the illness, gave men a greater chance and opportunity to participate in the consultation in terms of explanation of their symptoms and clarification of the detection procedures.

Regarding GPs’ characteristics, the findings indicated that there were some professional concepts which influenced their interactions through the process of prostate cancer detection. As expected, they had adequate knowledge for prostate cancer detection. Professional experience was another concept. Although they got adequate experiences and technical skills to manage their cases, the findings indicated a conflict in terms of using the technical skills in social relationships. Moreover, considering the socio-cultural aspects of the urogenital symptoms of the illness, professional gender was another conflict in female GPs’ interactions and relationships. The impact of this issue was depended on the GPs’ social role. For example, family GPs either male or female had greater and deeper interaction with their patients than non-family GPs. Therefore the findings contributed to a greater understanding of the GPs social role instead of just their professional roles.

Regarding the role of patients and GPs, the findings of this study reflected the point of Scambler (2003) who illustrated three types of doctor-patient relationship through the detection process of prostate cancer.

- **Paternalistic relationship** which refers to a doctor dominant relationship. This type of relationship is a traditional form of consultations and it was a common type of doctor-patient relationship in Iranian society especially in approaching low and middle social class patients.
- **Mutual relationship** which is a new pattern of doctor-patient relationship. In this form patients have an active involving role in which both patient and doctor participate to exchange their expertise. In this kind of relationship the GPs attempt to bring their clinical knowledge and technical skills and patients try to express their perceptions and experiences of the illness. This type of doctor-patient relationship was uncommon in Iran and often was seen in approaching high educated and high social class patients.

- **Consumerist relationship** which refers to the patient dominant relationship and it was rare in Iranian society especially in low and middle social class. But regarding the undefined professional position of GPs in Iranian health systems it could happen especially by the patients with high social class.

Due to an important role of doctor-patient relationship as a social construction of the illness, the findings of this study suggested that this issue needs more investigation.

### 6.3.1.2. Practical process

In the practical process the GPs attempted to manage the clinical findings and tried to deal with the etiopathology of the symptoms. Through this phenomenon, dealing with the illness was formed based on three components including 1) dealing with epidemiological background of the different possible diagnosis of the symptoms, 2) dealing with professional skills to choose an appropriate diagnostic procedure, 3) transaction with professional and social conditions which surrounded their practical process.
At the beginning of the practical process, the findings showed that the GPs reviewed the clinical and epidemiological background of the symptoms to recognize different diagnosis. Regarding the contradiction between the risk and natural history of the illness (Frankel et al. 2003), the GPs attempted to find out conclusive evidence for suggesting the possible relation between the symptoms and prostate cancer.

The findings of this study reflected that there was not a certain policy to manage the detection of prostate cancer in Iran. After taking history of the patients and discovering the symptoms, GPs managed the patients according to their own decision, based on the ways digital rectal examination was socially constructed in Islamic societies; it seemed that this test was a barrier in the practical process of the detection as Nagler et al. (2005) pointed out. The findings were in agreement with the previous research that GPs often attempted to avoid this clinical detection test. Therefore, the majority of the GPs preferred to omit this test through the detection. In contrast of digital rectal examination, which was discomforting and embarrassing for the patients, PSA and ultrasound were tests that are more acceptable for both patients and GPs as Brett et al. (2005) and Chan et al. (2006) found. Although the GPs often preferred to use PSA test as an appropriate diagnostic test, there were some limitations from different insurance companies that only accepted to pay for the tests which were ordered by the specialists instead of GPs. Considering the complexity of prostate cancer diagnostic procedures, the GPs managed this process in different ways. Therefore, it was difficult to say which approach is right or wrong.

Through the practical process, the GPs were involved with two conditions including the load of work and specialization. Concerning the load of work, the findings indicated that there was not a standard hour of work for GPs for daily or
weekly practising. They were working in different sectors such as governmental, charity, or private clinics with different policies. In the public clinics, either governmental or private, they were working with a large number of out-patients.

The findings also indicated that specialization had a multidimensional influence on the detection process of prostate cancer. It seems that this concept was resulted in adopting therapeutic rather than preventive strategies. Nowadays, Iranian families are interested in the prevention of their childhood infectious through vaccination, but they pay less attention to prevention from chronic diseases or cancers. According to this socio-cultural construction of chronic diseases, people’s demands would be focused on therapeutic services instead of preventive services. Therefore, the Iranian health systems (either governmental or private) in order to respond to this social demand planned to meet these requirements and have had less attention to the preventive strategies for chronic diseases. In this social context, therapeutic services were seen as a professional job which is mostly provided by specialists. Whereas preventive services which are mostly provided by GPs and health workers, were not considered as important as therapeutic services. These conditions resulted in a limitation of GPs professional autonomy.

The findings also demonstrated that the GPs had not a defined position in the process of prostate cancer detection. Therefore, there was not enough motivation for the GPs to get more involved in the early detection of chronic diseases or cancers. They just attempted to improve their therapeutic skills instead of applying their professional potentiality in preventive counselling. This study contributes to a greater understanding of the practical paradox of the current policy (therapeutic) and a holistic policy (preventive) in the context of Iranian health system.
6.3.2. Social interactions

As it was already mentioned, GPs' interactions process of prostate cancer detection consisted of two levels of GPs' interactions including interaction in professional and social level. At the social level, the GPs were involved with patients' relatives and health system. They tried to make an appropriate decision to manage the detection process and also choose to refer or not to refer patients for further diagnostic investigations and specific therapeutic interventions. This level was processed through two different systems including 1) social lay system, and 2) professional health system. In this level, the GPs were more involved with systems rather than the illness.

The findings of study revealed that the GPs involved with different intervening condition through this process which can be classified in two groups including 1) social context and 2) social structure of lay system. Social context of the lay system process refers to the lay people medical knowledge rather than professional clinical knowledge. Social structure of the lay system refers to the role of social life which was structured with social identity, social trust, and social support. Moreover, the findings indicated the significant role of family members, specially wife and friends who had experienced the same illness.

Based on the findings of this study, GPs believed that their patients had no information about prostate cancer. Hence, from professional point of view, they basically focused on understanding the risk of malignancy and made decision for appropriate preventive procedures. But from the lay medical knowledge perspective, lay people focused on knowing the risk of the illness to health and looked for reproducing or finding out the existing social ideals and values.
The GPs' findings illustrated that there was a developing process of lay medical knowledge through the patient's interactions. In this respect, there was initially a "meeting between the knowledgeable expert and the ignorant lay person" as Nettleton (2006, P.137) argued. But the lay medical knowledge was gradually extended towards understanding the illness rather than the urinary symptoms and to realize a serious risk of health instead of a temporary health related issue. The findings of this study contribute to a greater understanding of the quality of the GPs interactions and its effects on the time and period of the detection process of prostate cancer.

The findings indicated a complex structure of patients' social life and its impact on detection process of prostate cancer. Regarding gender issues of prostate cancer (either in relation to urinary symptoms or therapeutic consequences of the disease like impotence); there was a significant relationship between the detection process and patients' social identity. Chapple & Ziebland (2002) have argued that from patients' perspective, defect on social identity is a price to pay for keeping social life. But, as Boehmer & Clark (2001) pointed out, due to the socio-cultural issues patients apparently talked little about this subject. Therefore, the extent to which the effects of social identity were seen as a problem could be considered from professional perspective. In spite of significant role of masculinity and gender identity in Iranian society, surprisingly data analysis suggested that this issue was not considered adequately by health professionals through the detection process. Hence, there were a few reflections and interactions regarding the gender issues of the illness and its effects of the patients' social life.
In the case of social support, the findings suggested that family had the main supportive role through the detection process. These supports can be emotional and/or financial. The findings of this study supported Bottorff and his colleagues’ view (2008) who argued that traditional feminine construction for nurturing and caring for the men in family facilitate the process of detection. According to the study findings, patients’ wives were able to understand and to manage men’s illness behaviours, because they were capable to facilitate following their husbands’ symptoms through the health system having more social communications in the lay system.

The results of this study revealed that there was not a comprehensive social system to support cancer care in Iran. Regarding the financial support, it was mainly provided by the family and also health insurance agencies. The majority of these agencies had a passive role to support detection and treatment procedures. But regarding the non-financial support, there was not a systematic support group for psychosocial issues of prostate cancer through the detection process. The findings of this study highlighted the necessity of developing cancer support group in Iran.

Regarding the financial relationship between patients and doctors in Iran, social trust had more effective role through this business process. In this respect, the findings suggested that trust to physician was deeply depended on the outcome of detection and treatment procedures. It was showed in this study that how trusted health professionals facilitated the process of prostate cancer detection.

In addition to the impact of lay system concepts and structure, physician often expressed different perspectives about the outcome of prostate cancer detection. They had either positive or negative viewpoints. The findings of this study demonstrated that the GPs mostly expressed their positive perspectives on prostate cancer detection.
Also they were not keen their negative views about the outcomes of therapeutic procedures to be explored. Even though, the GPs often preferred to refer their patients to the specialists, there were still controversies in detection and treatment procedures of prostate cancer from their perspectives, as they did not receive sufficient and applicable feedbacks from the specialists.

Referring was the final phenomenon in the process of GPs’ practicing to manage detection of prostate cancer. Based on the practice setting, referring could be active or passive. In active referral system the GPs and patients (or their family) involved within the process. There was a dynamic process to make decision for referring, to choose expert specialists, to refer with full details, to receive feedback from specialists and to follow patients after completing therapeutic procedures. Active referral system was dependent on the GPs individual plan and it was mostly done in non-public or non-governmental clinics.

The findings suggested that passive referral system had its roots in the health social constructions. It could have resulted from different outlooks, which were existed in both governmental and private health systems in Iran. In these systems there were not well defined policies for referring the patients to the specialists. In the passive referral systems, there was a poor patient-doctor relationship with not good enough information of referring.
6.4. Conclusion

Based on the study findings, men’s perception was conceptualized as a sequential processing framework entitled: "Men’s perception processing of prostate cancer detection". In this framework the processing of prostate cancer detection was elaborated as three stages including 1) the illness processing, 2) the sickness processing 3) the disease processing. The core category in this process was "seeking to know the illness".

GPs' interactions through the process of prostate cancer detection were conceptualized as a sequential process referred to as “GPs’ interactions process of prostate cancer detection”. This framework consisted of two levels of GPs’ interactions including 1) professional interaction process 2) social interaction process. The core category in this process was "interacting to assess the risk of prostate cancer".

The integration between two categories of "seeking to know the illness" and "interacting to assess the risk of prostate cancer" resulted in informed decision-making in the process of prostate cancer detection. Informed decision-making was the consequence of reciprocal interaction between patient and physician for referring the patient to the specialist. Therefore referring was the final phenomenon in the process of GPs’ practicing to manage detection of prostate cancer.
Phase II: Quantitative study

A Survey on the early detection of prostate cancer from Iranian General Practitioners' perspectives
Chapter 7: Methods of the survey
7.1. Introduction

In quantitative part (Phase 2), the findings from the qualitative part of the study were used to develop a questionnaire for a survey study. This survey was designed to explore the practice patterns of the early detection of prostate cancer in Iranian GPs’ population. Moreover, it was used to test the validity of the findings from the qualitative part of the study especially the developed theoretical schemes.

This chapter provides a description of the survey methods and materials (phase 2), commencing with a rationalization for choosing the survey, aims and research questions, with an illumination of the study variables and measurement scale. This is followed by an explanation of the development of the questionnaire, a description of the study population and details of sampling frames. The final part explains the method of data collection and data processing.

7.2. Research questions of the survey

The research questions of the survey were designed to investigate the extent to which the findings from the Iranian GPs’ perceptions on the early detection of prostate cancer would be corroborated through a large sample of the GPs’ population in Mashhad city, which is the biggest city in Iran after Tehran. The survey explored domains regarding the GPs’ beliefs on the detection of prostate cancer, factors and characteristics related to the process of the early detection. The following questions were formulated.
1. What are perceptions of Iranian GPs on the detection of prostate cancer?

2. What are the current practices of Iranian GPs in relation to detection of prostate cancer?

3. What are the triggers and barriers for the early detection of prostate cancer from the GPs' perspective?

4. What are the gaps in the process of the early detection of prostate cancer?

5. What are the GPs' recommendations to enhance detection of prostate cancer at the early stage?

7.3. The study variables and the measurement scale

The survey questionnaire was designed based on the findings from the qualitative part of this study, as alluded to earlier. Through the process of formulating the questionnaire, the most relevant concepts for the study of Iranian GPs which were related to the early detection of prostate cancer were selected and categorized to four sections including 1) the Iranian GPs' practice pattern, 2) the triggers and barriers inherent in GPs' practice, 3) the triggers and barriers of illness detection from the GPs' perspective, 4) the effects of the Iranian lay and health systems of care toward the detection of prostate cancer and 5) the suggestion for future strategies to improve prostate cancer detection.

To formulate the survey questionnaire, the obtained concepts were converted directly or indirectly into measurable variables. It seems that it was necessary to formulate an operational definition of the measurable variables. The measurable variables in this study were either subjective or objective. For instance GPs' attitude
towards the detection of the prostate cancer was subjective and was mainly measured by ordinal or ranking measurement scale. Instead, some of the variables such as GPs’ demographic factors and their practicing patterns towards the early detection of the illness were objective. These types of variables were easily measured by ratio measurement scale (Kumar 2005).

### 7.4. Developing the questionnaire

The questionnaire was developed through the collaboration of the researcher and his supervisors. The development process was carried out in four phases including item extraction, item selection, item evaluation and item categorisation (World Health Organization 2001).

The most relevant concepts describing the different aspects of the early detection of prostate cancer from men and GPs’ perceptions were extracted from the findings (chapter 5). The meaningful information was used to carry out an analytical survey for identifying the different aspects of prostate cancer detection by Iranian General Practitioners.

All extracted items were discussed and evaluated through a qualitative process by the researcher and his supervisors in case of doubt or discrepancies. Those meanings included were slightly reworded as statements which were able to use as items in an initial questionnaire. However, the meanings which were considered inappropriate, ambiguous or redundant were excluded.

The selected items were edited to create a preliminary questionnaire for a pilot study to address the internal consistency, reliability of selected items and to minimise
replication, as recommended by Jarvis and Worth (2005). The pilot study was carried out using the same procedures that were finally used in administering the questionnaire among 50 Iranian GPs from different places (high, middle and low social classes) in Mashhad city. Twenty nine returned preliminary questionnaires were evaluated to identify questions that were poorly understood and ambiguous or had undesirable responses. These questions were eliminated from the questionnaire which was used for the survey.

The evaluated questions were categorised in five sections which are described in more detail below (Appendix 4). 1) Demographic information: this section asked respondents to provide demographic information such as age, sex, years since graduation, years in practice and employment position. 2) GPs’ perceptions: in this section the respondents were asked to elaborate their perceptions on the early detection of prostate cancer. 3) GPs’ practice patterns: this part asked GPs to examine their current practice regarding different scenarios. Moreover, Iranian GPs were asked to examine whether they updated their information on detection of prostate cancer. 4) Triggers and barriers of prostate cancer detection: respondents were asked to provide information about triggers and barriers of the detection of prostate cancer in Iranian society. 5) Gaps: Iranian GPs were also asked to indicate the possible gaps throughout the detection of prostate cancer and their recommendations to enhance their practice in detection of the disease.

7.5. The study population and data setting

The survey was carried out on the Iranian GPs population who have practiced in Mashhad city at the time of sampling. It is one of the holiest cities in the Shia world
and located in the East of Iran (850 kilometres from Tehran). Mashhad is the centre of the Razavi Khorasan Province close to the borders of Afghanistan and Turkmenistan. Based on the 2006 population census, Mashhad has a population of about 3 million with more than 25 million tourists and pilgrims every year (Statistical Centre of Iran 2008).

There were different sources of data about the number of GPs in Mashhad city. Based on the information from the Mashhad Medical Council (a branch of Iranian Medical Council), about 1200 GPs practice in Mashhad. But, according to the report of the Office of Treatment Supervision, Mashhad University of Medical Sciences about 1500 GPs had been permitted to practice in Mashhad city at the time of sampling. All GPs in Mashhad were included in the survey. However, 253 GPs without an accurate postal address were excluded. Moreover, 50 participated GPs in the pilot study were kept out as well.

7.6. Data collection

Data were collected in two phases. In the phase and based on the Mashhad Medical Council’s report, the first mailing survey was carried out on 1200 GPs’ who have practiced in Mashhad in July 20081. A package of the survey was mailed to 920 GPs (by excluding 50 GPs from pilot study and 230 GPs without an accurate postal address). The package contained an information sheet, a questionnaire, a self-addressed freepost envelope, two consent forms (one for participants and the other to be returned to the researcher) in Farsi; copies of the documentation can be seen in Appendices (1,2 and 4). GPs were asked to return the questionnaire within three weeks of receiving it. Through the period of the first survey’s data collection, about
270 questionnaires were returned, but 650 GPs did not respond. Due to major incompleteness, 27 returned questionnaires were excluded. Therefore, 243 completed questionnaires were eligible to be included with a response rate of 27.5%.

Through the first mailing survey, it was realized that there was another source of information about the GPs’ population who have practiced in Mashhad city (excluding countryside). This source was the Office of Treatment Supervision at Mashhad University of Medical Sciences and it seems that its data about GPs were more complete in comparison with the first data source. By comparing these two sources of data in terms of their name and address, there were about 300 GPs more than the first source. But, 920 GPs from the first mailing survey and 50 GPs from the pilot study were the same. By excluding 970 GPs, 530 GPs name and address were evaluated from the both data sources. Following this group of GPs, 253 GPs were excluded due to lack of an accurate postal address and 277 GPs were recognized to be eligible for the second phase of the survey.

Regarding the importance of the precision and the generalizability of the study findings and to increase the survey response rate, the second mailing survey was carried out on 954 GPs (650 non-responded GPs Plus 27 uncompleted questionnaires, and 277 eligible GPs who were missed from the first survey). From the second mailing survey 339 questionnaires were returned. By excluding 21 uncompleted questionnaires, 372 questionnaires met the eligibility criteria and were added to the previous returned data. At last, 615 completed questionnaires were received from the first and the second mailing surveys.

In conclusion, out of 1500 GPs (total population) of the first and the second sources, 303 GPs were excluded (50 from pilot study and 253 due to lack of accurate
postal address). Finally, out of 1197 surveyed GPs, 615 GPs participated in the survey with the response rate of 51.37% (figure 7.1).

Figure 7.1: Flowchart of the first and second survey data collection processes

Out of 1197 surveyed GPs, 615 completed questionnaires were received: with the response rate of 51.37%
Based on the data source of the Mashhad Medical Council, the first mailing survey was carried out on 920 GPs. Through this phase 270 questionnaires were returned. Due to the incompleteness, 17 questionnaires were excluded. However, 253 completed questionnaires were met to be eligible and included with the response rate of 27.5%.

To increase the response rate of the study, the second mailed survey was carried out on 954 GPs including (a) 650 non-responded GPs, (b) 27 uncompleted questionnaires from the first mailing survey, and (c) 277 eligible GPs who were missed from the first survey. By excluding 21 uncompleted questionnaires from 339 returned questionnaires, 327 questionnaires were met the eligible criteria with the response rate of 39%. Therefore, the second mailing survey by follow up letters improved the response rate significantly. Finally, the data of 615 completed questionnaires from 1197 surveyed GPs were entered into the SPSS V.16 software with the response rate of 51.37%.

### 7.7. Response rate

The survey aims to ascertain the GPs’ perceptions about the early detection of prostate cancer. The survey’s questionnaire is initially sent out by mail, and the response rate was about 27% from the first mailing survey. The postal survey is a quick and easy option for data collection with potential non-response bias. This bias can have a significant impact on both the precision and the generalizability of the study findings. There are no a magic figure to justify and discuss the survey’s response rate, but it is clear that higher response rate is better (Campbell et al. 2008).
The lower response rates are problematic because the GPs who did not respond may be different from those who did. Moreover, low response rates can create non-response bias. Various techniques are available for dealing with low response rates to reduce potential bias (Dawson & Trapp 2001). The on-line technique is not an available method of collecting data from Iranian general practitioners. The phone interview by structured questionnaire with a random sample of non-respondents is not yet an effective method to bring the response rate up. Despite utilising sound technique among 50 GPs, there was just one reply and the response rate of non-respondents was extremely lower than those achieved from the paper questionnaire survey (2%). Therefore, the intensive mailing follow-up of a sample of non-respondents was carried out to bring the response rate up. Using the follow-up technique, 393 questionnaires were returned. By excluding 21 questionnaires because of the major ambiguity, 372 questionnaires were added to 243 inclusive questionnaires from the first mailing survey. Finally, the data from 615 included questionnaires were extracted. Giving a response rate of 52% was resulted to increase power of the study and to decrease the potential non-response bias. Moreover, there is challenging in terms of using response rate as an indicator of the data quality (Abramson & Abramson 2008; MacDonald et al. 2009). Nevertheless, the findings from the second postal survey on the non-respondents GPs were not different to the first postal survey’s findings in some important variables of their beliefs and perception on prostate cancer detection.

7.8. Method of data processing

The obtained data from responded and completed questionnaires were analysed using SPSS (V.16) software. Before entering the data into software an SPSS
codebook was designed to illustrate the variables’ names and their codes (Table 7.1). The codebook provided the variable names with coding number instruction, because all data in SPSS should be entered as numbers. In practice, it was a very useful strategy to have a reference point and to add any codes for other categorical variables.

<table>
<thead>
<tr>
<th>Table 7.1: A SPSS codebook for the obtained data</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SPSS variable name</strong></td>
</tr>
<tr>
<td>Age (pure)</td>
</tr>
<tr>
<td>Age group</td>
</tr>
<tr>
<td>Sex</td>
</tr>
<tr>
<td>Since yr graduation (pure)</td>
</tr>
<tr>
<td>Since yr graduation (group)</td>
</tr>
<tr>
<td>Since yr practicing (pure)</td>
</tr>
<tr>
<td>Since yr practicing (group)</td>
</tr>
<tr>
<td>Employment</td>
</tr>
<tr>
<td>1. Governmental</td>
</tr>
<tr>
<td>2. private</td>
</tr>
<tr>
<td>3. charity</td>
</tr>
<tr>
<td>4. own</td>
</tr>
<tr>
<td>Place of practice</td>
</tr>
<tr>
<td>1= High social area</td>
</tr>
</tbody>
</table>

* Social areas were classified by Mashhad council which is based on the socioeconomic levels.

Setting up an SPSS database was carried out using the above codebook. Based on the questionnaire 133 variables’ names were defined. This process was conducted using appropriate variable characteristics such as name, type, value, missing data, and measurement scale. Then, the data from 615 questionnaires were entered into SPSS (V.16) by the researcher. Finally, the entered data were checked using different approaches including checking categorical data and checking numerical data. In terms of categorical data, for example 1 and 0, it was easy to check the values’ number. In case of numerical data, for example age, which has an upper and lower limits number, there was the possibility to check the value lies outside of this range.

Analysis of the data was undertaken through utilizing the following statistical processes and tests: 1) Descriptive analysis by frequencies of categorical data to
provide an initial overview of the sample. 2) Chi-squared test was used to examine the relationship between categorical variables in greater detail. This test was also utilized to determine significance. In order to use multiple comparisons, the level of significance was set at \( P \text{ values} < 0.05 \) which indicates that the result is less likely to have occurred by chance. In other words, if the \( P \) value is 0.05, that means that there is a 95% chance of the difference in observation reflects a real difference between population and a 3% chance that the difference is due to chance (Rothman & Greenland 1998).

### 7.9. Ethical considerations

In addition to get an ethical approval from the Iranian National Ethics Committee, Ministry of Health and Medical Education (Appendix 5) and also from the Research Ethics Committee, University of Surrey (Appendix 6), the ethical issues were considered through the survey study. Similar to the phase 1, in the second phase of the study, all participants in this study received a pack including an information sheet and consent form (see appendix 1, 2). Moreover, a code number was used on each questionnaire to ensure anonymity of the participants. The survey questionnaires were stored in a locked area at the University of Surrey and were saved until the end of the project.
Chapter 8: The Survey Results
8.1. Introduction

The questions of the survey aimed to confirm the GPs' perceptions, their current practice, and triggers and barriers of the early detection of prostate cancer. The data analysis began with descriptive statistics to organize the data for giving a general meaning to the data and to understand more clearly, what is being seen. The numerical data were analyzed using simple descriptive statistics to run some frequencies. The categorical data were organized into five categories including GPs' perceptions, GPs' current practice, triggers and barriers of the early detection from the GPs' perspectives, the potential gaps through the process of the early detection, and the GPs' recommendations to diagnosis prostate cancer at the early stage. Different tests were employed to determine the relationship and difference between variables.

Additionally, the data were analyzed based on three main categories of GPs including GPs' gender (male and female), GPs' place of practice which was classified in practising in high, middle and low social classes, and GPs' years of practising which can indicate their social experience to detect prostate cancer rather than their informed medical knowledge in medical schools. Overall, the results of the survey in a large population of GPs in Mashhad city revealed the spectrum of practice in prostate cancer detection.
8.2. Demographic data

To have a general view about the GPs, who participated, the main characteristics of the demographic data are presented. Based on the concepts were extracted from the qualitative study, six GPs’ characteristics were defined, including GPs’ gender, age, employment status, since years practising, place of practising, and number of admitted patients per day. These data were summarized in the Table 8.1.

<table>
<thead>
<tr>
<th>Main criteria</th>
<th>Male GP</th>
<th>Female GP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Characteristic</td>
<td>Frequency</td>
<td>%</td>
</tr>
<tr>
<td>1. Gender</td>
<td>399</td>
<td>64.9%</td>
</tr>
<tr>
<td>2. Age</td>
<td>&lt;29 years</td>
<td>22</td>
</tr>
<tr>
<td></td>
<td>30 - 39 years</td>
<td>134</td>
</tr>
<tr>
<td></td>
<td>40 - 49 years</td>
<td>142</td>
</tr>
<tr>
<td></td>
<td>50 - 59 years</td>
<td>52</td>
</tr>
<tr>
<td></td>
<td>≥ 60 years</td>
<td>49</td>
</tr>
<tr>
<td>3. Employment</td>
<td>Governmental (G) Health Clinic</td>
<td>66</td>
</tr>
<tr>
<td></td>
<td>Private (P) Health Clinic</td>
<td>52</td>
</tr>
<tr>
<td></td>
<td>Charity (Ch) Health Clinic</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td>Self-Employed (S-E)</td>
<td>109</td>
</tr>
<tr>
<td></td>
<td>Working in G &amp; S-E</td>
<td>174</td>
</tr>
<tr>
<td></td>
<td>Working in G &amp; S-E &amp; (P or Ch)</td>
<td>12</td>
</tr>
<tr>
<td>4. Place of practice</td>
<td>High social area</td>
<td>47</td>
</tr>
<tr>
<td></td>
<td>Middle social area</td>
<td>148</td>
</tr>
<tr>
<td></td>
<td>Low social area</td>
<td>204</td>
</tr>
<tr>
<td>5. Since years practicing</td>
<td>≤9 years</td>
<td>128</td>
</tr>
<tr>
<td></td>
<td>10 - 19 years</td>
<td>162</td>
</tr>
<tr>
<td></td>
<td>20 - 29 years</td>
<td>62</td>
</tr>
<tr>
<td></td>
<td>≥ 30 years</td>
<td>47</td>
</tr>
<tr>
<td>6. Number of patients per day</td>
<td>=10</td>
<td>41</td>
</tr>
<tr>
<td></td>
<td>11-20</td>
<td>110</td>
</tr>
<tr>
<td></td>
<td>21-30</td>
<td>126</td>
</tr>
<tr>
<td></td>
<td>31-40</td>
<td>63</td>
</tr>
<tr>
<td></td>
<td>≥ 41</td>
<td>59</td>
</tr>
</tbody>
</table>

From the survey of 615 GPs who took part in the survey, 399 (65%) and 216 (35%) were male and female respectively (Figure 8.1). The gender’s percentage demonstrates a ratio of two males to one female GP of the population surveyed. These
results support the same proportion which was reported by the Medical Council of Mashhad about the male and female GPs who were working in Mashhad city at the time of participating in this study.

*Figure 8.1: The frequency of the male and female participated GPs*

![Pie chart showing the frequency of male and female GPs](image)

The results revealed that the mean age was 42 years with a range of between 25 years to 87 years. The female GPs aged 29 and 30 to 39 years were more frequent than the male GPs at the same aged groups. In contrast, regarding age ≥ 60 years, the frequency of male GPs were more than the female GPs at the same age group.

This study utilized the participated GPs’ employment positions to reveal that there were four options of employment: governmental, private, charity and self-employment and two other options which refer to work in two or three health systems or health care clinics. The data showed that the majority of the female GPs practised either in the governmental system or in own clinics (65.3%), while it was approximately 43.8% for the male GPs. The results revealed that the majority of the
male GPs (about 70\%) were both self-employed and practised in their own clinic or without working in governmental, private or charity systems. They worked in two systems per day, for example, working in governmental, private or charity systems in the morning and practising at their own private clinics (self-employment) in the afternoon.

This study elicited information about the GPs' place of practice. Based on the report of the Council of Mashhad, the city is divided into three zones including high, middle, and low. These three zones were classified based on the socioeconomic factors. The results revealed that the 89\% of the GPs have practised in the middle or low social class areas in Mashhad city at the time of participating in this study. Regarding the different aged groups, four younger age groups have practised in middle and low social areas (<29 year = 100\%, 30 to 39 years = 91.9\%, 40 to 49 years = 90.2\%, and 50 to 59 years = 82.9\%). However, GPs aged ≥ 60 years were more likely to practise in high social areas in Mashhad city (high =37.3, middle = 31.4\%, and low = 31.4\%).

The GPs were asked to indicate the number of years since graduating. The results of these two variables were very similar. Therefore, the practising period dates were selected and analyzed because this could have an influence on their experiences and their professional perceptions. The results showed that the mean years of practice were 13.15 years with the modal of 12 years. It can also be seen that this variable ranged from 1 year to 53 years. The results showed that 77.7\% of the participated GPs have practised for less than 20 years. The results also revealed that 39\% of GPs have practised in Mashhad city for less than 9 years.

In terms of number of patients caseload per day, the results showed that the
majority of the GPs (>70%) saw 11 to 40 patients per day. The analysis of data showed that there was no significant difference between the caseload of the male and female GPs in terms of the number of patients seen per day.

In conclusion, the demographic data, it was highlighted that two thirds of the participated GPs were males. The majority of GPs were aged less than 50 years, in practice the sample reflected data seen in the registered population. Moreover, the majority of them have practised in the low or middle social areas. About 64% of female GPs have practised in governmental clinics.
8.3. GPs' perceptions of prostate cancer detection

GPs' perceptions refer to their beliefs and views that they had as a result of practice. GPs' were asked to illustrate their view in terms of the early detection of prostate cancer (Table 8.2).

<table>
<thead>
<tr>
<th>Table 8.2: GPs' perception on the early detection of prostate cancer</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Do you agree or disagree with the early detection of prostate cancer? (N=615)</strong></td>
</tr>
<tr>
<td>Answer</td>
</tr>
<tr>
<td>--------</td>
</tr>
<tr>
<td>Agree</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Agree</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Disagree</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>

The results showed that 58% of the surveyed GPs were agreed with the need to detect prostate cancer early. The majority of them (92%) believed that prostate cancer detection must be started in men aged ≥50 years. Despite this belief, the GPs who participated thought that early detection was a priority for those men who had positive familial history of the disease or had lower urinary tract symptoms.

However, 42% of the surveyed GPs disagreed with the early detection of prostate cancer. About 46% of them have believed that there is confusion around the screening of prostate cancer and was still a controversial issue. Moreover, regarding the aggressive treatment procedures such as radical prostatectomy and therapeutic consequences such as incontinence, it was difficult for them to agree with the early detection of prostate cancer.
8.4. GPs’ Current practices

Regarding their current practice, they were asked to answer which test they often used to detect prostate cancer. Table 8.3 displays those answers using different approaches including digital rectal examination (DRE), prostate specific antigen (PSA), ultrasound (US), combination of PSA and US, and using all of these approaches. The results showed that the majority of GPs (72.5%) were interested in ordering PSA, US, or both. However, only 1.5% of them were using just DRE approach to detect prostate cancer (Table 8.3). Therefore, PSA and US were the main approaches that were used by GPs to detect prostate cancer.

<table>
<thead>
<tr>
<th>The detection Approaches</th>
<th>Frequency /n</th>
<th>Percent /%</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. DRE</td>
<td>9</td>
<td>1.5%</td>
</tr>
<tr>
<td>2. PSA</td>
<td>97</td>
<td>15.8%</td>
</tr>
<tr>
<td>3. US</td>
<td>142</td>
<td>23.1%</td>
</tr>
<tr>
<td>4. 2 &amp; 3</td>
<td>207</td>
<td>33.7%</td>
</tr>
<tr>
<td>5. All tests</td>
<td>160</td>
<td>26.0%</td>
</tr>
</tbody>
</table>

The figure 8.2 shows that there was different trend in using these tests by GPs dependent on different age groups and percentage of GPs. Although there was a similar trend to increase ordering PSA or US tests by increasing GPs’ age, this trend was completely different for using DRE. Moreover, it shows that the ordering of PSA test gradually increases in GPs aged ≥ 40 year. Whereas the ordering of US test increase constantly by increasing GPs’ age.
Regarding the GPs’ gender, the table 8.4 shows that ordering PSA test was significantly different in the male and female GPs (Pearson Chi-Square = 39.36, df =1, and P<0.001). However, in case of ordering US, it was similar for both the male and the female GPs. Moreover, the results showed that the GPs’ trend towards ordering PSA and/or US tests was relatively similar in different social class areas.

Table 8.4: The relationship between GPs’ gender and using PSA test

<table>
<thead>
<tr>
<th>GPs’ Gender</th>
<th>No (%)</th>
<th>Yes (%)</th>
<th>Chi-Square test value</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>66 (17%)</td>
<td>333 (84%)</td>
<td>39.36</td>
<td>0.000</td>
</tr>
<tr>
<td>Female</td>
<td>85 (39%)</td>
<td>131 (61%)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 8.5 shows that it is clear that there is a significant difference in the males and females GPs to use DRE (Table 8.5). According to these results, the female GPs were not more interested than the male GPs to use DRE.

Table 8.5: The relationship between GPs’ gender and using DRE

<table>
<thead>
<tr>
<th>GPs’ Gender</th>
<th>No (%)</th>
<th>Yes (%)</th>
<th>Chi-Square test value</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>256 (64%)</td>
<td>143 (36%)</td>
<td>41.55</td>
<td>0.000</td>
</tr>
<tr>
<td>Female</td>
<td>191 (88%)</td>
<td>25 (12%)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
There was a significant relationship between using DRE and the GPs’ place of practice (Pearson Chi-Square = 24.51, df = 2, and P<0.001). Table 8.6 shows that using DRE by GPs decreased significantly from the high social area to the middle and low social areas in Mashhad city which may relate to the cost and availability of such investigations.

<table>
<thead>
<tr>
<th>GPs’ place of practice</th>
<th>No (%)</th>
<th>Yes (%)</th>
<th>Chi-Square test value</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>High social area</td>
<td>34 (49%)</td>
<td>35 (51%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Middle social area</td>
<td>174 (72%)</td>
<td>68 (28%)</td>
<td>24.51</td>
<td>0.000</td>
</tr>
<tr>
<td>Low social area</td>
<td>239 (79%)</td>
<td>65 (21%)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The GPs were asked to describe their preferred approaches for particular cases. These approaches refer to medical actions or decisions to manage case such as physical examination, ordering laboratory tests (PSA and/or US), follow up, and referring these to Urologists. Six cases were defined based on different scenarios to investigate GPs’ practice patterns (Table 8.7). The results from these scenarios were classified in two categories including GPs’ practice patterns on asymptomatic and symptomatic cases.

The GPs, who participated, were asked to indicate which tests or decisions, if any, they might perform or order for detection of prostate cancer such as DRE, PSA, US, counselling, and referring to specialists. To realize the GPs’ perception on management of cases, the data were analyzed using three demographic criteria including GPs’ gender, GPs’ place of practice, and GPs’ since years practising.

The results illustrated that counselling was the main preferring approach selected by GPs to manage these six scenarios. Counselling refers to the use of different discussion skills by GPs to inform patients/his companions and to help them
in making an informed choice about whether or not to undergo tests for prostate cancer detection.

<table>
<thead>
<tr>
<th>Case</th>
<th>Scenario</th>
</tr>
</thead>
<tbody>
<tr>
<td>Case 1</td>
<td>A man (age 55 years) is fit and well and presents to the physician for his annual “check up”. He has no significant medical or family history.</td>
</tr>
<tr>
<td>Case 2</td>
<td>A man (age 55 years) is well but is concerned that he is at risk of getting cancer. His brother was diagnosed with cancer of the prostate this week and his uncle died because of prostate cancer.</td>
</tr>
<tr>
<td>Case 3</td>
<td>A man (age 55 years) is fit and well and has reluctantly arrived to see the physician at clinic. His wife has persuaded him to attend after she saw a documentary on media about prostate cancer. He has come to seek physician advice about whether he should have a test done.</td>
</tr>
<tr>
<td>Case 4</td>
<td>A man (age 65 years) presenting with lower urinary tract symptoms.</td>
</tr>
<tr>
<td>Case 5</td>
<td>A man (age 65 years) presenting with lower urinary tract symptoms along with another chronic disease.</td>
</tr>
<tr>
<td>Case 6</td>
<td>A man (age 65 years) who is suffering from other disease but is suspicious of potential prostate cancer?</td>
</tr>
</tbody>
</table>
A man (age 55 year) is fit and well and presents to the physician for his annual “check up”. He has no significant medical or family history.

In order to find out the GPs' perception to manage the detection of prostate cancer in the first case, cross-tabulation of the GPs' characteristics and different approaches was run (Table 8.8). The results revealed that counselling was generally the main approach to manage the first case by male and female GPs. Moreover, it was revealed that this approach was preferred by GPs who had been in practice longer. This approach was also preferred for those GPs who have practiced in the high social class areas in comparison with GPs who have practiced in the middle and/or lower social class areas.

| Table 8.8: The Frequency of approaches were used by male and female GPs for the case 1 |
|-----------------------------------------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
|                               | DRE | PSA | US | Counselling | Referring |
|-----------------------------------------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| No %                                      | N / %         | N / %         | N / %         | N / %         | N / %         | N / %         | N / %         | N / %         | N / %         |
| Male                                      | 337/84.5      | 62/15.5       | 185/46.4      | 214/53.6      | 253/63.4      | 146/36.6      | 188/47.1      | 211/52.9      | 327/93.0      | 28/7.0 |
| Female                                    | 190/88.0      | 26/12.0       | 136/63.0      | 80/37.0       | 145/67.1      | 32.9          | 10247.2       | 114/52.8      | 212/98.1      | 4/1.9 |
| Total                                     | 527/86.6      | 88/14         | 321/52        | 294/48        | 398/65        | 217/35        | 209/34        | 325/66        | 583/95        | 32/5  |

After counselling, PSA test was the next frequent approach which GPs preferred to order for case 1. Although the frequency of this test was similar to the counselling approach, its preference was significantly different by male and female GPs in comparison with the counselling approach. In conclusion, counselling and PSA test were the foremost practice patterns to manage the first scenario by surveyed GPs. Regarding the GPs’ place of practice, ordering PSA and providing counselling were more used by GPs’ who have practised in the high social area in comparison with GPs’ who have practised in the middle and low social areas. Based on the GPs’ since years practice, GPs with ≤9 and ≥ 30 since years practice were more interested to use DRE in the detection process.
Case 2  A man (age 55 year) is well but is concerned that he is at risk of getting cancer. His brother was diagnosed with cancer of the prostate this week and his uncle died because of prostate cancer.

According to the familial history of prostate cancer in case 2, GPs’ practice patterns were completely different in comparison with the first case (Table 8.9).

| Table 8.9: The frequency of approaches were used by male and female GPs for the case 2 |
|--------------------------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
|                                     | DRE       | PSA       | US        | Counselling | Referring |
| No     | Yes     | No     | Yes     | No     | Yes     | No     | Yes     | No     | Yes     |
| N / %  | N / %   | N / %  | N / %  | N / %  | N / %  | N / %  | N / %  | N / %  | N / %   |
| Male   | 321/80.5| 78/19.5| 135/34.0| 262/66.0| 173/43.4| 226/56.6| 202/50.6| 197/49.4| 283/70.9| 116/29.1|
| Female | 178/82.4| 38/17.6| 112/51.9| 104/48.1| 114/52.8| 102/47.2| 100/46.3| 116/53.7| 150/69.4| 216/30.6|
| Total  | 499/81  | 116/19  | 247/40  | 366/60  | 287/47  | 328/53  | 302/49  | 313/51  | 433/70  | 182/30  |

Using PSA and US were more preferred in both male and female GPs in comparison with the first case. Running cross-tabulation of GPs gender and their ordering PSA test for the second case illustrated that there was a significant difference between the male and the female GPs (Pearson Chi-Square = 18.52, df = 1, P<0.001). The results were also revealed that female GPs preferred to refer the case to the specialist compare with the male GPs. The results revealed that the frequency of the different approaches to manage the second case was considerably higher in different social class areas. In conclusion, the results showed that having positive familial history had a significant impact in the GPs’ practise to manage the second scenario.

Case 3  A man (age 55 year) is fit and well and has reluctantly arrived to see the physician at clinic. His wife has persuaded him to attend after she saw a documentary on media about prostate cancer. He has come to seek physician advice about whether he should have a test done.

The analysis of the data on the third case illustrated the role of wife in managing men who was asymptomatic but has been persuaded by his wife to have a consultation with a GP (Table 8.10).
The data analysis showed that from GPs’ viewpoint (specially the female GPs), counselling was more interested in this case in comparison with the first case. Ordering PSA or US tests and also using DRE for the third case were significantly lower than the first case which was similar to the first case in terms of being asymptomatic and having no positive familial history of the disease. Regarding the GPs’ years of practice, the majority of them avoided to order diagnostic tests (DRE, PSA and US). In terms of GPs’ place of practice, counselling was the main strategy to manage the third case. However, it was more used by the GPs who worked in the high and the middle social class areas (83% and 80% respectively). In conclusion, GPs’ management of this case showed that wife had a significant impact on the GPs’ approach in comparison with the first case.

Regarding the GPs since years practice, using counselling approach was increased by increasing years of practice. This increase may due to the development of their communication and counselling skills through their practice. Similar to the first scenario, GPs’ who practice in the high social area were able to provide counselling service to their patients in comparison to the middle and low social areas.
Regarding this case, the analysis of data revealed that GPs considered this man as high risk man with lower urinary tract symptoms (Table 8.11). The hallmark approach for case 4 was counselling so that more than four fifths of GPs made an attempt to provide this service and to give information of symptom management. This approach was increased from the high to the low social class areas, which can indicate the role of GPs in preventing process in the low class areas of Mashhad city.

In comparison with the asymptomatic cases, GPs were more interested to order PSA and/or US to detect prostate cancer in symptomatic cases. In terms of using DRE, the data revealed that there was a significant difference to use this approach in the case management (Pearson Chi-Square =53.31, df =3, P<0.001). However, it was significantly used by the GPs who had longer history of practising. Moreover, in contrast to the asymptomatic cases, the majority of GPs in different groups of since years practising were preferred referring the case to a specialist (54.1%).

| Table 8.11: The frequency of approaches were used by male and female GPs for the case 4 |
|----------------------------------|----------------------------------|----------------------------------|----------------------------------|------------------|------------------|------------------|------------------|
|                                  | DRE                              | PSA                             | US                              | Counselling       | Referring        |
| No                               | Yes                              | No                              | Yes                             | No               | Yes              | No               | Yes              |
| N / %                            | N / %                            | N / %                           | N / %                           | N / %            | N / %            | N / %            | N / %            |
| Male                             | 238/59.6                         | 161/40.4                        | 140/35.1                        | 259/64.9         | 116/29.1         | 283/70.9         | 57/14.3          |
|                                   | 342/85.7                         | 198/49.6                        | 201/50.4                        |                  |                  |                  |                  |
| Female                           | 174/80.6                         | 42/19.4                         | 138/63.9                        | 78/36.1          | 98/45.4          | 157/72.2         | 84/38.9          |
|                                   | 132/61.1                         | 157/72.2                        | 132/61.1                        |                  |                  |                  |                  |
| Total                            | 412/67                           | 203/33                          | 278/45                          | 337/55           | 214/35           | 401/55           | 116/19           |
|                                  | 282/46                           | 262/46                          | 333/54                          |                  |                  |                  |                  |

The results also revealed that using DRE approach was significantly different in three social class areas (Pearson Chi-Square =15.50, df =2, P<0.001) and investigations were used more in the high social class areas in comparison with the middle and low social class areas, possibly reflecting differences. In conclusion, GPs’
practice pattern was more active to manage this symptomatic case in comparison with asymptomatic cases.

**Case 5**
A man (age 65 years) presenting with lower urinary tract symptoms along with a chronic disease.

This case was a complicated scenario. There were more active interactions between GPs and patient to manage both the lower urinary tract symptoms (LUTS) as well as his chronic disorder such as diabetes or cardiovascular diseases. The GPs' strategies to manage this case were absolutely different to the cases above. They preferred to provide counselling with the case and/or referring him to a specialist rather than manage the diagnosis by other approaches (Table 8.12).

| Table 8.12: The frequency of approaches were used by male and female GPs for the case 5 |
|---------------------------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| DRE | PSA | US | Counselling | Referring |
| No | Yes | No | Yes | No | Yes | No | Yes | No | Yes | No | Yes |
| N / % | N / % | N / % | N / % | N / % | N / % | N / % | N / % | N / % | N / % |
| Male | 294/73.7 | 105/26.3 | 184/46.1 | 215/53.9 | 192/48.1 | 207/51.9 | 67/16.8 | 334/83.2 | 96/24.1 | 303/75.9 |
| Female | 188/87.0 | 28/13.0 | 148/68.5 | 68/31.5 | 136/63.0 | 80/37.0 | 27/12.5 | 169/87.5 | 36/16.7 | 180/83.3 |
| Total | 482/78 | 133/22 | 332/54 | 283/46 | 328/53 | 287/47 | 94/15 | 521/85 | 132/21 | 483/79 |

The data revealed that using counselling and referral were increased by GPs who had longer experience in practice (Table 8.12). The Pearson chi-square values for counselling and referring were 20.80 and 31.23 respectively with significant P values of 0.001. This means that there are statistically significant relationships between the GPs' since years practising and preferring these two approaches rather than other approaches such as DRE or US. The results revealed that the management of this case in the high social class area was significantly better than the middle and low social class areas. More than 97% of GPs made attempt to have counselling with the case and more than 94% of them referred the case to a specialist.
Case 6: A man (age 65 years) who is suffering from other disease but he is suspicious of potential prostate cancer?

This scenario described a man who sought screening for a disease, but through the process of taking a history and physical examination, the GP had found some clues, which indicated to a potential prostate cancer. Therefore, within this scenario the GPs had an active role rather than the patient who had a passive role in terms of discovering prostate cancer. Based on this condition, GPs (male and female) preferred the counselling and referring as the main strategies rather than further evaluation (Table 8.13).

<table>
<thead>
<tr>
<th>DRE</th>
<th>PSA</th>
<th>US</th>
<th>Counselling</th>
<th>Referring</th>
</tr>
</thead>
<tbody>
<tr>
<td>No</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>N / %</td>
<td>N / %</td>
<td>N / %</td>
<td>N / %</td>
<td>N / %</td>
</tr>
<tr>
<td>Male</td>
<td>288/72.2</td>
<td>111/27.8</td>
<td>152/38.1</td>
<td>247/61.9</td>
</tr>
<tr>
<td>Female</td>
<td>192/88.9</td>
<td>24/11.1</td>
<td>128/59.3</td>
<td>88/40.7</td>
</tr>
<tr>
<td>Total</td>
<td>480/78</td>
<td>135/22</td>
<td>280/46</td>
<td>335/54</td>
</tr>
</tbody>
</table>

The results demonstrate that there was a significant relationship between GPs with longer history in practising (≥30 years) and their ordering PSA test (76.5%) and using DRE (49%). This group of GPs were also more interested in selecting counselling with the case or referring him to the specialists in comparison with other groups of GPs. The cross-tabulation of GPs’ place of practice and their selected approaches indicated a significant difference in management of the case between GPs who were practised in the high social class areas and GPs who worked in the middle or low social class areas.

In conclusion, the results illustrated that counselling was one of the main approach selected by GPs to manage these six scenarios. Counselling referred to
discussion and information provided by GPs to inform patient and to help them in making an informed decision about whether or not to detect prostate cancer at the early stages. Additionally, the results revealed that GPs were more active in managing of the symptomatic cases in comparison with the asymptomatic cases, despite the possible risk.

These results have illustrated a significant role of some factors to experience and gender through the detection of prostate cancer from the GPs perspectives. These factors may be either a trigger or barrier in the process of the detection. The triggers factors refer to the socio-cultural conditions, which can facilitate the prostate cancer detection. In contrast, the barriers factors refer to the socio-cultural conditions, which can be resulted in delaying of the disease detection. Therefore, what the GPs say they do and what they actually do is not the same thing.
8.5. Triggers & Barriers

The participated GPs were asked to specify the main psychosocial triggers or barriers influenced the early detection of prostate cancer.

8.5.1. Men’s role in influencing GP decision making

The results of this study revealed that men’s awareness of the illness was an important factor which was able to facilitate the process of the early detection of prostate cancer. About 77% of the GPs believed that this factor should be considered in the early detection of the disease (Table 8.14).

| Table 8.14: The frequency of men’s triggers and barriers in detection process from GPs’ perspectives |
|-------------------------------------------------|------------------------------------------------|
| **Triggers**                                     | Frequency | Percent |
| 1. to be informed                               | Yes       | 471     | 76.6  |
| 2. having positive familial history             | Yes       | 409     | 66.5  |
| 3. Being from high social class                 | Yes       | 337     | 54.8  |
| 1. Lack of knowledge                            | Yes       | 467     | 75.9% |
| 2. Denial                                       | Yes       | 379     | 61.6  |
| 3. Minimization                                 | Yes       | 439     | 71.4  |
| 4. Embarrassment                                | Yes       | 417     | 67.8  |
| 5. Impotence                                    | Yes       | 491     | 79.8  |
| 6. Incontinence                                 | Yes       | 571     | 92.8  |

Having a positive family history of prostate cancer was another trigger factor which made men to be alert that they might be in high risk group to get prostate cancer. More than 66% of GPs believed that men with positive familial history of prostate cancer were more interested to receive information about the illness. They also believed that this factor was more helpful in detecting prostate cancer in the earlier stages. Using cross-tabulation of this factor and GPs’ gender, the results showed that both group had the same view on the role of positive familial history in
the early detection of prostate cancer. The results revealed that about 55% of the participated GPs believed that men who were living in the high social class areas had more opportunity to control the illness in comparison with men who were living in the middle or low social class areas. But, 45% of GPs have supposed that being from high social area did not consider being a trigger factor in the process of prostate cancer detection.

The GPs were asked to specify the main barriers they felt existed in relation to the illness. The results of this study revealed that denial, minimization and embarrassment were the main reasons of patients in not coming for diagnosis (Table 7.14). These barriers often resulted in delaying the detection instead of controlling the disease early.

The data indicated that the majority of GPs (76%) believed that lack of knowledge was the most important factor of the social context of the illness (Table 7.14). According to the survey results, 77% of the male and 74% of the female GPs believed that lack of knowledge was the main barrier of the illness. The GPs indicated that denial was a strategy, which was used by patients to ignore the reality of the illness. About 62% of GPs believed that this strategy was adopted by patients to manage their symptoms (Table 8.15). Denial of the symptoms can be resulted to delay in seeking care.

<table>
<thead>
<tr>
<th>Table 8.15: Cross-tabulation of denial and GPs' place of practice</th>
</tr>
</thead>
<tbody>
<tr>
<td>Denial</td>
</tr>
<tr>
<td>-----------------------------------------------</td>
</tr>
<tr>
<td>High</td>
</tr>
<tr>
<td>Middle</td>
</tr>
<tr>
<td>Low</td>
</tr>
<tr>
<td>Total</td>
</tr>
</tbody>
</table>
This study utilized the chi-square test and found a significance difference between GPs’ perceptions in all social class areas. The majority of GPs (about 74%) who practised in the high social class areas considerably highlighted this point. Moreover, analysis of the data showed that the male and female GPs had the same perceptions about this issue (61.9% of the male and 61.1% of the female GPs).

The majority of GPs believed that minimization was the second strategy that men used to make the illness appear less important than what it really is. As it was showed in the table 7.14, the results revealed that 71.4% of GPs thought that men were more interested to reduce the impact of illness especially urinary and sexual problems which can be related to a prostatic disorder. Moreover, there was a significant difference between GPs who practiced in different social class areas (P=0.000) in terms of their belief about men’s minimization. The results showed that 67% of GPs who practiced in the high social class areas reported minimization as one of their patients’ adopted strategy (Table 8.16).

<table>
<thead>
<tr>
<th>Minimization</th>
<th>No (n / %)</th>
<th>Yes (n / %)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>GP’s gender</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>134/33.6</td>
<td>265/66.4</td>
</tr>
<tr>
<td>Female</td>
<td>108/50.0</td>
<td>108/50.0</td>
</tr>
<tr>
<td><strong>Place of practice</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>High</td>
<td>16/23.2</td>
<td>53/76.8</td>
</tr>
<tr>
<td>Middle</td>
<td>116/47.9</td>
<td>126/52.1</td>
</tr>
<tr>
<td>Low</td>
<td>242/36.2</td>
<td>194/63.8</td>
</tr>
</tbody>
</table>

Embarrassment is a reaction which expresses men’s difficulties in feeling and talking about the urinary or sexual symptoms to the physicians. About 68% of the participated GPs believed that men often used this behaviour due to cultural aspects and the stigma associated to the urinary and sexual symptoms of prostate disorders (Table 8.17).
GPs’ had thought that the therapeutic consequences of the disease are a barrier on the men’s coming forward for a diagnosis an issue possibly related to the male dominancy or masculinity macho aspects of coping with illness. In order to investigate this subject, the participated GPs were asked to express the impact of impotence and incontinence on their patient social life. The results showed that the majority of GPs believed that incontinence (92.8%) and incontinence (80%) had a significant role on their patients’ decision to detect and seek treatment. The results revealed that more than 53% of GPs believed that their patients were not informed of the illness’s consequences.

8.5.2. Wife’s role

This research asked GPs to specify the role of wife through the process of prostate cancer detection. The results showed that more than 81% surveyed believed that the wife had an important role in persuading men to detect the disease at an early stage (Table 8.18). Further analysis showed more than 71% of the GPs’ thought that men often received emotional support from their wives through the processes of diagnosis and treatment. However the results revealed that this role seems to be more visible in the high social class areas in comparison with the middle and the low social class areas.
Table 8.18: The frequency of factors related to wife's role from GPs' perspectives

<table>
<thead>
<tr>
<th>Wife's role</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Persuade men to detect disease</td>
<td>No</td>
<td>116</td>
</tr>
<tr>
<td></td>
<td>Yes</td>
<td>499</td>
</tr>
<tr>
<td>2. Having emotional support</td>
<td>No</td>
<td>177</td>
</tr>
<tr>
<td></td>
<td>Yes</td>
<td>438</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Wife's emotional support in different social areas</th>
</tr>
</thead>
<tbody>
<tr>
<td>High social area</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Middle social area</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Low social area</td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>

8.5.3. GPs’ role

The participated GPs were asked to specify their role through the process of the early detection of prostate cancer. This role was assessed from GPs’ social and professional perspectives (Table 8.19). Then to improve this role, the recommended strategies by surveyed GPs for the early detection of prostate cancer were requested.

The results show that the majority of the GPs were not happy with their positions in the National Health System in terms of having a passive and marginal role through the detection of prostate cancer (Table 8.19).

About 60% of the surveyed GPs have believed that specialization might be a barrier through the early detection of prostate cancer (Table 8.19). Specialization is a new social health structure in Iran and was developed only in the last two decades. According to this, specialists have authority in controlling definition of cancer such as prostate cancer. In contrast, there was not a well-defined guideline to manage the disease by GPs. Therefore, they thought that specialization was restricted in their role.
in terms of primary care of chronic disease and cancers such as prostate cancer. The social construction of this phenomenon was discussed in more details in the previous chapter.

<table>
<thead>
<tr>
<th>Table 8.19: The GPs’ role from social and professional perspectives in prostate cancer</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Frequency</strong></td>
</tr>
<tr>
<td>GPs’ role from social perspective</td>
</tr>
<tr>
<td>Barriers</td>
</tr>
<tr>
<td>1. GPs’ marginal role</td>
</tr>
<tr>
<td>2. Specialization</td>
</tr>
<tr>
<td>Triggers</td>
</tr>
<tr>
<td>1. GPs’ gender (being male)</td>
</tr>
<tr>
<td>2. To be trustworthy</td>
</tr>
<tr>
<td>GPs’ role from professional perspective</td>
</tr>
<tr>
<td>Triggers</td>
</tr>
<tr>
<td>1. Accessibility</td>
</tr>
<tr>
<td>2. Being expert</td>
</tr>
<tr>
<td>Barriers</td>
</tr>
<tr>
<td>1. Lack of policy</td>
</tr>
<tr>
<td>2. lack of time</td>
</tr>
<tr>
<td>3. Insufficient referral system</td>
</tr>
<tr>
<td>4. Inadequate insurance support</td>
</tr>
</tbody>
</table>

In contrast, the results showed that more than 83% of the surveyed GPs believed that GPs’ gender (being male) was a trigger in the detection of prostate cancer. Moreover, more than 57% of the participated GPs thought that being a female GP was a barrier for involvement in the detection process of prostate cancer (Table 7.19). Further analysis was conducted to determine whether there would be any differences between the male and female GPs’ perceptions about this issue. There was a significant difference (p<0.001) between the female and male GPs perceptions in terms of gender role with female GPs feeling this was not case.

In addition, GPs were asked to clarify the role of GPs’ in a position of trust through the detection process of prostate cancer. The results revealed that about 74%
of GPs believed that trust between GPs and their patients had a significant impact in persuading men to make an appropriate decision through the detection and therapeutic processes. In contrast the wife’s role, which was considered more significant in the high social class areas by GPs, than in the middle and low social areas in comparison (Table 8.20).

<table>
<thead>
<tr>
<th>Place of practice</th>
<th>Trusted physician’s role</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No (n / %)</td>
</tr>
<tr>
<td>High</td>
<td>20/29.0</td>
</tr>
<tr>
<td>Middle</td>
<td>60/24.8</td>
</tr>
<tr>
<td>Low</td>
<td>78/25.7</td>
</tr>
</tbody>
</table>

Table 8.20: Cross-tabulation of trusted physician’s role and GPs’ place of practice

From professional perspectives, the results showed some triggers and barriers. In this regard, they believed accessibility and being an expert could enhance GPs’ triggers in the early detection of prostate cancer. The results revealed that about 67% of GPs emphasized that their accessibility across the country could provide a resource for health programs' delivery (Table 8.19).

The GPs were asked whether they perceive themselves to have a trigger role in detecting of prostate cancer. The results showed that more than 67% of the participated GPs thought that they were well skilled to deliver primary cancer care (Table 8.19). GPs' perceptions of expertise to detect prostate cancer were increased by experience in practice for example, 56% of GPs with ≤9 year history of practice had positive attitude towards this issue, while it was more than 88% for GPs with since years practising ≥30 years. The results showed that 80% of the participated GPs thought that there was not a defined policy regarding the detection of prostate cancer in Iran (Table 8.19).
Inadequate insurance support is resulted in limitation for GPs to order diagnostic test. For example, there is a limitation for GPs to order a PSA test from different insurance agencies. The results showed that about 52% of the participated GPs believed that this factor was a barrier. The chi-square test showed that there was a significant relationship (P<0.002) between this factor and GPs place of practice. The results indicated that the insurance support was increased from the low to the high social class areas (from 42% to 58.6%).

GPs were asked to recommend ways to improve the detection of prostate cancer at the early stage in Iran. The main recommendations included 1) establishing primary cancer care section in the Iranian Health System, 2) using practical program to detect the frequent cancers, 3) identifying target population rather than planning a mass screening, 4) making clear GPs involvement in the primary cancer care program, and 5) Making men more involved by improving their knowledge about the frequent cancers (Table 8.21)

| Table 8.21: GPs' recommendations to improve the early detection of prostate cancer |
|--------------------------------------|-----------------|----------|
| 1- Establishing primary cancer care section | No | 38       | 6.2     |
|                                        | Yes | 577      | 93.8    |
| 2- Using practical program              | No | 50       | 8.1     |
|                                        | Yes | 565      | 91.9    |
| 3- Identifying target population        | No | 37       | 6.0     |
|                                        | Yes | 578      | 94.0    |
| 4- Making GPs involvement              | No | 72       | 11.7    |
|                                        | Yes | 543      | 88.3    |
| 5- Making men involvement              | No | 44       | 7.2     |
|                                        | Yes | 571      | 92.8    |
The majority (94%) of the GPs thought that selective or targeted screening is the most economical utilization program. Therefore, the participated GPs were asked to specify the high risk group of men for the early detection of prostate cancer. Over 82% of the GPs recommended the early detection of prostate cancer for those men aged ≥50 years (Table 8.22). Further analysis of the data showed that there was a significant relationship between GPs' age and their proposed age for the early detection of prostate cancer. By increasing of GPs' age, they were more interested in the early detection of the disease among men at age ≥ 50 year.

<table>
<thead>
<tr>
<th>Table 8.22: GPs' perceptions of the high risk group for the early detection</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>High risk men for prostate cancer</strong></td>
</tr>
<tr>
<td>Frequency</td>
</tr>
<tr>
<td>-----------</td>
</tr>
<tr>
<td>45 to 49 yr</td>
</tr>
<tr>
<td>50 to 59 yr</td>
</tr>
<tr>
<td>60 to 69 yr</td>
</tr>
<tr>
<td>≥70 yr</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>High risk men for prostate cancer</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Men aged ≥50 years with</strong></td>
</tr>
<tr>
<td>No</td>
</tr>
<tr>
<td>Yes</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>1. With positive familial history of prostate cancer</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>No</td>
</tr>
<tr>
<td>Yes</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>2. With Lower urinary tract symptoms</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>No</td>
</tr>
<tr>
<td>Yes</td>
</tr>
</tbody>
</table>

To select the target population, more than 65% of the GPs recommended that men with positive familial history of prostate cancer should be identified as a target group. Moreover, 68% of them recommended that men aged ≥50 years with LUTS must be evaluated for prostate cancer as well (Table 8.22).

To deliver the primary cancer care, there is not any policy or guideline to persuade men more involvement in the process of the early detection of prostate cancer. The majority (93%) of the GPs believed that men must be involved actively in
the primary cancer care (Table 8.23). In this regard, the participated GPs were asked to specify how men could be involved in the detection program (Table 8.23).

<table>
<thead>
<tr>
<th>Approach of giving men knowledge to involve in the early detection of prostate cancer</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. To be informed by GP</td>
<td>Yes</td>
<td>548</td>
</tr>
<tr>
<td>2. To be informed by wife</td>
<td>Yes</td>
<td>437</td>
</tr>
<tr>
<td>3. To be informed by TV &amp; Radio</td>
<td>Yes</td>
<td>523</td>
</tr>
<tr>
<td>4. To be informed by Newspapers</td>
<td>Yes</td>
<td>315</td>
</tr>
<tr>
<td>5. To be informed by Mosque</td>
<td>Yes</td>
<td>341</td>
</tr>
</tbody>
</table>

Based on the results from the survey analysis, giving knowledge to men was the main practical strategy for the early detection of prostate cancer from the participated GPs viewpoint. More than 89% of GPs believed that men must be informed about the benefit of the early detection of prostate cancer by GPs using face to face counselling method. Considering the significant role of wife, more than 71% of GPs indicated giving men information about primary cancer care by wife through the National Health System program such as prenatal care or children vaccination.

According to the results, 85% of the participated GPs specified indirect counselling by TV and/or Radio. But in terms of other media options, about 51% of the participated GPs recommended using newspapers to inform men. Since all pilgrims of Haje (Omre and Tamatto) must be tested for optimum health index such as cardiovascular or respiratory diseases before going to Saudi Arabia, more than half of the surveyed GPs recommended cancer detection services for this group of population which are usually more than one million per year.


8.6. Summary

In relation to prostate cancer early detection, GPs had a conservative perspective. Regarding their current practice, they were often interested to use PSA and/or US as appropriate tests in the detection process rather than DRE. The results showed a lack of consensus in more complex scenarios in relation to screening behaviours.

The survey indicated some triggers and barriers which influenced GPs decision making. Men’s lack of knowledge was the main barriers which could be resulted in delay seeking care. The results showed a significant role of wife to persuade men to seek care. This role was highlighted in the high social class areas.

Although trusted male GPs acted as trigger in the detection process from sociological point of view, the social construction of specialization resulted in GPs’ marginal role through the process of the disease detection. Moreover, lack of policy was the most important barrier in detection process from GPs’ professional viewpoint.

The surveyed GPs recommended some practical and political strategies including 1) establishing primary cancer care in the Iranian health system 2) making GPs involved in this sector 3) identifying the target population which must be screened and instructed by GPs and 4) drawing attention to the role of wives and media to provide primary awareness and attention to the detection of prostate cancer at the early stages.
Chapter 9: Discussion on the Results of the Survey
9.1. Introduction

Early detection of prostate cancer in Iran is an unexplored subject which needs more investigation to find out its biopsychosocial issues. Considering GPs as the first-line health professionals who are being consulted by the general population, it is notable to know their perceptions and practices regarding the early detection of prostate cancer. To achieve this purpose, this survey was conducted to investigate the GPs' perceptions and practice patterns, the barriers and triggers for detection of prostate cancer and the influential psychosocial issues surrounding the early detection of the disease from GPs' perspectives. The most significant findings of this survey are discussed in this chapter.

9.2. Demographic data

This study was the first study in Mashhad, Iran which was concerned to provide an overview of the Iranian GPs' characteristics. Therefore, there was not sufficient evidence in Iran to compare the results of this demographic data and to discuss these findings in more detail. Hence, the discussion on the GPs' demographic was based on the researcher knowledge, experiences which has practised and investigated in the different Iranian health systems for many years.

The findings of this study supported the report of the Medical Council of Mashhad that the ratio of the male to female GPs is two to one in the GPs population. Such a difference is rooted in Iranian changing society before and after Islamic revolution. Before revolution, the majority of the Iranian families avoided sending their girls to the university, due to the cultural conflicts. A majority of the Iranian
females were not allowed permitted to have a job outside the home and their main job has been housewife. Moreover, Medical colleges were available just in a few main cities such as Tehran, Shiraz and Mashhad and the majority of the Iranian families were not able to access higher education facilities for their children. Even if they had this ability, they preferred to provide these facilities for boys rather than girls.

Nevertheless, these situations were changed after revolution. The Health Network System was developed and distributed across the whole country by focusing on mother and child health care such as prevention of diseases. To provide professional health care like GP, the numbers of medical colleges were increased, whether governmental or private. Moreover, the social perspective in terms of the female education and job has been changed during recent decades. Therefore, according to these parameters, there were more opportunities for the Iranian females to go to university and to have a job in the public sector.

Regarding the GP's age, gender and employment in this study, the data revealed a gradual transformation in the GPs' population in Iran. This population is almost young with an average age of 42 years which the majority of GPs aged ≤ 40 years were the female practitioners. Moreover, in Iran, primary health care is solely provided by governmental system rather than non-governmental systems such as charity and private organizations. These cares is often focused on some health services for mother and child such as maternity care or vaccination. Based on this strategy, the female GPs would have more opportunity to find a job in the governmental health system. The results of this study revealed that 47% of the female GPs have worked in governmental health system in comparison with 16.5% of the
male GP. In contrast, the majority of the male GPs have practised in non-governmental clinics and hospitals.

According to the place of practice, younger GPs have often practised in low or middle social areas, in contrast with the older aged groups of GPs who have practised in the high social area. This unusual distribution of GPs may be related to some reasons.

1) The Iranian health system has been strongly affected by the phenomenon of specialization which is a new male medical dominance since; people often prefer to be visited by a specialist rather than a GP for their medical issues. Therefore, the majority of the specialists are able to and prefer to work in the high or middle social areas. Moreover, the majority of GPs especially the younger ones are not able to have a compete with specialists in the high and middle social areas. Consequently, this phenomenon has shifted the majority of the GPs to work in the low or middle social areas.

2) Economically, two factors may have important role for why GPs work in the low or middle social areas. Firstly, the population density is higher in the low or middle social areas in comparison with the high social area, and secondly the cost and tax of clinic in the low social area is less than the middle and high social areas. Therefore, the specialists and the older GPs are economically able to practise in the high social area but the younger GPs are able to practise in the low or middle social areas. As a result, the majority of the GPs have practised in the low or middle social areas in Mashhad city.
Concerning with GPs' years of practice since graduation, 77.7% of the participated GPs have practised for less than 20 years (over 87% of the female and about 73% of the male GPs). It means that the majority of GPs would be expected to be more up-to-date in the detection approach of prostate cancer in comparison with GPs who had longer history of practice.

It seems that the main index in the GPs' demographic data is the number of patients in the different social areas. This index is very important because of its influence on the doctor-patient relationship. It is clear that the higher number of patients would be result in the less time for consultation by GPs (Dunn et al. 2001). The average time for each consultation by GP was supposed to be about 6 to 10 minutes per case (Ridsdale et al. 1992; Scambler 2003). However, a standard range of consultation time for general practice in Iran has not been defined until now. The findings of this study revealed an average 30 patients per-day for the participated GPs. Moreover, it was showed that more than 32.6% of the surveyed GPs have consulted more than 30 patients per-day. This number belonged more to the middle and low social areas. Since, 31% and 38% of GPs in the middle and low social areas have consulted more than 30 patients per-day. The number of patients may be dependent on different factors, but it seems that economic is very important and influential factors especially in private health clinics. Therefore, GPs with more patients would not be able to extend consultation time and to focus on prevention rather than treatment. In spite of an acceptable rate of GPs in Mashhad (one GP for 2000 population), there is not a stable policy to use this capacity. Nevertheless, the Iranian health system is at the beginning of a health program called "Family Physician" to cover 3000 family by a GP in the rural areas.
9.3. GPs’ perceptions on the early detection

The results of this study indicate that 58% of the Iranian GPs have agreed with the early detection of prostate cancer. To agree with the early detection of prostate cancer, there is evidence from other studies demonstrating GPs support from 60% to 80% (Brett et al. 2005; Fowler et al. 1998; Voss & Schectman 2001). For example, an online survey by Brett (2005) and his colleagues demonstrated that 67% of GPs had been more positive toward the effectiveness of prostate cancer screening. This perception related to the benefits of therapeutic outcomes such as reducing mortality for all men aged over 50. However, the Iranian GPs had positive attitude on the early detection of prostate cancer for healthy men with familial history of the disease.

There are different screening recommendations which have reflected distinct viewpoints regarding what constitutes screening benefits and what level of evidence is needed to endorse a screening practice. These views were based on the knowledge about the epidemiology of prostate cancer, high risk groups, men’s life expectancy, the ability of screening tests to detect disease and the efficacy of therapeutic procedures for the early stages of the disease (Frankel et al. 2003; Johansson et al. 2004; Neal & Donovan 2000). GPs in this study paid less attention to the development of the disease among healthy men in comparison with symptomatic men or men with positive familial history of cancer.

In contrast, a large percent (42%) of the surveyed GPs disagreed with the early detection of prostate cancer neither for the whole population of healthy men nor for men with positive familial history. In terms of the reasons for their disagreement, they had more concern about controversial aspects of prostate cancer screening and also
therapeutic consequences of the early detection of prostate cancer in healthy men. The results of this survey showed that there was a debate and uncertainty around the efficacy of the early detection of prostate cancer.

From this perspective, previous research has demonstrated that screening of prostate cancer is one of the most controversial practices in health care and guidelines from health professional and health policy makers are contradictory (Wilbur 2008). This uncertainty presents a difficult choice for both patients and physicians. On the one hand, patients desire to prevent potential prostate cancer, while on the other hand physicians wish to avoid morbidification of the population and thus overloading the health care system. Therefore, gaining a better knowledge of physicians' practice patterns seems necessary, in order to be able to utilize the limited resources of society to achieve the utmost preventive targets.

### 9.4. GPs' current practice for the early detection

Regarding GPs' practice patterns, it was aimed to answer which approaches were used by them in general and what is their preference in managing different scenarios. The principal screening tests for prostate cancer, as discussed before, are the digital rectal examination, prostate specific antigen test, and transrectal ultrasound (Cooper et al. 2004; Melia 2005), and previous researchers have demonstrated that there was not a unique policy to use these approaches in different countries. However, due to the lack of a guideline for the early detection of prostate cancer in Iran, the ethical aspects of using of such tests may be questionable.

The aims of this study were not to evaluate the sensitivity and/or specificity of these tests, but to obtain an overview about using these different detection approaches
from GPs' perspectives in general and their practice patterns in particular scenarios. Over 72% of the GPs surveyed were interested in ordering PSA and/or US tests in terms of their current practical approaches in general. Previous research has supported that GPs' often preferred to use PSA and/or US for the early detection of prostate cancer (Melia et al. 2004; Brett et al. 2005). However, in this study, the GPs often preferred to do a PSA and/or US for asymptomatic men presenting with a family history or men presenting with lower urinary tract symptoms. From participated GPs' perspectives, the practice patterns in the early detection of prostate cancer at the early stage often focused on the high risk group men rather than on healthy men in general.

However, regarding their current practices in particular scenarios, counselling was the main and the most common preferred approach for all cases. In this regard, previous research has illustrated that 90% of GPs would discuss the advantage and disadvantage of the early detection of prostate cancer (Brett et al. 2005). Recent study by Ross (2008) and his colleagues demonstrated that there was a significant association between physician-patient discussion and increasing the rate of screening tests in African-American men.

The physician-patient discussion has been surrounded by some scientific arguments in the controversy over the early detection of prostate cancer. There was a debate about the seriousness of progressive prostate cancer (Neal et al. 2000). In addition, PSA has a report sensitivity of up to 90%, but there is lack of evidence regarding its true specificity (Thompson et al. 2005). Moreover, there is limited evidence that screening for prostate cancer reduces morbidity or mortality. Randomized, controlled trials addressing the health benefits of screening are under...
way in the United States and Europe, but the results are not available now (Wilbur 2008).

9.5. Psychosocial triggers & barriers

The surveyed GPs believed that detection of prostate cancer was influenced by some psychosocial factors. These factors indicated the trigger or barrier roles of men, his wife, GPs, and Health System in the detection of the disease.

9.5. 1. Men’s role

According to the GPs’ perspectives, men are able to have a passive or an active role through the detection of prostate cancer. Understanding of these paradoxical roles seems to be important in terms of being barrier or trigger. More than 76% of the surveyed GPs believed that being aware of prostate cancer was a motivating factor in men becoming active in the detection process of the disease. In contrast, the same percent (76%) of them believed that men’s lack of knowledge was one of the important barrier factors in the detection process. These findings were consistent with previous studies which have demonstrated that the lack of knowledge is the main barrier to participation in the early diagnosis of prostate cancer among men (rnold-Reed et al. 2008; Rajabu et al. 2007; Schulman et al. 2002). Therefore, earlier detection and treatment of the disease could be facilitated by improving men’s knowledge using different strategies such as presenting information (McCormack et al. 2009).

Having positive familial history of or hereditary susceptibility to prostate cancer was a significant socio-cultural trigger role in promotion the early detection of
prostate cancer (Bratt et al. 2000). The participated GPs believed that healthy men in families with hereditary prostate cancer desire more to know about their risk. This finding has highlighted the need for an appropriate strategy of detailed information to men with a positive familial history of prostate cancer. However, there is an ethical dilemma to inform relatives about inherited susceptibility to prostate cancer when there was a controversy about the efficiency of available preventive methods.

The findings revealed that socioeconomic status was able to influence the processes of prostate cancer detection. Miller et al. (2009) have demonstrated a relationship between low income and severity of prostate cancer. As they reported, more than 51% of low income men had PSA level more than 10ng/ml with Gleason score greater than 7. This factor seems to be related with lower knowledge of the disease among men living in the low social area (Deibert et al. 2007).

From the social and cultural contexts, the participated GPs indicated that men often try to use some socio-cultural strategies including denial and minimization to manage their health problem. Previous studies have consistently found that men do not like to express their symptoms and are more reluctant to talk about their physical dysfunctions unless in a really serious problem such as acute urinary retention (Chappie & Ziebland, 2002; Kelly 2004). The findings of these studies have strikingly shown that men often seek professional help less than do women. Masculinity seems to be a possible mediator of seeking-help behaviours (Nicholas 2000). These behaviors seem to be more visible regarding men’s sexual functions. Burns and Mahalik (2008) have demonstrated that men with poor sexual functions end up with negative social roles and poor mental health. Beyond the sex difference, men’s seeking can be considered as a product of masculine role socialization which means
those men's help-seeking behaviours and attitudes are generated from socio-cultural values, norms, and ideologies. From this perspective, the GPs believed that men were embarrassed to talk about their urinary or sexually problems such as incontinence and impotence, often preferring to select denial, and/or minimization to reluctant seeking care by men in the process of prostate cancer detection.

9.5. 2. Wife's role

The findings of this study demonstrated that the GPs believed that the wife had an important role through the processes of prostate cancer detection. This role was significant in terms of persuading men in seeking medical care and providing emotional support through the detection process. Moreover, the GPs surveyed thought that this role was observable in the high social area where women were more educated and knowledgeable about prostate cancer than the women from low social area. In this regard, the findings from a qualitative study by Madjar et al. (2007) illustrated that women know that by the early detection of prostate cancer, it was possible to offer better therapeutic opportunities and able to improve men's survival. From this perspective, wives, as family health manager, are often seeking information about their husbands' symptoms and encouraging men to change their attitudes regarding seeking help and supporting them to investigate medical care. It is also possible that educated Iranian women are more confident and are better able to engage at a similar level with doctors than uneducated women.

The previous study's findings were in agreement with the important role of wife in decision making of prostate cancer (Sriangam et al. 2003). The present study contributes to our different understanding of the Iranian women's role in the decision
making. On the other hand the participated GPs emphasized on the emotional role of wives to encourage men in seeking care. Overall, this study indicates that women need to be informed about primary care of prostate cancer.

In addition to the roles of man and his wife in the processes of the early detection of prostate cancer, there were some factors which can be play alternative roles through the detection such as the role of health professionals and health system. The roles of GPs and Iranian Health System were discussed in more details within the following statements.

9.5. 3. GPs’ role

Previous studies have demonstrated that GPs can play a critical role through the processes of primary cancer prevention (Dileep et al. 1995; Fowler et al. 1998; Hanks et al. 2008; Summerton 2000; Tyler & Snyder 2006). This role can be identified in all level of primary cancer prevention such as advocate, facilitator, supporter, educator, counselor, making decision, referring to specialist, and giving palliative care. The role of GP can be influenced by various factors. This study highlighted some of these factors from social and professional perspectives.

From GPs’ social perspective, the GPs’ position in the primary cancer care setting was of the main factor. The findings revealed that there was lack of clarity about GPs’ position in the processes of primary cancer care. In this regard, GPs played a marginal role through these processes. The majority of the participated GPs thought their passive role in the processes of cancer care setting has resulted from specialization. In other words, specialization had decreased the weight and authority of GPs in the management of chronic and cancer diseases.
Nowadays, beyond the clinic, specialists have a maximum authority in Iran Health system and society. However, they are often focusing on therapeutic procedures of cancer among symptomatic cases rather than considering on preventive procedures on asymptomatic men for early detection of the disease. For example, specialists (Urologists and Oncologists) are usually involved with the advanced stage of prostate cancer, and therefore, they often neglected to be considered the much broader prevention aspects of prostate cancer at the early stage.

The delivery of primary care services is considered essential in order to improve the quality of interventional procedures of prostate cancer detection. This study focused on the need to ensure that care is accessible and provided by expert professionals. The findings of the qualitative study showed that GPs can be a central point of primary cancer care. This survey asked GPs to specify why they imagined that they are able to have an important role in the detection process of prostate cancer. The results showed that accessibility and being expert were two interventional triggers from GPs’ perspectives. Nevertheless, the existence of some barriers such as lack of policy, lack of time, and insufficient referral system resulted in GP taking a passive role through the detection processes of prostate cancer.

To improve the primary cancer care, the surveyed GPs recommended three strategies in three levels. 1) Political strategy to provide primary cancer care services as a new social order by the Iranian government. In this level, it seems that to be necessary to identify a new philosophy of primary cancer care in Iran. This philosophical point must be viewed from the issue of an individual involvement along with governmental responsibility. In this regard, GPs occupy a critical position in the national cancer prevention programs. From this view, the majority of surveyed GPs
recommended to have an active role in the concept of the primary cancer care. 2) Screening policy strategy to identify screening priorities by health policy maker. In this regard, they recommended primary cancer services for the high risk groups such as men with positive familial history or cases with suspected cancer symptoms. 3) Practical strategy to provide a guideline of cancer prevention by GPs. In this regard, they recommended cancer counselling service as the main practical pattern to improve patients’ knowledge, attitudes, and behaviours through the processes of cancer detection and treatment. These recommendations were discussed in more details in the final discussion and conclusion chapter.

9.6. Conclusion

This survey contributes to our greater understanding of the early detection of prostate cancer in Iran. This study cleared the GPs’ positive perception in terms of the early detection of prostate cancer. Moreover, it became clear which practical patterns GPs were often used in clinic to manage their patients. Beyond the clinic, the data of this study revealed the psychosocial barriers and triggers of the early detection of prostate cancer by exploring the role of men, their wives, and GPs. Although this survey has explored some aspects of the early detection of prostate cancer in Iran, there are still a huge number of issues which are needed to studied from patients, specialists, and health policy makers’ perspectives.
Chapter 10: Overall interpretation & Conclusion
10.1. Introduction

This chapter starts with illuminating various integration techniques which were applied in the different levels of data analysis. Then the integrated findings from qualitative and quantitative inquiries are discussed. I go forward with discussing the implications for primary cancer care. The strengths, contribution of the study findings to theory, methodology and knowledge and also limitations of the study are elaborated later. I finish the chapter with the recommendations for future research and conclusion.

10.2. Data integration

Two integration techniques were applied in different levels of analysis including theoretical integration and exploratory integration (Corbin & Strauss 2008; Creswell & Plano Clark 2007).

1. Theoretical integration technique was applied to integrate the findings from men and GPs’ interviews to discover the interrelationship of core categories emerged from two parts of qualitative study (phase 1).

2. Exploratory integration technique was used for different purposes at three stages of the study including:

   a) To design the survey questionnaire for the quantitative study (phase 2) by integrating the qualitative findings from the phase I,

   b) To understand the social constructions of the early detection of prostate cancer by integrating the qualitative and quantitative data from both datasets, and
c) To illustrate the implication strategies for the early detection of prostate cancer in Iran based on findings from both phases of the study.

10.2.1. Theoretical integration

Theoretical integration was accomplished at the end of phase 1 of this study in which a qualitative study using grounded theory methodology was conducted. Phase I itself consisted of part 1 and 2. The former was focused on exploring Iranian men's and the latter investigated Iranian GPs' perceptions and experiences in the process of early detection of prostate cancer.

In part 1, in which Iranian men's perceptions and experiences about the early detection of prostate cancer were explored; three major categories (phenomena) including 1) making sense of the illness, 2) seeking help, and 3) seeking diagnosis were developed. The core category in this process was "seeking to know the illness". These findings demonstrated a continuous social process in the detection of prostate cancer which resulted in confirming diagnosis. It is notable that through the process of prostate cancer detection, men's perception gradually transformed from an individual issue to a social concern.

The processing of prostate cancer detection could be elaborated as three stages including 1) the illness processing, 2) the sickness processing, and 3) the disease processing.

According to the study findings, "The illness processing" was the first stage of men's perception, which focused more on individual aspects of the illness than the physical aspects of masculinity being the main social concept affecting the duration of
the process. Indeed, the main phenomenon of this process was named "making sense of the illness" which often resulted in delayed detection of prostate cancer.

“The sickness processing” was the second stage of men’s perception. At this stage, men’s perceptions focused more on social aspects of prostate cancer and masculinity with its social dimensions highlighted. The main social concept of sickness processing was social identity. The core phenomenon of this process, named “seeking help” begun through the disclosure of the symptoms.

“The disease processing” being the final stage of men’s perceptions, focused more on psychosocial aspects of prostate cancer. The main phenomenon of this process was named “seeking diagnosis”. Through this stage, men’s ill health issue converted from a prostatic disorder to a suspected malignancy.

In Part 2 of Phase I of this study, Iranian general practitioners’ perceptions and practices in relation to the detection process of prostate cancer were investigated. The concepts concerning, different aspects of the early detection of prostate cancer emerged and following categorization of the emerged concepts, four major categories (phenomena) were developed including 1) observation, 2) communication, 3) reflection, and 4) making decision. The core category of this process was named "interacting to assess the risk of prostate cancer". These phenomena developed over time and resulted in “referring” which was the consequence of this process.

Based on the study findings, GPs’ interactions through the process of prostate cancer detection were conceptualized as a sequential process at two stages including 1) professional interaction process 2) social interaction process.
According to the study findings, "professional interaction process" was the first stage of GPs interaction. In this stage GPs mainly focused on "observation" and "communication". In this level, GPs were involved with clinical and practical issues of the disease and attempted to assess the clinical findings and to deal with the etiopathology of the symptoms in order to manage the detection.

However, through social interaction process, GPs mainly concentrated on "reflection" and "making decision". In this stage GPs attempted to make communication with patients to recognize their problem. The level of this relationship depended on the GPs' clinical knowledge and technical skills as well as the nature of the social construction of the relationship which existed between them in Iranian society.

10.2.2. The social construction of the early detection

The qualitative and quantitative data were analyzed and presented separately in the previous chapters. Nevertheless, mixing two qualitative and quantitative datasets was carried out to provide a better understanding of the social constructions of the early detection of prostate cancer, as by integrating the results a more robust and complete understanding is possible than the use of either data source alone (Ruffin et.al. 2009). In this regard, the convergences in qualitative and quantitative data are discussed in the following paragraphs to end up with a well-substantiated conclusion about the early detection of prostate cancer.

Merging two datasets demonstrated that the early detection of prostate cancer was a paradoxical issue in Iran. According to the qualitative data, there was an inconsistency in GPs views regarding necessity of the early detection of prostate
cancer. However, on the basis of quantitative dataset, 58% of the surveyed GPs agreed and 42% disagreed with the early detection of the disease. It was one of the aims of this study to understand that to what extent the social constructions of this issue are able to influence the early detection of prostate cancer. To have an overall view, the data related to social constructions of the early detection of prostate cancer in qualitative and quantitative datasets were integrated and is presented below as three categories including 1) the professional constructions, 2) the lay constructions, and 3) the cultural constructions.

10.2.2.1. The health professional construction

The findings of this study illustrated that health system, GPs, and specialists were the main components which made the health professional constructions of the early detection of prostate cancer. According to a recently published study in Iran, cancer is the third cause of death, after coronary heart disease and accidents (Mousavi et al. 2009; Pourmand et al. 2007). The incidence of cancer expected to be increase in Iran due to increasing life expectancy and developing a National Cancer Registry which was launched in five provinces as a pilot program in the early 2007 (Mousavi et al. 2008). By increasing the incidence of cancer in two future decades, the health system would not be able to respond the therapeutic demands of advanced stages of cancer. Therefore, the first priority of Iranian health system would be to concentrate on the primary prevention program.

I argue that the Iranian Health System needs to fill many gaps in cancer care including lack of an independent national cancer setting, lack of cancer control strategy, and lack of screening policy for prevention of common cancers. Moreover,
as cancer preventive programs will take a long period of time to be written and implemented as well as its financial burden, it is not interested for many politicians to be involved in such program. In addition, due to low reported incidence of prostate cancer, there is a lack of concern in health policy makers about prostate cancer in terms of being a health priority, in comparison with other cancer diseases such as colorectal cancer.

GPs and specialists are the other components of the health professional construction. In caring for cancer, GPs often concern for the preventive aspects, while specialists are more concentrated on therapeutic aspects of the illness. Previous studies demonstrated a significant role of GPs in screening, referring, managing and following up the cancer (Hanks et al. 2008; Tyler et al. 2006). In spite of this definite potential role, there is a lack of a well defined position for GPs in the professional construction of cancer care in Iran. In this regard, specialization has obliterated the role of GPs. Therefore, all levels of prostate cancer cares are being covered by the specialists. This health structure has resulted in more concentration on therapeutic aspects of cancer instead of its preventive cares.

The convergent findings of this study revealed that GPs despite having motivation, interest and expertise to manage preventive program and implement early detection measures for cancer diseases, particularly prostate cancer, are not employed for these purposes. The findings also highlighted that GPs’ practice is according to their individual’s thought and experiences. Indeed, there is no organizational guideline that GPs have obligation to adhere with. Additionally, GPs are not supported by insurance agencies and if they order screening tests like PSA they would not be paid by these agencies.
Previous studies in developed countries have revealed that GPs could have a crucial role in prostate cancer screening (Hanks et al. 2008; Tyler & Snyder 2006; Wee et al. 2005). It means that like specialists who are key professionals for treatment of cancer diseases, GPs could have the central and main role in cancer preventive cares. It is important to note that considering the presence of thousands of unemployed GPs in Iran, the Iranian health systems have the capacity to utilize GPs enormous potential abilities and expertise to implement national cancer preventive programs, however they would need training. It is notable that findings of this study showed that specialization can act as an obstacle to achieve to this goal. Though providing care by specialists rather than GPs might be a kind of promoted health care delivery, however, the role of GPs as the first level of care providers in the society that the majority of people have an easy access to them, should not be ignored.

There are different strategies between work domains of the specialists and GPs. Basically, the main focus in the specialists’ practice is therapy and in this domain the symptomatic patients are usually the ones who come themselves to the physicians and seek treatment procedures. Whereas in GPs practice, the core centre of attention is preventing from illnesses which have not been appeared yet or the client does not consider them serious. Consequently, in these circumstances GP is the one who cares about client and tries to encourage them to be cautious and alert about their health. Of course, health system’s appropriate strategies could help GPs’ position to be recognized in the health system, although GPs’ may experience challenges until the time this goal is achieved.
10.2.2.2. The lay construction

Both qualitative and quantitative studies highlighted the role of another social construction, i.e., lay system in the Iranian society. Regarding the lay construction of the early detection of prostate cancer, convergent data in both dataset has demonstrated a significant role of wife through the detection process. Previous studies (Campbell et al. 2004; Carlson et al. 2001; Madjar et al. 2007; Srirangam et al. 2003) have shown the role of wives in developed countries in which the equality of men and women is an accepted social construction. However, this study has revealed the role of wives in a male-dominant society like Iran. On the basis of this finding, the researcher imagines that the key of men’s health is in wives’ hands. For this reason, wives’ role in the early detection of illnesses particularly prostate cancer should be recognized by policy makers, health system managers and socio-cultural and religious organizations and also media. As a result, by planning appropriate educational programs in order to making women aware of health issues families would be protected against diseases.

The second factor in the lay construction was the role of friends. There was a divergence between the findings of qualitative and quantitative results. Men with prostate cancer in their narratives expressed that friends particularly those who had already experienced the disease and were involved with its post-treatment side-effects like impotency and incontinence impeded them from following their suspicious symptoms or continuing the treatment. GPs who participated in survey did not mention the role of friends in the process of prostate cancer detection or treatment. Probably the reason is that men did not taken part in the quantitative part of study, so that difference of opinion was seen.
10.2.2.3. The cultural construction

Cultural issues are the third social construction in relation to the early detection of prostate cancer. The findings of both qualitative and quantitative phases of study revealed masculinity as an important socio-cultural construction. Various studies have discussed the issue of masculinity in the context of prostate cancer diagnosis and treatment (Broom 2005; Burns & Mahalik 2008; Chapple & Ziebland 2002; Oliffe & Thorne 2007; Wall & Kristjanson 2005). However, the majority of studies has addressed its negative aspect and has known it as a risk factor for men’s health. The findings of this study showed that masculinity in Iranian culture is a concept that may have positive or negative meaning depends on the level of patient’s justification regarding the medical procedures related to prostate cancer. For instance, if a man feels that doing digital rectal examination is a kind of disrespect, he would not agree to be examined. However, if he feels that it may help his illness to be diagnosed, he will allow physician to do the examination. Another example is that if a man knows that with radical prostatectomy he would suffer from impotence and impaired sexual relationship afterward, but his social identity would be kept, he could tolerate the surgery easier. Therefore, though masculinity may be a threat for men’s identity which could act as a barrier for men’s health, however, with counselling men and specially their wives in relation to the importance of such procedures for their health, they could cope with this change with less difficulty. To sum up, approaching the patient as a couple which means engaging, instructing and justifying both husband and wife as a unit could facilitate the process of prostate cancer detection. In other words, creating a balance between masculinity and femininity would be resulted in an emotional and social balance that could solve men’s health issues.
10.2.3. Implication for primary cancer care

The findings of this study in both qualitative and quantitative phases revealed an organizational gap in accepting the responsibility of providing preventive cares for cancer diseases in general and prostate cancer in particular in Iranian health system. Considering increased age of general population and enhanced life expectancy, it seems that the incidence of chronic diseases including cancer in Iran is going to be increased. For this reason, the available health system, which has been set up according the needs of previous decades, could not cover all the health requirements of present general population. Therefore, this system either should be reorganized or at lease launch new divisions to meet current health care needs.

The findings of this study highly recommend establishment of a new sector in the Iranian health system entitled: "primary cancer care" to address primary prevention in relation to the cancer diseases. However, it seems that launching such services needs convincing senior policy-makers in the state and parliament in addition to the health system managers. To be succeeding in this mission, conducting more qualitative studies looking at social, economical and medical aspects of this subject would be necessary.

To complete this political strategy, two planning strategies are recommended based on the findings of this study. The first one is establishing primary cancer care, which should cover common cancers in Iranian population. As it was mentioned before, the recent studies have demonstrated that prostate cancer is the third common cancer among Iranian men population besides skin cancer (Mousavi et al. 2009; Pourmand et al. 2007). These reports have indicated the necessity of planning of the
early detection program for the most common cancers. Additionally, the time of providing primary cancer care services could be at the particular times like on pre-employment medical examinations and examinations before retirement. It can also be carried out as annual compulsory check up for men who are in 5th, 6th and 7th decade of their life. To deal with organizational or financial issues of this program, it can be suggested to offer primary cancer care, at least, to all high risk men including men whose age are ≥ 50 and/or have a positive family history of prostate cancer plus men with suspicious urinary or metastatic symptoms.

This study also suggests two practical strategies including GPs and men's involvement in this program. The findings of this study and previous studies have shown that GPs could have an important role in giving primary cancer care (Hanks et al. 2008; Tyler & Snyder 2006; Wee et al. 2005). Identification of GPs' role in this program can fill the gaps resulted from absence of professional workforce to implement this program across the country. GPs are accessible even at the farthest villages and have the knowledge and expertise to provide primary cancer care.

In relation to men's involvement in this program, the results of this study and other studies have found that men mainly do not care about their health and are reluctant to ask for help (Addis & Mahalik 2003; Roberts et al. 1994; Taylor et al. 2006). In addition, their knowledge about health issues particularly prostate cancer is poor. Therefore, for enhancing their knowledge, the following approaches are recommended:

1) Providing counselling services for primary cancer care by GPs. In this approach all men who refer to GPs for any reason, should be assessed in terms of
cancer diseases and their information should be recorded in particular forms planned for this purpose and kept in patients' file. In this approach, it is essential that GPs be trained in terms of appropriate counselling methods to be able to motivate men and give them basic and required information and avoid personal style of education, which might be insufficient. The most important index for evaluating GPs' practice in this program would be the number of men who receive counselling for primary cancer care.

2) Providing counselling services for cancer prevention through trained wives. This approach could be done via health system across the country. The easiest way is that all women who refer to health clinics to receive any health services such as prenatal care, vaccination, breast feeding education, family planning, breast or cervical screening or menopause counselling could be given educational leaflets or instructional booklets that contain brief, clear and understandable information regarding high risk men for prostate cancer and the ways of prevention and early diagnosis of the illness. In addition, they can be encouraged to go to GPs to receive professional counselling services. In this approach, it is suggested that husbands' feedback are taken from wives in the next women's appointment and given additional information and guidance if it is necessary.

3) Giving information about prostate cancer to men through different manners including media. Television and radio for the reason that are used widely could be a good source for giving information to men about prostate cancer. Information can be given through family education programs in the morning for housewives, documentaries or movies in the evenings for men and advertisements between attractive TV programs. Newspapers and magazines also could make people
aware about prostate cancer. In this relation, the researcher has made decision to publish a series of articles at the public level regarding prevention and early detection of prostate cancer in one of the local newspapers in Mashhad, named Qods.

Another proposed approach could be educating men in religious rituals. A good example of these rituals is travel to Mecca for Hajj. Around one million pilgrims travel annually to Mecca and according to the Iranian Hajj Organization, all pilgrims must be examined by a GP. Considering that most of the pilgrims' age is $\geq 40$ years, there is a good opportunity for GPs to advise and counsel men regarding common cancers including prostate cancer, in addition to their routine clinical examinations. Most of these GPs are able to meet these pilgrims after returning from Hajj, so that would be able to follow high-risk men for early detection.

In conclusion, to convince policy makers to implement these recommendations, it seems necessary to replicate this pilot study in a national level and then according to their findings plan for launching a national primary cancer care program.

10.3. Strengths and Limitations of the study

Reliance on a mixed method approach as the research methodology was associated with several benefits and challenges, which was found to be a productive way to document the phenomenon of interest in its entirety (Dunning et al. 2007, cited in Dubois 2009). These issues are discussed below as strength and limitations of the study.
10.3.1. Strengths

One of the strengths of this study was adopting a mixed methods design. This study followed a mixed qualitative-quantitative sequential design named "Exploratory design: Instrument Development Model" in which one research approach was treated as the primary and the other as an adjunct for further examination of the findings obtained by the first approach (Dubois 2009). In this study, the qualitative data were given priority, which allowed for the findings from the qualitative study to guide development of questionnaire used in the quantitative part of study. Prioritizing of qualitative design helped researcher to gain insight into the unexplored arena of prostate cancer screening in Iran and allowed him to investigate this issue thoroughly applying in-depth interviews with patients and GPs. Conducting a survey afterward helped the researcher implement and validate the developed instrument quantitatively (Creswell & Plano-Clark 2007). Additionally, integrating the findings from qualitative and quantitative inquiries at the interpretation phase of this study, which was in line with mixed sequential studies, gave more robustness and strength to the findings.

Having chosen grounded theory as the methodology of qualitative phase of this study was another strength of this research, which was new in reviewed literature regarding prostate cancer screening. Using Grounded theory permitted researcher to look at the process of early detection of prostate cancer as a social process and investigate the interactions between patients and GPs in this context in Iranian society.
The other strength of this study was that although a sequential design does not specifically require a theoretical perspective (Creswell 2003, cited in Dubois 2009), social constructionism was used as the theoretical perspective in this study, as it was a useful guide for conducting the research in the context of Iranian society with its particular social constructs.

Including both GPs and patients in the qualitative phase of this study in order to explore their interaction in the process of early detection of prostate cancer in addition to gain insight into their individual’s perceptions and experiences, was further evidence for this study strength.

Collecting data from two large referral hospitals in Mashhad, which admitted the majority of patients with cancer diseases in the East of Iran, provided a good diversity of patients included in this study. Furthermore, GPs who participated in this study were recruited from general practitioners who worked in both governmental and private sectors and charities, so that they were diverse in terms of their work experiences. This sort of recruitment could help generalization of the findings to a larger population.

Finally, it is important to note that this study has had some sorts of originality, which are highlighted below as the contributions of this study to the theory, knowledge and methodology.

10.3.1.1. Contribution to theory

The intention of adopted methodology in this research, i.e. grounded theory is exploring the social processes that present within human interactions and its primary purpose is to develop a theory about the dominant social processes (Streubert &
Carpenter 2003). In line with this goal, Iranian men’s perceptions were conceptualized as a sequential theoretical scheme entitled "Men’s perception processing of prostate cancer detection". This theoretical scheme demonstrates a continuous social process in the detection of prostate cancer from men’s perspective. It articulates three periodical phenomena which happened for men through the early illness experiences including making sense of the illness, seeking-help and seeking diagnosis of the disease. The basic social process in this process was “seeking to know the illness”. It means that men struggled to know their illness through the process gaining knowledge of different sources. This attempt was resulted in transformation of their lay information to an informed awareness, which helped them to make an appropriate decision regarding their illness management.

GPs experience and interaction were theorized as another theoretical scheme named: “GPs’ interactions process of prostate cancer detection”. This theoretical scheme consisted of two major phenomena including “professional interaction process” and social interaction process. At the first stage GPs mainly focused on “observation” and “reflection” and through the second they mainly concentrated on “communication” and “making decision”. The basic social process in this scheme was “interacting to assess the risk of prostate cancer”. These phenomena developed over time and resulted in “referring” which was the consequence of this process.

The integration of these two basic social processes was resulted in informed decision-making in the process of prostate cancer detection achieved by a mutual interaction between GPs and men. Such theoretical schemes help to bring a greater understanding of how patients with prostate cancer and their GPs interact together in the process of early detection of prostate cancer and how this interaction could help
them in making an informed decision. In addition, it alerts health system about GPs' important role in the primary cancer care teams.

10.3.1.2. Contribution to methodology

This study employed an exploratory mixed methods design with both qualitative and quantitative data collected, but with a priority given to the qualitative analysis (Creswell & Plano-Clark 2007). Although the approach of integrating both data sources together is gaining popularity in the health and social sciences (Ruffin et.al. 2009), but it has still been applied just in a few studies in the field of cancer care. To the best of my knowledge, no similar study is found in the literature and this study represents the first attempt to rely on a mixed methods approach to examine the perceptions and experiences of men with prostate cancer and their GPs in the context of early detection of prostate cancer. In addition, adopting grounded theory as methodology underpinned by social constructionism as its theoretical perspective, which directed the researcher to explore Iranian social constructions in relation to prostate cancer, is an original contribution to the methodology in this field. Hence, its results could provide a new and valuable insight in this research area.

10.3.1.3. Contribution to Knowledge

Although some of the findings of this study are compatible with the findings discussed previously in the literature review and discussion chapters (chapter 6 and 8), but its main contribution to knowledge is presenting a broad perspective of different biopsychosocial dimensions of the early detection of prostate cancer.

This study explored the process of the detection of prostate cancer from men’s perspective. The core category of this process was seeking to know the illness which
was processed through three stages including 1) the illness process, 2) the sickness process, and 3) the disease process. These broad ranges of men’s perceptions have not been previously discussed in literature. So, it seems that it is an original contribution to the knowledge in terms of men’s perception to elaborate decision-making of prostate cancer detection particularly in the context of Iranian health system.

This study also highlighted the role of GPs through the detection of prostate cancer. The core category of this process was named GPs’ interaction to assess the risk of prostate cancer which was processed in two stages including 1) professional interaction and 2) social interaction. These broad ranges of GPs’ interactions have not been previously discussed. So, it seems that it is an original contribution to the knowledge about the role of GPs in the detection of prostate cancer.

The findings of this study suggested a various range of the social constructions of prostate cancer detection in Iran including 1) the health professional constructions 2) the lay constructions and 3) the cultural constructions. The most important health professional construction was the role of specialization as a barrier in the process of early detection of prostate cancer which could act as an obstacle to achieve prevention of prostate cancer instead of treatment. The main lay construction was the role of wife in the male dominant society of Iran which was a trigger in the early detection of the illness. Masculinity was also found as the key cultural construction in the process of prostate cancer detection.

This study suggested the implication of political, practical strategies in the planning of prostate cancer detection. Political strategy recommended establishing a new sector of primary cancer care in the Iranian health system. Practical strategy
suggested involving both men and GPs. Practical strategy includes involvement of men and GPs in the program of detection prostate cancer at early stage. Counselling was the main approach which was suggested to improve men’s involvement in the process of the detection by increasing their knowledge and changing men’s seeking help behaviours. Identification of GPs’ position was recommended to fill the gaps in Iranian health system to provide cancer preventive care at the early stage rather than to just provide therapeutic services for patients at the end stages of the disease.

10.3.2. Limitations

There were some limitations to the study, which might have implications for future research in the field of prostate cancer early detection. These limitations are discussed in two parts of qualitative and quantitative phases of study.

10.3.2.1. Qualitative study

In relation to the recruitment, participation in the qualitative phase of this study both for patients and GPs was voluntary and it seems to me that the patients and GPs interviewed may have different motivations, for any reason, to take part in this study. For instance, the GPs may have been more interested in chronic diseases in general and in prostate cancer in particular and therefore may not be representative of the views of GPs nationally. The other issue about recruitment was that the majority of patients were diagnosed cases of prostate cancer who have been receiving treatment. It is likely that conducting the same research in men who are in the early stages of investigation or men with no symptom or even healthy men would have different findings.
Regarding sampling, it is notable that although sample size was small in this phase of study, however, it should be considered that generally qualitative sampling consists of small sampling units studied in depth. Although there is no rigid rule for sample size, research texts often mention 6-8 data units for homogenous group and 12-20 for a heterogeneous sample (Holloway & Wheeler 2002). In this study, 12 participants of each group of patients and GPs were recruited. Notably, the key point in qualitative sampling is developing a dense description of the phenomenon of interest, rather than using sampling techniques that support generalizability of the findings (Streubert & Carpenter 2003). For this reason, I tried to select informants who were “information rich” in the area of interest and so maximized the potential for identifying pertinent issues. Furthermore, conducting a large survey on GPs in phase II of study could somehow control this limitation.

With respect to data collection, although interviews are an effective way of identifying and exploring perceptions, results can be biased because the interviewer was a male GP. On the one hand, being a male GP could someway influence male patient-physician communication in Iranian society. In addition to hierarchical patient-physician relationship, specific prostate cancer discussion topics including common treatment side effects of impotence ad urinary incontinence could be highly emotive and value laden in terms of gendered ideals (Chappie & Ziebland 2002; Oliffe 2005 cited in Oliffe & Thorne 2007). To control this limitation I did not introduced myself as a physician at the beginning of interviews and then through conducting interviews tried to establish a sincere and truthful relationship with the patients. On the other hand, being known amongst the majority of registered GPs as a GP and PhD candidate, who is conducting a research, could have influenced the
answers of GPs taking part in this study. Another issue was that data collection was carried out in a limited period, as it was accomplished in Iran and I, as a full-time PhD student, had to return to the UK at a certain time according to the university rules and regulations.

Relating to data analysis, it may seem that conducting interviews in Persian language and then analyzing the translated data in English may influence the trustworthiness of analysis. The strategies used to minimize this threat were elaborated in chapter 4. In addition, the influence of the researcher’s own assumptions, work experiences, perceptions and understandings, as a general practitioner and as a male doctor on his interpretations in the process of data analysis in the qualitative phase of this study cannot be overlooked.

10.3.2.1. Quantitative study

There are several potential limitations to the quantitative phase of this study. One of those was that this study was the first study in Iran to determine baseline beliefs and practices of Iranian GPs working in Mashhad regarding prostate cancer. This study may not represent GPs views throughout the country. Future research should measure the views and behaviours of larger and more diverse groups of GPs. A second limitation was non-response bias in postal surveys, which could have impact on the precision and generalizability of study findings (MacDonald et.al. 2009). The study response rate was 51.37%, which was expected in a mailing survey. Applied strategies to minimize non-response bias in a mailing survey were explained in chapter 4. One of the issues, which should be considered regarding non-response error, is that physicians who responded to the questionnaires were potentially more interested, informed or experienced in various aspects of prostate cancer in
comparison with those who did not. In addition, the questionnaire was mailed to the GPs whose mailing address was available in Mashhad Medical Council. Thus, generalizability of the findings of survey to the whole GPs’ population may be limited. A further limitation was that this survey relied on self-report behaviours described by GPs. The extent to which this reflects their actual behaviour is not entirely known, because physicians tend to over-report their preventive care and screening practice.

Overall, it should be mentioned that the undertaking of two substantial studies with huge amount of qualitative and quantitative data mean that time and the complexity of analysis was challenging. The reason was that the qualitative phase of this study used grounded theory method of analysis which was too complicated and time-consuming for me having a positivist background and then analysis of a large survey data. Another prolonged part of analysis was integration of qualitative and quantitative findings to determine to what extent do both data converge?

10.4. Recommendations for future research

The findings of this study provided valuable knowledge about the early detection of prostate cancer from different perspectives. These findings confirmed and extend the information derived from pervious research and provided a baseline framework for the following studies:

1- A national or provincial research on the GPs and men’s perceptions about the early detection of prostate cancer to investigate the social process and interactions of the early detection of prostate cancer.
2- A survey on the GPs’ population to determine the extent to which what had been found by this survey could be further corroborated on a national scale.

3- An interventional study to declare the informed screening model which is developed from this study.

3- A longitudinal study to better understand of men’s perceptions and experiences through the detection process and period of making decision for treatment of the disease.

4- A qualitative study on specialists (Urologists & Oncologists) and GPs views to understand their perceptions about an appropriate guideline or policy for the early detection of prostate cancer in Iran

5- A qualitative or mixed methods study in relation to health policy makers and managers’ perspectives in relation to the problems surrounded the setting of a program on the early detection of cancer in Iran

According to the findings of this study, there is obviously a gap in Iranian health system to provide primary cancer care. Considering the results of this study and confirming them with further future research, the Iranian health policymakers could be able to justify the advantages and disadvantages of the early detection of prostate cancer and to plan appropriate programs to meet the primary cancer care requirements.
10.5. Conclusion

In conclusion, the findings of this study increase our understanding of how Iranian men perceive and experience the process of early detection of prostate cancer and how GPs interacts with them through in this process in the Iranian health system. The findings fill the gap in the body of knowledge clarifying the process of patients’ perceptions and GPs’ interactions through development of two sequential frameworks including “Men’s perception processing of prostate cancer detection” and “GPs’ interactions process of prostate cancer detection”. These two frameworks elucidate that while patients was seeking to know about the illness, GPs attempted to establish a reciprocal interaction between themselves and men through providing information and general discussions about different aspects of prostate cancer detection. These efforts were resulted in informed decision-making to follow the early detection of prostate cancer.

Considering that this study is the first attempt to understand the process of prostate cancer detection from patients and GPs point of view in Iran, further research will need to identify whether this study findings can be reproduced among individuals with more diverse socioeconomic backgrounds and differing socio-cultural constructs.
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Appendix 1: Information sheet
**INFORMATION SHEET (for General practitioners)**

**Study title:**
*An socio-epidemiological approach to investigate perceptions and experiences of Iranian general practitioners and patients on the early detection of prostate cancer.*

**Invitation:**

You are being invited to take part in a research study on prostate cancer. Before you decide, it is important for you to understand why the research is being undertaken and what it will involve. Please take time to read the following information carefully. Talk to others about the study if you wish.

**Part 1** tells you the purpose of this study and what will happen to you if you take part. **Part 2** gives you more detailed information about the conduct of the study.

Ask us if there is anything that is not clear or if you would like more information, please do not hesitate to contact me and ask your question(s). Take time to decide whether or not you wish to take part.

**Part 1**

**What is the purpose of the study?**

The purpose of the study is to explore the views of General Practitioners (GPs) about screening for prostate cancer and also to understand their experiences concerning the process of diagnosis of the disease. Concurrently, the views of men who have been diagnosed with prostate cancer and their experiences of the disease are also being explored.

**Why have I been chosen?**

You have been chosen because as a provider of medical services, your views are important as you play a crucial role in the detection and management of prostate cancer. Therefore, your views, beliefs, and experiences could help us in the early detection of the disease and to potentially increase the efficacy of prostate cancer screening in Iran.

**Do I have to take part?**

No. It is up to you to decide whether or not to take part. If you do, you will be given this information sheet to keep and be asked to sign a consent form. You are still free to withdraw at any time and without giving a reason. A decision to withdraw at any time, or a decision not to take part, will not affect your rights as GP.

**What will happen to me if I taken part?**

You will answer some questions about your beliefs and experiences regarding screening of prostate cancer. The most important point in this research is your real views, beliefs, practices, and experiences, rather than what you think or what your knowledge should be. Therefore, there is no right or wrong answer.

The interview will last about 30 to 45 minutes. It might be necessary to interview you twice. If it is necessary, the researcher will inform you whether you want to continue in the study. The appointments will be made in your usual workplace at your clinic.
What are the possible benefits of taking part?

The results of this study will help to gain a better understanding of the current beliefs, process of practices in relation to the detection of prostate cancer. Moreover, the information from your interview may help us to understand better in psychosocial processes of disease detection and interaction. Your contribution could also help service planners to devise a more effective service provision for prostate cancer in Iran.

Will my taking part in the study be kept confidential?

Yes. All the information about your participation in this study will be kept strictly confidential and will be used anonymously.

This completes Part 1 of the Information Sheet. If the information in Part 1 has interested you and you are considering participation, please continue to read the additional information in Part 2 before making any decision.

Part 2

What will happen to the results of the research study?

The results of the study will be disseminated through academic journals and conferences. If you would like to be made aware of the results, you can receive the information through direct contact with me.

Who is organizing and funding the research?

The University of Surrey will act as the sponsor of this research. The study has been funded by the Ministry of Health, government of Iran.

Who has reviewed the study?

This research project has been reviewed by Research Ethical Committee of the University of Surrey, and approval has been granted.

Contact details:
If you need any further information regarding the above study or have any questions, please do not hesitate to contact me.

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E-mail: a.taghipour@surrey.ac.uk and a_taghipour@hotmail.com
Study title:
A socio-epidemiological approach to investigate perceptions and experiences of
Iranian general practitioners and patients on the early detection of prostate cancer.

Invitation:
You are being invited to take part in a research study on prostate cancer. Before you decide, it is important for you to understand, why the research is being done and what it will involve. Please take time to read the following information carefully and talk to others or members of your family if necessary.
Part 1 tells you the purpose of this study and what will happen to you if you take part. Part 2 gives you more detailed information about the conduct of the study.
Ask us if there is anything that is not clear or if you would like more information, please do not hesitate to contact me and ask your question(s). Take time to decide whether or not you wish to take part.

Part 1
What is the purpose of the study?
The purpose of the study is to explore the views of men who have been diagnosed with prostate cancer and their experiences of the disease.
At the same time the views of General Practitioners (GPs) about screening for prostate cancer and their experiences of the process of diagnosis of the disease are being explored separately.

Why have I been chosen?
You have been chosen because your experiences of having been diagnosed of the disease can help us to gain a better understanding of how people feel about the process of going through the disease.

Do I have to take part?
No. It is up to you to decide whether or not to take part. If you do, you will be given this information sheet to keep and be asked to sign a consent form.
You are still free to withdraw at any time and without giving a reason. A decision to withdraw at any time, or a decision not to take part, will not affect the standard of care you receive.

What will happen to me if I taken part?
You will answer some questions about your beliefs and experiences regarding screening of prostate cancer. The most important point in this research is your real views, beliefs, behaviour and experience, rather than what you think or what your knowledge should be. Therefore, there is no right or wrong answer.
The interview will last about 30 to 45 minutes. It might need to interview you twice. If it is necessary, the researcher will inform you whether you want to continue in the study. The appointments will be made in your usual workplace, your clinic or
your home to meet your convenience. Date, time and place will be agreed with you beforehand to suit you.

**What are the possible benefits of taking part?**

The results of this study will help to gain a better understanding of patients’ current beliefs and the processes and practices in relation to the detection of prostate cancer. Moreover, the information from your interview may help us to understand better in psychosocial processes of disease detection and interaction. Your contribution could also help service planners to devise a more effective service provision for prostate cancer in Iran.

**Will my taking part in the study be kept confidential?**

Yes. All the information about your participation in this study will be kept strictly confidential and will be used anonymously.

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عنوان تحقیق: مطالعه اپیدمیولوژی اجتماعی بر روی بارور و تجربه بیماران و پزشکان ایرانی راجع به تشخیص زودرس سرطان پروستات.

مقدمه:

بدینوسیله از شما دعوت می شود تا در تحقیقی در زمینه تشخیص زودرس سرطان پروستات شرکت فرمایید. قبلا از هر تمامی این نکته ممکن است برای شما مهم باشد که چرا این تحقیق انجام می گیرد و بدین جایی چیست تا بایستی یافتن پاسخ مناسب. یادداشت دنیا این برهک را به مطالعه افراطی چیزی و در صورت نیاز با دیگران نیز مشورت نماید.

این فرم اطلاعات شامل دو بخش است:

بخش اول: هدف این تحقیق چیست؟

پاسخ: هدف این مطالعه بررسی دیدگاه‌های پزشکان عومی راجع به غربالگری سرطان پروستات و نیز هم زمان بررسی دیدگاه‌های بیماران مبتلا به سرطان پروستات و نیز تجربیات آنها از هدف دیگر این مطالعه می باشد.

بخش دوم: چرا شما انتخاب شده اید؟

پاسخ: چرا همان انتخاب شده اید یا چیز دیگر نشان می دهد که این موضوع مورد انتخاب شما می باشد. این موضوع، درمان سرطان پروستات را دارد. لذا دیدگاه انتخاب تجربیات شما در دسترس داشتن روش مناسب برای تشخیص زودرس سرطان پروستات به چه ما کمک می کند و تنگ یا بهترین آن در غربالگری هدفمند و موثر بیماری در ایران خواهد داشت.

سوال: آیا الزامی برای شرکت در این مطالعه هست؟

پاسخ: خیر، این کاملا به شما یکی است که در این مطالعه شرکت نمایید یا نه. اگر مواقف شرکت شما مثبت باشد، این موضوع کاملا به شما یکی است که در این مطالعه شرکت نمایید یا نه.

سوال: در صورت تمایل به شرکت در این مطالعه، نشان شما در این کدام چیست؟

پاسخ: شما بایدها را جایی فراموش نمایید که تجربه‌های در سرطان غربالگری سرطان پروستات پاسخ خواهد داشت. نتایج مهم پرسی واقعیت و حقیقت دیدگاه‌های شما نسبت به موضوع است چند ارزیابی داشته و اطلاعات شما به اشتراحت یا گفتار ندارم.
پاسخ: نتایج این مطالعه در مجلات علمی و کنفرانس‌های پزشکی منتشر خواهد شد. در صورت تمایل به دریافت نتایج این مطالعه لطفاً با آدرس زیر تماس حاصل فرمایید.

سوال: سازمان دهده و حمايت کننده این مطالعه کیست؟

پاسخ: این مطالعه توسط کمیته اخلاقی دانشگاه ساری مورد بررسی قرار گرفت و به تایید نهایی رسید.

آدرس تماس:

<table>
<thead>
<tr>
<th>انگلستان</th>
<th>ایران</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dr. Ali Taghipour, PhD student, European Institute of Health and Medical Sciences (EIHMS), Duke of Kent Building (5th floor), University of Surrey, Guildford, Surrey, UK GU2 7TE</td>
<td></td>
</tr>
<tr>
<td>Tel: +44 (0)1483 682975 (0)1483 682541</td>
<td>Fax: +44 01483 6830634</td>
</tr>
<tr>
<td>Email: <a href="mailto:a.taghipour@surrey.ac.uk">a.taghipour@surrey.ac.uk</a> and <a href="mailto:a.taghipour@hotmail.com">a.taghipour@hotmail.com</a></td>
<td>Tel: 0511 8430634</td>
</tr>
</tbody>
</table>
| Email: 05118430249 | }

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برگه اطلاعات (برای بیماران)

عنوان تحقیق: مطالعه ایده‌پردازی اجتماعی بر روی بار و تجربه بیماران و پزشکان ایرانی راجع به تشخیص زودرس سرطان پستان.

مقدمه:
بدون‌سیله از شما دعوت می‌شود تا در تحقیق در زمینه تشخیص زودرس تومور پوستی شرکت فرمایید. یافته‌های این تحقیق، نکته ممکن است برای شما مهم باشد که چرا این تحقیق انجام می‌گیرد و بدنبال چیست؟ یا اینکه چیزی مربوط به این موضوع، لطفاً این برگه را بدقت مطالعه کنید و در صورت نیاز با دیگران نیز مشورت نمایید.

این فرم اطلاعات شامل دو بخش است:

بخش اول:

سوال- هدف این تحقیق چیست؟
پاسخ- هدف این مطالعه بررسی دیدگاه‌های بیمارانی که مبتلا به تومور پوستی شتافتند و نیز درک و درک تحقیق‌های تحقیقاتی این موضوع باشد.

هم زمان بررسی دیدگاه‌های پزشکان مبتنی بر این بیماری و نیز تجربیات آنها در این زمینه از اهداف دیگر این مطالعه می‌باشد.

سوال- چرا شما انتخاب شده اید؟
پاسخ- شما انتخاب شده اید زیرا دیگران شما به‌عنوان کسی که مبتلا به بیماری می‌باشید در درک بهتر احساس و احتیاجات کسانی که تاکنون به‌عنوان وسیلای فاز تشخیص بیماری شوند به‌عنوان مهم و بسیاری دارد.

سوال- آیا الزامی برای شرکت در این مطالعه هست؟
پاسخ- خیر، این کاملاً به شما بستگی دارد که در این مطالعه شرکت نمایید یا نه. اگر موفقیت شرکت هستید پس از مطالعه این گاه‌ها، شما در خواست امضاء تجربیت نامه می‌شود. به‌هر حال، شما مختار هستید در بر لحاظ و با مرجعی از این مطالعه و حتی بدون ارائه دلیل از مطالعه خارج شوید. همین‌جا عدم شرکت شما در این تحقیق هیچ تاثیری روی ارائه خدمات پزشکی به شما و نیز کیفیت آن نخواهد داشت.

سوال- در صورت تمایل به شرکت در این مطالعه، نقش شما در این تحقیق چیست؟
پاسخ- شما به تعددی سوال راجع به نظر، اعتقاد و تجربیات خود در زمینه غیربیماری تومورپوستات پاسخ خواهید داد. نکته مهم در این تحقیق بررسی واقعیت و حقیقت دیدگاه‌های شما تبیین به موضوع است. گاهی از این‌ها دردست‌پذیر است.
آین مصاحبه در حدود 30 تا 45 دقیقه از وقت شریف شمارا خواهد گرفت. ممکن است با اجازه شما نیز به مصاحبه مجد باشد که در آن صوت فارسی دوباره با شما ملاحظه خواهد شد. جهت راه اندازی مصاحبه و مکان مصاحبه بایستی نظر و دیدگاه شما تنظیم گردد.

سوال- فاقد احتمالی شرکت در این مطالعه چه می‌باشد؟
پاسخ- تاریخ این مطالعه به درک بهتر دیدگاه‌ها و سیر طبیعت پیامران در تشخیص زودرس پیاماری خواهد انجامید. مطالعه دیدگاه‌های شما به درک بهتر سیر روانی-اجتماعی پیاماری کمک خواهد کرد. بعلاوه مشارکت شما متأثرا توسط بخش بیماری درمانی کنونی را در تدوین یک سیاست جامع و برنامه‌ای هدفمند جهت درمانگری پیاماری کمک خواهد کرد.

سوال- آیا اطلاعات شما محرمانه خواهد ماند؟
پاسخ- یله، فقط اطلاعات راجع به شرکت شما در این مطالعه محرمانه خواهد بود و تمامی آنها بدون نام شما مورد استفاده قرار خواهد گرفت.

پخش دوم:

سوال- بر سر نتایج این مطالعه چه خواهد آمد؟
پاسخ- نتایج این مطالعه در مجلات علمی و کنفرانسهای پزشکی منتشر خواهد شد. دربردار صورت تمایل به دریافت نتایج این مطالعه لطفا به آدرس زیر تماس حاصل فرمایید.

سوال- سازمان دهنده و حمایت کننده این مطالعه کیست؟
پاسخ- این مطالعه توسط کمیته اعتقادی دانشگاه سازمان مورد بررسی قرار گرفت و به تایید نهایی رسید. آدرس زیر:

در صورت نیاز به اطلاعات بیشتر راجع به مطالعه فوق و با احیانی سوالی در این زمینه لطفا به آدرس زیر تماس حاصل فرمایید.

لیست:
a.taghipour@surrey.ac.uk and a.taghipour@hotmail.com

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ایران:
آدرس مربوط به دانشگاه:
دانشگاه علوم پزشکی شهید رودباری، تهران، IRAN

آدرس مربوط به بیمارستان:
بلندی آمار، تهران، IRAN

Tel: 0511 8430654
Fax: 0391 8430249
Appendix 2: Consent form
CONSENT FORM

Centre Number:
Study Number:
Patient Identification Number for this trial:

Title of Project:
A socio-epidemiological approach to investigate perceptions and experiences of Iranian general practitioners and patients on the early detection of prostate cancer

Name of Researcher: Ali Taghipour

Please initial box
I confirm that I have read and understand the information sheet dated .................for the above study. I have had the opportunity to consider the information, ask questions and have had these answered satisfactorily. □

I understand that my participation is voluntary and that I am free to withdraw at any time, without giving any reason, without my medical care or legal rights being affected. □
I understand that relevant sections of any of my medical notes and data collected during the study may be looked at by responsible individuals from University of Surrey, where it is relevant to my taking part in this research. I give permission for these individuals to have access to my records. □
I agree to my GP being informed of my participation in the study. □
I agree to take part in the above study. □

____________________________  _____________________  __________________
Name of Patient          Date          Signature

____________________________  _____________________  __________________
Researcher               Date          Signature

When completed, 1 for patient; 1 for researcher site file; 1 (original) to be kept in medical notes.
Consent form (Translated to Persian)

رضایت نامه

شماره مرکز:

شماره مطالعه:

شماره شناسایی بیمار:

عنوان تحقیق: مطالعه ایپسیمولوژی اجتماعی بر روی بیماران و پزشکان ایرانی راجع به تشخیص زودرس سرطان پروستات.

محقق: دکتر علی تُری پور

1. بنده گواهی می‌کنم که برگه اطلاعات تحقیق فوق را مطالعه کرده و مطالب آن را فهمیدم و با رضایت خاطر به سوالات پاسخ می‌دهم.

2. بنده گواهی می‌کنم که شرکت بنده در این تحقیق داوطلبانه بوده و مختارم در هر زمان، بدون بیان هیچ دلیلی و بدون هیچ تأثیری بر روی مراقبت های پزشکی ام از آن خارج شوم.

3. بنده موافقت می‌کنم که اطلاعات پزشکی ام در اختیار محقق فوق از دانشگاه ساری، کشور انگلستان، قرار گیرد.

4. بنده موافقت شرکت در مطالعه فوق می‌پاشم.

امضاء

نام شرکت کننده

امضاء

نام محقق

امضاء

نام مطالعه

پس از تکمیل، یک عدد از برگه فوق در اختیار شرکت کننده، یک عدد در اختیار محقق قرار خواهد گرفت و یک عدد در مدارک پزشکی ثبت خواهد شد.
Appendix 3: Interview Guide
**Interview Guide for GPs**

**Introduction**
- Starting with greetings to GP
- Statement of the problem about screening of prostate cancer and role of GP
- Statement of the aims of the study,
- Explanation about expectation of interview (no judgment, no right or wrong answer, emphasis on real experiences and practices)
- Duration of the interview to be clarified
- Getting agreement for audio-tape recording
- Assurance about keeping data confidential and using anonymously,
- Obtaining demographic information (age, gender, years since graduation, Number of years in general practice, employment states)

**GPs' view on Prostate cancer screening**
Let me start with a question about your views regarding screening of prostate cancer.

**Could you please explain your beliefs and views about this issue?**

**GPs' decision- making**
As you know, there are different scenarios for decision-making regarding diagnosis process of the disease. Let me continue conversation with your decisions about these scenarios.

- If patients aged less than 60 years, presenting with lower urinary tract symptoms,
- If patients aged more than 60 years, presenting with lower urinary tract symptoms,
- If patients aged less than 60 years, suffered from other chronic disease as well as lower urinary tract symptoms,
- If patients aged more than 60 years, suffered from other chronic disease as well as lower urinary tract symptoms,
- How do you manage asymptomatic cases who are seeking to have screening of prostate cancer?
- How do you manage asymptomatic cases who are suffering from other disease but you are suspicious about potential prostate cancer?

**What do you do for diagnosis of potential prostate cancer?**

**Refer to specialist or hospital**
After you have made the potential diagnosis of prostate cancer,

**How do you take decision to refer your patients?**

**Patients' quality of life**

**Do you follow your patients during treatment or after therapy?**

**Interview closure**
At the end of this conversation,
Experience- difficult moments,
Experience- positive moments,
Any other comments,

Thank you very much for joining me in this interview.
**Interview Guide for participants**

**Introduction**
- Starting with greetings to patient
- Statement of the problem about screening of prostate tumour and role of patient
- Statement of the aims of the study,
- Explanation about expectation of interview (no judgment, no right or wrong answer, emphasis on real experiences and practices)
- Duration of the interview to be clarified
- Getting agreement for audio-tape recording
- Assurance about keeping data confidential and using anonymously,
- Obtaining demographic information (age, marital status, education, occupation, insurance state)

**Understanding of illness**
What happened to you that made you think you had prostate problem?

**Following up on symptoms:**
How did you follow up your illness?

**Diagnosis process:**
What happened when you were visited by GP?

**Coping with illness:**
What happened to you when you understood you have got a prostate tumour?

**Treatment decision-making:**
- How did you make decision for treatment?

**Quality of life after therapy:**
- What happened to you after receiving treatment?

**Interview closure**
- At the end of this conversation,
  Experience- difficult moments,
  Experience- positive moments,
  Any other comments,

Thank you very much for joining me in this interview.
Appendix 4: Survey Questionnaire
This questionnaire is part of a scientific investigation which attempts to analyze in depth Iranian GPs’ perspectives on the early detection of prostate cancer. Your participation is completely voluntary. I really appreciate your decision to take part in this study. It would be grateful to know your opinions regarding these issues. There is no right or wrong answer. Whatever information you give us will be treated in strictest confidence and you will not be identified within the results. Please try to answer as honestly as you can. Please attempt all of the questions by circling the appropriate numbers.

Thank you very much for your help.

<table>
<thead>
<tr>
<th>Questionnaire</th>
<th>ID number:</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Section A: GPs’ characteristics</strong></td>
<td></td>
</tr>
<tr>
<td>1. Age:</td>
<td>........................ years old</td>
</tr>
<tr>
<td>2. Gender:</td>
<td>1. Male 2. Female</td>
</tr>
<tr>
<td>3. How long since you been graduated from medical school?</td>
<td>........................ years</td>
</tr>
<tr>
<td>4. How long have you been practicing as a GP?</td>
<td>........................ years</td>
</tr>
<tr>
<td>5. Your employment situation (might be more than one):</td>
<td></td>
</tr>
<tr>
<td>1. I work in a governmental clinic</td>
<td></td>
</tr>
<tr>
<td>2. I work in a private clinic</td>
<td></td>
</tr>
<tr>
<td>3. I work in a charity clinic</td>
<td></td>
</tr>
<tr>
<td>4. I work in my own clinic</td>
<td></td>
</tr>
<tr>
<td>5. Other (Please clarify) .......................</td>
<td></td>
</tr>
<tr>
<td>6. Which place of the city you are mainly practising in?</td>
<td>(Please mention)..........................</td>
</tr>
<tr>
<td>7. Which field of medicine do you practice in generally (e.g. infectious diseases, internal medicine, gynaecology, etc.):</td>
<td>(Please mention )..........................</td>
</tr>
<tr>
<td>8. How many patients do you give appointments daily (please mention the number in each clinic which you are working in)?</td>
<td></td>
</tr>
<tr>
<td>1. In governmental clinic..........................</td>
<td></td>
</tr>
<tr>
<td>2. In private clinic..........................</td>
<td></td>
</tr>
<tr>
<td>3. In charity clinic..........................</td>
<td></td>
</tr>
<tr>
<td>4. In your own clinic..........................</td>
<td></td>
</tr>
<tr>
<td>9. Which health insurance do you have a signed contract with?</td>
<td></td>
</tr>
<tr>
<td>1. Health services</td>
<td></td>
</tr>
<tr>
<td>2. Social provision</td>
<td></td>
</tr>
<tr>
<td>3. Army forces</td>
<td></td>
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<tr>
<td>4. Rural</td>
<td></td>
</tr>
<tr>
<td>5. Other..........................</td>
<td></td>
</tr>
</tbody>
</table>
10. Which social classes do your patients mostly belong to?

1. High class
2. Middle class
3. Low class

11. Which facilities do you have access in your clinic to detect prostate cancer?

1. Laboratory
2. Radiology
3. Ultrasound
4. None
5. Other (Please clarify) ......................

12. Do you have access to urologists or oncologists to discuss with in case you need them?

1. Yes
2. No

13. Have you attended any training session on prostate cancer so far?

1. Yes
2. No

14. What sources do you use to update your information on prostate cancer (might be more than one)?

1. Medical textbooks
2. Medical journals
3. Retraining courses
4. Relevant seminars /conferences
5. Other (Please certify) ......................

**Section B: GPs’ practices on detection of prostate cancer**

15. Do you agree with screening of prostate cancer?

1. Yes
2. No

16. If not, why do you disagree?

1. Controversial of survival
2. Consequence of therapy
3. Aggressive treatment

17. If yes, which type of screening do you recommend?

1. All man age more than 50 years
2. All man age more than 60 yr
3. All man age more than 50 with LUTS
4. All man with + family history age more than 50 yr

18. Which age do you recommend for screening of prostate cancer?

1. 50-59 yr
2. 60-69 yr
3. ≥70 yr

19. Which of the following approaches do you use to manage the detection of prostate cancer (might be more than one)?

1. Doing Digital Rectal Examination
2. Ordering PSA test
3. Ordering ultrasound
4. None
5. Other (Please certify) ......................

There are three tests which are used to detect prostate cancer including digital rectal examination (DRE), serum prostate specific antigen (PSA), and transrectal ultrasound (TRUS). For the following scenarios, please indicate which tests, if any, you might perform for detecting of prostate cancer (circle as many numbers as you practice).

20. A man (age 55year) is fit and well and presents to the physician for his annual “check up”. He has no significant medical or family history.

1. DRE
2. PSA
3. TRUS
4. None of the above
5. Other (please specify) ......................
21. A man (age 55 years) is well but is concerned that he is at risk of getting cancer. His brother was diagnosed with cancer of the prostate this week and his uncle died because of prostate cancer.
1. DRE  
2. PSA  
3. TRUS  
4. None of the above  
5. Other (please specify) 

22. A man (age 55 years) is fit and well and has reluctantly arrived to see the physician at clinic. His wife has persuaded him to attend after she saw a documentary on media about prostate cancer. He has come to seek physician advice about whether he should have a test done.
1. DRE  
2. PSA  
3. TRUS  
4. None of the above  
5. Other (please specify) 

23. A man (age 65 years) presenting with lower urinary tract symptoms.
1. Obtaining medical history  
2. DRE  
3. PSA  
4. TRUS  
5. None of the above  
6. Other (please specify) 

24. A man (age 65 years) presenting with lower urinary tract symptoms along with another chronic disease.
1. Obtaining medical history  
2. DRE  
3. PSA  
4. TRUS  
5. None of the above  
6. Other (please specify) 

25. A man (age 65 years) who is suffering from other disease but is suspicious of potential prostate cancer?
1. Obtaining medical history  
2. DRE  
3. PSA  
4. TRUS  
5. None of the above  
6. Other (please specify) 

Section C: Barriers & triggers of detection of prostate cancer

26. Which of the following patients characteristics might be barriers in your practicing for detection of prostate cancer (might be more than one may be circled)?
1. Lack of knowledge on prostate cancer  
2. Unclear language  
3. Embarrassment to express  
4. Low social class  
5. Religiosity  
6. Other (please clarify) 

27. Which of the following GPs' characteristics might act as barriers in your practice for the detection of prostate cancer (might be more than one)?
1. Low experiences  
2. Being female  
3. Lack of time  
4. Load of work  
5. Poor communication skills  
6. Other (please clarify)
28. Which of the following health system characteristics might be barriers in their practicing for detection of prostate cancer (might be more than one)?

1. Lack of policy for detection
2. Undefined position of GPs
3. Specialization
4. Insufficient referral system
5. Inadequate insurance support
6. Under table
7. Other (please clarify)...........................

29. Which of the following GPs' characteristics might act as triggers in the detection of prostate cancer (might be more than one)?

1. Accessibility of GPs
2. Cost-effectives
3. Being expert
4. Good communication skills
5. Being male
6. Other (please clarify)...........................

30. Which of the following patients' characteristics might act as triggers in the detection of prostate cancer (might be more than one)?

1. Well informed
2. Symptomatic
3. Age ≥ 50
4. Have a positive familial history of prostate cancer
5. Other (please clarify)...........................

31. Which of the following social characteristics might act as triggers in the detection of prostate cancer (might be more than one)?

1. Higher social class
2. Emotional support of their wives
3. Having trusted physician
4. Other (please clarify)...........................

Section D: Influence of psychosocial factors on prostate cancer detection

32. What do you consider to be the important aspects in the process of detection of prostate cancer (might be more than one)?

1. Psychological
2. Socioeconomic
3. Cultural
4. Sexual
5. Other (please clarify)..........................

33. Which of the following reaction is taken by patients to manage their symptoms (might be more than one)?

1. Ignorance
2. Minimization
3. Exaggeration
4. Being realistic
5. Other (please specify)..........................

34. Which of the following social factors might influence in patients' decision-making for management of prostate cancer (might be more than one)?

1. Being aware of getting cancer
2. Being informed of the illness consequences
3. Having financial support
4. Having emotional support
5. Other (please specify)..........................

35. Which of the following groups have the most important role to persuade men in their decision-making for detection?

1. Spouses
2. Friends (experienced the same disease)
3. Men's siblings
4. Trusted physicians
5. Other (please clarify)..........................

36. Which of the therapeutic consequences of prostate cancer more influence your patients' social life (might be more than one)?

1. Impotence
2. Incontinence
3. Both
4. None
5. Other (please clarify)..........................
### Section E: Applying policies to enhance GPs’ practice in detection of prostate cancer

37. There are different ways of the early detection of prostate cancer. Please indicate which, if any, of the following programmes you prefer.

<table>
<thead>
<tr>
<th>Programme</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Screening all men at a certain age</td>
</tr>
<tr>
<td>2. Screening men with positive familial history</td>
</tr>
<tr>
<td>3. Screening men with prostate cancer symptoms</td>
</tr>
<tr>
<td>4. No screening programme</td>
</tr>
<tr>
<td>5. Other (please specify)</td>
</tr>
</tbody>
</table>

38. In case of carrying out a national screening programme in Iran which of the following age ranges do you prefer?

<table>
<thead>
<tr>
<th>Age Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. ≤ 49</td>
</tr>
<tr>
<td>2. 50 to 59</td>
</tr>
<tr>
<td>3. 60 to 69</td>
</tr>
<tr>
<td>4. ≥ 70</td>
</tr>
<tr>
<td>5. Don’t know</td>
</tr>
</tbody>
</table>

39. Which of the following methods do you think helpful to improve indirectly men’s knowledge about prostate cancer (might be more than one)?

<table>
<thead>
<tr>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. TV/Radio</td>
</tr>
<tr>
<td>2. Newspapers</td>
</tr>
<tr>
<td>3. Improvement men’s knowledge by religious programme</td>
</tr>
<tr>
<td>4. Improvement men’s knowledge by wife through Health system</td>
</tr>
<tr>
<td>5. Other (please specify)</td>
</tr>
</tbody>
</table>

40. Which of the following methods do you think helpful to improve directly men’s knowledge about prostate cancer (might be more than one)?

<table>
<thead>
<tr>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Improvement men’s knowledge through wedding ceremony</td>
</tr>
<tr>
<td>2. Improvement men’s knowledge through army</td>
</tr>
<tr>
<td>3. Improvement men’s knowledge by compulsive programme</td>
</tr>
<tr>
<td>4. Other (please specify)</td>
</tr>
</tbody>
</table>

For your information, there is not any policy for detection of prostate cancer in Iran. The last question is an open question and asking about setting of a policy for the detection of prostate cancer. Therefore, regarding a wide spectrum of social, cultural, psychological and medical aspects of detection of prostate cancer which are could be important to put in policy by policy maker you can mention your answer within a clear title, for example; setting primary cancer care in Iran with GPs contribution and est.

41. What kind of policy would you like to put in order of policy for detection of cancer especially prostate cancer?

<table>
<thead>
<tr>
<th>Order</th>
<th>Policy</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>2.</td>
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<tr>
<td>3.</td>
<td>4.</td>
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<tr>
<td>5.</td>
<td>6.</td>
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<tr>
<td>7.</td>
<td>8.</td>
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<tr>
<td>9.</td>
<td>10.</td>
</tr>
<tr>
<td>11.</td>
<td>12.</td>
</tr>
</tbody>
</table>

Thank you very much for taking part
A social epidemiological survey on prostate cancer detection from Iranian General Practitioners’ perspectives

Dr. A. Taghipour, Dr. V. Vydelingum, Prof. S. Faithful
Division of Health and Social care, Faculty of Health and Medical Sciences
University of Surrey, Guildford, Surrey, UK, GU2 7TF
E-mail: a.taghipour@surrey.ac.uk

Questionnaire

<table>
<thead>
<tr>
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<th>Questionnaire</th>
</tr>
</thead>
<tbody>
<tr>
<td>ID number:</td>
<td>Questionnaire</td>
</tr>
<tr>
<td>1</td>
<td>سال</td>
</tr>
<tr>
<td>2</td>
<td>مرد</td>
</tr>
<tr>
<td>3</td>
<td>(لطفاً به عدد ذکر فارماژید) سال</td>
</tr>
<tr>
<td>4</td>
<td>(لطفاً به عدد ذکر فارماژید) سال</td>
</tr>
<tr>
<td>5</td>
<td>استفاده دولت</td>
</tr>
<tr>
<td>6</td>
<td>پزشک‌ها در یکی از شرکت‌ها نشان داد، ممکن است تصمیم‌گیری دریافت کننده‌های مالی به این ترتیب باشد:</td>
</tr>
<tr>
<td>7</td>
<td>مالکیت است پزشکی در یکی از شرکت‌ها نشان داد، ممکن است تصمیم‌گیری دریافت کننده‌های مالی به این ترتیب باشد:</td>
</tr>
<tr>
<td>8</td>
<td>پزشک‌ها در یکی از شرکت‌ها نشان داد، ممکن است تصمیم‌گیری دریافت کننده‌های مالی به این ترتیب باشد:</td>
</tr>
</tbody>
</table>

1. پزشک‌ها در یکی از شرکت‌ها نشان داد، ممکن است تصمیم‌گیری دریافت کننده‌های مالی به این ترتیب باشد: 
2. پزشک‌ها در یکی از شرکت‌ها نشان داد، ممکن است تصمیم‌گیری دریافت کننده‌های مالی به این ترتیب باشد: 
3. پزشک‌ها در یکی از شرکت‌ها نشان داد، ممکن است تصمیم‌گیری دریافت کننده‌های مالی به این ترتیب باشد: 
4. پزشک‌ها در یکی از شرکت‌ها نشان داد، ممکن است تصمیم‌گیری دریافت کننده‌های مالی به این ترتیب باشد: 
5. پزشک‌ها در یکی از شرکت‌ها نشان داد، ممکن است تصمیم‌گیری دریافت کننده‌های مالی به این ترتیب باشد: 
6. پزشک‌ها در یکی از شرکت‌ها نشان داد، ممکن است تصمیم‌گیری دریافت کننده‌های مالی به این ترتیب باشد: 
7. پزشک‌ها در یکی از شرکت‌ها نشان داد، ممکن است تصمیم‌گیری دریافت کننده‌های مالی به این ترتیب باشد: 
8. پزشک‌ها در یکی از شرکت‌ها نشان داد، ممکن است تصمیم‌گیری دریافت کننده‌های مالی به این ترتیب باشد: 
9. پزشک‌ها در یکی از شرکت‌ها نشان داد، ممکن است تصمیم‌گیری دریافت کننده‌های مالی به این ترتیب باشد: 
10. پزشک‌ها در یکی از شرکت‌ها نشان داد، ممکن است تصمیم‌گیری دریافت کننده‌های مالی به این ترتیب باشد: 

1. پزشک‌ها در یکی از شرکت‌ها نشان داد، ممکن است تصمیم‌گیری دریافت کننده‌های مالی به این ترتیب باشد: 
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<table>
<thead>
<tr>
<th>Dr. Ali Taghipour</th>
<th>Appendices</th>
</tr>
</thead>
<tbody>
<tr>
<td>3. در دانلیگ خصوصی</td>
<td>نفر</td>
</tr>
<tr>
<td>4. در طول شکنی</td>
<td>نفر</td>
</tr>
<tr>
<td>1. بیمه خدمات درمانی</td>
<td>9. چه کسانی از بیمه‌ها ترازه‌دار هستند؟</td>
</tr>
<tr>
<td>2. بیمه تلیف دستگاهی</td>
<td>(مسکن است بیش از یک گزینه مورد نظر شما باید)</td>
</tr>
<tr>
<td>3. بیمه اورژانسی مالی</td>
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</tr>
<tr>
<td>4. بیمه ویژه‌ای</td>
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</tr>
<tr>
<td>5. غیره (بطاقه کارت فرامرزی)</td>
<td></td>
</tr>
<tr>
<td>1. سرکاری</td>
<td>10. چهاردهم شما صفتی از کاناهای اجتماعی می‌باشید؟</td>
</tr>
<tr>
<td>2. بایستی موسسه‌ای اجتماعی</td>
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</tr>
<tr>
<td>3. بایستی به‌هیچ‌یک اجتماعی</td>
<td></td>
</tr>
<tr>
<td>1. کاتالوگ دفتر</td>
<td>11. در چند ماه آخر، آیا در برنامه‌های اموزشی چه کسانی از شما در مورد اموزی</td>
</tr>
<tr>
<td>2. سرکاری</td>
<td>خاصی به روابط سرکاری پروستات بوده است شرکت نموده‌اید؟</td>
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<tr>
<td>3. بایستی کارند</td>
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<td>4. غیره (بطاقه کارت فرامرزی)</td>
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<tr>
<td>1. ازدیادی‌ها متر</td>
<td>12. چگونه اطلاعات خود را به سرکاری پروستات را پروران</td>
</tr>
<tr>
<td>2. مراکز کیفرلرزی</td>
<td>(می‌کنید؟ (مسکن است بیش از یک گزینه مورد نظر شما باید)</td>
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<tr>
<td>3. شرکت‌های روابط اداری</td>
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<tr>
<td>4. شرکت‌های مبتنی بر میزان</td>
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<td>5. غیره (بطاقه کارت فرامرزی)</td>
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</tr>
<tr>
<td>1. در صورت نیسته‌های مشترک ای اکسل است استانداری و اکولوژیست‌ها برای برای 13. برای تشخیص موارد مشترک بی سرکاری پروستات، چه اکسل‌ها درست شده‌اند</td>
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<td>2. سرکاری</td>
<td>باید؟ (مسکن است بیش از یک گزینه مورد نظر شما باید)</td>
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<td>3. مراکز کیفرلرزی</td>
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<td>4. غیره (بطاقه کارت فرامرزی)</td>
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<td>1. در صورت نیسته‌های مشترک ای اکسل است استانداری و اکولوژیست‌ها برای برای 14. چهاردهم شما صفتی از کاناهای اجتماعی می‌باشید؟</td>
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<tr>
<td>1. چهاردهم شما صفتی از کاناهای اجتماعی می‌باشید؟</td>
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<td>3. سرکاری</td>
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<tr>
<td>4. غیره (بطاقه کارت فرامرزی)</td>
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<td>1. اسکان نیست</td>
<td>15. آیا شما اسکان‌های سرکاری پروستات مؤثر می‌سنجید یا خیر؟</td>
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<tr>
<td>1. چهاردهم شما صفتی از کاناهای اجتماعی می‌باشید؟</td>
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<td>2. سرکاری</td>
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<td>3. سرکاری</td>
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<td>4. غیره (بطاقه کارت فرامرزی)</td>
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<tr>
<td>1. اسکان نیست</td>
<td>16. در صورت مختلی، کدام دارای را پیشتر ترک می‌دهید؟</td>
</tr>
<tr>
<td>2. اسکان نیست</td>
<td></td>
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<td>3. اسکان نیست</td>
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</tr>
<tr>
<td>4. غیره (بطاقه کارت فرامرزی)</td>
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<tr>
<td>1. اسکان نیست</td>
<td>17. در صورت مختلی، چه نوع از اسکان‌نیست چه‌گونه می‌نمایید؟</td>
</tr>
<tr>
<td>2. اسکان نیست</td>
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<tr>
<td>3. اسکان نیست</td>
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<tr>
<td>4. غیره (بطاقه کارت فرامرزی)</td>
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<tr>
<td>1. اسکان نیست</td>
<td>18. چه می‌شود را اسکان‌نیست پروستات مناسب‌تر می‌دانید؟</td>
</tr>
<tr>
<td>2. اسکان نیست</td>
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<tr>
<td>3. اسکان نیست</td>
<td></td>
</tr>
</tbody>
</table>

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بخش سوم: عوامل و موانع تشخیص اولیه سرطان پروستات

1. عدم اگاهی یا آگاهی ناکافی در مورد بیماری
2. احساسات ناکامی به علائم بیماری
3. مشکلاتی در مصرف و توصیف علائم (بزوی ادراری)
4. خلاف در بین علائم (بزوی ادراری)
5. کمیته مشورت در مبانی، توصیف سیمیته به هر بیماری
6. طبقه اجتماعی اپاک (بزوی، سطح خصوصیات)

نحوه تشخیص:
1. تحقیق نیکالی
2. خاصیت ویژه بیمار
3. علل و درمان
4. سیستمیتی
5. علل برخورداری از مهارت کانال در روان‌شناختی با بیمار
6. غیره (طلا کنک فرمولیده)

کامپیوتر از مشخصات (های) پزشکان صورتی ممکن است باعث شود در
پروپتی تشخیص اولیه سرطان پروستات مطرح سالانه

1. بررسی بیش از یک آزمایش مبنای پسند
2. پزشکان صورتی ممکن است باعث شود در

1. در دستورات بیول
2. تحقیق پایین
3. تکراری علائم و یا ارائه انتقال تشخیص اولیه
4. برخورداری از مهارت‌های ارتقا
5. جلس سکر
6. غیره (طلا کنک فرمولیده)

2. پزشکان صورتی ممکن است باعث شود در

1. اگاهی کامپیوتر
2. اگاهی کامپیوتر (های)
3. عدم اگاهی یا آگاهی ناکافی در مورد بیماری
4. اگاهی یا آگاهی ناکافی در مورد بیماری
5. حذف ویژه
6. خاصیت ویژه یا
7. غیره (طلا کنک فرمولیده)

کامپیوتر از مشخصات (های) اجتماعی بیماران ممکن است باعث شود در
نگرش کننده در پروپتی تشخیص اولیه سرطان پروستات مطرح سالانه

1. طبیعی اجتماعی
2. طبیعی اجتماعی
3. طبیعی اجتماعی
4. طبیعی اجتماعی
5. طبیعی اجتماعی
6. غیره (طلا کنک فرمولیده)

کامپیوتر از مشخصات (های) اجتماعی بیماران ممکن است باعث شود در
نگرش کننده در پروپتی تشخیص اولیه سرطان پروستات مطرح سالانه

1. طبیعی اجتماعی
2. طبیعی اجتماعی
3. طبیعی اجتماعی
4. طبیعی اجتماعی
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1. طبیعی اجتماعی
2. طبیعی اجتماعی
3. طبیعی اجتماعی
4. طبیعی اجتماعی
5. طبیعی اجتماعی
6. غیره (طلا کنک فرمولیده)

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2. طبیعی اجتماعی
3. طبیعی اجتماعی
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1. طبیعی اجتماعی
2. طبیعی اجتماعی
3. طبیعی اجتماعی
4. طبیعی اجتماعی
5. طبیعی اجتماعی
6. غیره (طلا کنک فرمولیده)
# بخش جهانی: تکثیر عوامل روایی اجتماعی روی تشخیص اولیه سرطان پروستات

1. نظارت گروه‌های و نگهداری
2. کمک‌های تشخیص و چگونگی درمان
3. سیستم‌های سلامتی عمومی برای پیشگیری
4. راهنمای نگهداری از دوستان و افراد
5. کمک‌های نگهداری از روش‌های مشترک

# بخش نهایی: سیاست‌های کاربردی برای افزایش نقش پزشکان عمومی در تشخیص اولیه سرطان پروستات

1. نظارت بر مردان بدون حمایت در دو مناسبت
2. کمک‌های تشخیص و چگونگی درمان
3. سیستم‌های سلامتی عمومی برای پیشگیری
4. راهنمای نگهداری از دوستان و افراد
5. کمک‌های نگهداری از روش‌های مشترک

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<th>جایگاه</th>
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<th>توضیحات</th>
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<td>4.</td>
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1. رادیو و تلویزیون
2. روزنامه‌ها
3. ارتباطات آگاهی مردان از طریق مساجد و برخی‌های دیگر نظیر جامعه‌داران
4. ارتباطات آگاهی مردان با مشاور در طول سیستم بهداشتی
5. غیره (به‌طور کلی فردا)...

1. ارتباطات آگاهی مردان از طریق مشاور بهداشت‌ی زمان‌زدایی
2. ارتباطات آگاهی مردان در دوران سربازی
3. مشاور در انجمن مردان بالای ۶۰ سال از طریق بیمه‌های غیره (به‌طور کلی فردا)...

1. نظر شما به چه کسانی شما از خدمات مشاوره بهداشتی کاران برای مردان پروستات توصیه شده است ؟
2. نظرت شما به چه کسانی در مقدار پیشرفت بهداشتی شما در این مطالعه

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Appendix 5 & 6: Ethical approval letters
Dear Dr. Taghipour

This is to certify that your protocol with the topic as “Beliefs about the early detection of Prostate cancer by general practitioners and Patients in Iran” has obtained the ethical approval from the 25th session of Iranian National Ethical Committee on 27 Sep. 2006.

Dr. H. Malekafzali
Head of National Ethical Committee of Medical Research
Appendix 6

09 October 2006

Dr Ali Taghipour
PhD Student
EIHMS

Dear Dr Taghipour

Beliefs about the early detection of prostate cancer by general practitioners and patients in Iran (EC/2006/87/EIHMS)

On behalf of the Ethics Committee, I am pleased to confirm a favourable ethical opinion for the above research on the basis described in the submitted protocol and supporting documentation.

Date of confirmation of ethical opinion: 09 October 2006

The final list of documents reviewed by the Committee is as follows:

<table>
<thead>
<tr>
<th>Document</th>
<th>Date</th>
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<tbody>
<tr>
<td>Application</td>
<td>01/09/2006</td>
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<tr>
<td>Insurance Proforms</td>
<td>01/09/2006</td>
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<tr>
<td>Research Proposal</td>
<td>01/09/2006</td>
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<tr>
<td>Information Sheets for GPs and Patients</td>
<td>01/09/2006</td>
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<tr>
<td>Consent Form</td>
<td>01/09/2006</td>
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<tr>
<td>Interview Guides for GPs and Patients</td>
<td>01/09/2006</td>
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<tr>
<td>Your Response to the Committee's Comments with Amended Documents</td>
<td>25/09/2006</td>
</tr>
<tr>
<td>Letter from the Ministry of Health &amp; Medical Education</td>
<td>27/09/2006</td>
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</table>

This opinion is given on the understanding that you will comply with the University's Ethical Guidelines for Teaching and Research.

The Committee should be notified of any amendments to the protocol, any adverse reactions suffered by research participants, and if the study is terminated earlier than expected with reasons.

You are asked to note that a further submission to the Ethics Committee will be required in the event that the study is not completed within five years of the above date.

Please inform me when the research has been completed.

Yours sincerely

Catherine Ashbee (Mrs)
Secretary, University Ethics Committee
Registry

cc: Professor T Desombre, Chairman, Ethics Committee
    Dr V Vydelingum, Supervisor, EIHMS
    Dr S Faithfull, Supervisor, EIHMS
Appendix 7: Sample of analyzed interview
Patient interview

Date: 7/11/06 (1385/8/16)
Time duration: 55 minutes
Setting: patient’s house
Participant’s identification number: 01

Interviewer: Thank you very much for participating in the interview. I wish your health back and you are able to find your good health. For your information, prostate tumour is one of the most prevalent diseases in developing countries and there are many questions and obscurities about it. According to the disease importance, the purpose of this study is to assess and to understand your viewpoints and your beliefs about the diagnosis process of the disease. Certainly, your points of view influence better understanding of the disease. For my research, your beliefs are very important and therefore, there is no correct or incorrect view. Let us, to be called for an interview, without name and it used very secret.

Participant: I am 72 years old now.

Interviewer: Do you live with your family?
Participant: Yes, I live with my wife. My oldest son who is 44 years old, I have a daughter which is 42 years old. I also have another daughter who is 36 years old, and I have another daughter who 33 years old. My two younger daughters have MA degree and also my son is a clinical psychologist. I am a retired jurist. After retirement, because unemployment, I have worked in an office of notary public for 20 years.

Interviewer: Are you from Mashhad?
Participant: Yes, I am from Mashhad, I have lived here and from my generation to generation is Mashhadian.

Interviewer: Could you please tell me what happened to you that you think you had prostate problem?
Participant: For your information, sometimes you encountered with a patient, who is unaware or obstinate, for example; doctor tells him: don’t eat sweet? He said you, one is not important, so he has one in breakfast, another for lunch and just one for dinner. After the time, he became blind.
That is, he is either obstinate or unaware, I was not such patient.

15 In the beginning of my life, that is, while I knew myself as a person in 14 years old, I observed fast and prayer. I did not agree with alcohol, with cigarette, and even things that are really really harmless.

16 I had a healthy life. I used and enjoyed from the nice air, nice morning, beautiful night, the sky which was full of stars and from all influences of my life. When I was in Gonabad, there was a sky full of stars, in the morning and night I watched the sky and enjoyed.

17 I followed the hygiene, and also kept healthy. In the morning I always wake up early to do some exercises and I ate 1 kg of fruit. I was careful not to eat egg more than twice in a week. I studied about health and medicine. I didn’t let my liver get too heavy and didn’t have any fruits which can cause allergy such as tomato. Sometime, I studied Dr. Jazayerly’s books and also Dr. Hawser’s books about nutrition. I was very healthy and strong. For example; try to walk after dinner about 15 minutes. I was a sportsman, such as wrestling, swimming.

18 I knew all parts of my body but I forgot the prostate.

19 So in 1373 (1984), suddenly I have got a severe back pain. Actually my illness was begun by sever back pain, it was horrible.

20 I thought it is probably a discopathy.

21 My children (his wife) told me; call a doctor but I didn’t accept it. I told them that I’ll try to treat it by exercise, but I could not treat it.

22 Then I was visited by Dr K. … (He is his family physician). He examined me and there was no discopathy, then he prescribed radiography. Then, he looked it and told me, there are several yellow spots in your radiography, so it’s not my job and he referred me to urologists. At first he introduced Dr. N, then Dr. R.

23 I chose Dr. R, because some body told me that he is an up-to-date urologist,

24 therefore I visited by him and he took some samples from my prostate.

25 Then he told me: for starting treatment, we must take a part of your testicle. It is necessary for your treatment and didn’t need to take your prostate gland. I want to know, it doesn’t matter for you or it is not a
failure for you to be impotence.

26 I said him; no it's not important for me and my wife as well and we accepted it.

27 Interviewer: Is this a shared decision?

28 Participant: Yes, he was worried for my sexual relationships, but we (he and his wife) accepted it just for my health.

29 Then I was hospitalized in Mehr Hospital (private Hospital) and underwent an orchidectomy.

30 It was very simple and didn't have any infection. Then just after one day I was discharged. It was quite successful.

31 Then he ordered a PSA test unfortunately it was over (high).

32 Interviewer: Did you have PSA test before surgery?

33 Participant: Oh, yes but it was just for control.

34 So he told me; you must go to Tehran for a visit by an oncologist. I went to Tehran and an oncologist who told me: it is a cancer, prostate cancer and it was got metastasis to your bones such and such...

35 and told me; you must get chemotherapy. But I told him; I don't like to get chemotherapy. Probably, there are other ways and approaches. Due to avoiding chemotherapy I came to Tehran. If I want to get chemotherapy, I have been stayed in Mashhad.

36 Interviewer: What are your views about chemotherapy?

37 Participant: I don't agree with chemotherapy, because it's not suitable for my personality. I like to have an active life and by having chemotherapy it's not possible.

38 So I try to find the name of other professors in oncology such as Dr. J. and Dr. R. It was 1383 (1994). At first I chose Dr. J. When I entered doctor's office, I saw several patients, the one sat on the wheelchair, another lie-down. We have been in the waiting list.

39 When he called me, his assistants asked me my past medical history of my illness. They prescribed for other patients but for me they chatted to each other, so I laughed and told them why you chat to each other? I know I have cancer. But I decided to subdue this cancer. Dr. J. told me, can you eradicate the cancer? I told him; yes I can, then he said me: all right, how
can you do it? I told Dr.: firstly I am not afraid of death. Secondly, each disease has belonged to a person. Well, this is belong to me. I'll effort to fight this cancer and finally I will bring it to heel (proverb, it means, to defeat it or beat it).

He become very glad and told me; at first we chatted to each other on chemotherapy but due to your high spirits, we changed our plan to hormone therapy.

This is the first doctor, and then we decided to meet Dr. R but he went to London.

Dr. R, as my friend who is working in the ministry of health, he helps us to get an appointment with professor S. Then he visited me and took past history of my disease. He said to me: 'I don't prohibit chemotherapy, but I think there is another way and it is Radioactive Stransium (RS), and it imported through the Nuclear power Organization authority from London and I will inject it for you myself'.

My daughter, who accompanied me, told; please write the letter and told again; how much does it cost? They told her; it costs about 1 250 000 Tomans (Iranian currency and it equal about £ 850) but regarding the order of Iranian President's discount for special diseases, it costs would be around 400 000 Tomans (Iranian currency and it equal about £ 300) for you. She told them please write cash receipt and she paid it very soon.

They told us; we must send it to London by post. But my daughter insisted and said: we sent it ourselves and went to post office.

After 1 week, they called me the drugs had arrived. We also called Dr. S, what do we do? He said me; come back soon.

Finally Stransium was injected. Before me a lady who was given this injection, she was complained about the side-effects of it during injection.

Then later he injected it into my vein. He asked me how your feeling is, do you get hot or have you any pain? I said; not at all, at end of injection I said I am Bam’s aubergine and Bam’s aubergine doesn’t have any plague or pest (proverb; it means, I am very strong). When it was finished, he wants to help me for getting up, but I said; I can get up myself.

I was discharged by his order and after 24 hours that I was keep in
Quarantine, we come back to Mashhad. It caused my feeling better day by day and gradually PSA decreased from 93 µg/L.

Here, Mashhad, I met Dr. R. and explained my history in Tehran and treatment which I got by Dr. S. He, Dr. R. prescribed Cyproterone. Initially it was started by 3 tablets every day, later 2 tablets, and next 1 tablet every day.

My PSA was checked regularly until the PSA decreased to 16 µg/L. He told me; it’s OK, right now there is no problem and don’t worry, but I try to have regular visiting with Dr. R. especially somebody say; his data is up to date.

During the winter, suddenly, I’ve got leg pain. It continued until, I couldn’t move. So I decided to visit Dr. R. He prescribed some ampoules. After injection it became better but again later on Ashura, due to walking, pain became severe. I went to visit Dr. R, he gave me Ketokenazol. I feel bad from this; I told the doctor that I suffer from its side effects. Do something about it. He reduced the dose of the tablet.

After two months, Dr. R. told me to go to visit Dr. S. again, so I went to Dr. S. He stopped Ketokenazol and said that one of the ways of your treatment is that you must stop taking any medicine. In 2 or 3 months I didn’t take any medicines.

After that when I went back to him, he said that we have to do radio therapy. Four months ago we went to the radio therapy. First they told us that the machines here are very modern, but when we saw that somebody putting their head under the tap after the radio therapy, but there was no problem for me. First there were going to be 10 sessions but afterward 6 sessions added. Mean while they tested my blood two times and also got CT scan and they saw that it was Ok. In the twelfth session I was a bit uncomfortable. They gave me some tablets. The fifth session I felt like that they were squashing my body. They said that it is the side effect of radio therapy.

After the 16 session I felt a very severe back pain that I never had an experience of such pain, so I had to take Diclofenac. In a day I had about 1
or 2 tablets so I could stand the pain but it still hurt so I went to Dr. S. and told him about my pain. I told him that you said me; these machines are so modern but this pain is worse than the last one, that I have forgotten the last pain. I wish that I had not undergone any radio therapy, I would prefer to have the last pain than the pain I have now. But he didn’t give me any medicine.

When I went back to Mashhad I brought this pain with me. I went to Dr. R. again and he examined me and ordered some tests but all of them were OK. Finally the reason of the pain was not found.

Until few months later, I referred to Herbal medicine. I went to one of these persons who were experts on herbal medicine. They gave me a massage with special oil. This person said a subject that I accepted. He told me that on my pain area the vein and arteries was closed. He told me to do Hejamat. But I didn’t tell him that I was under control of an conchologist and urologist. Blood maybe is very important to me so I did not do his order. But I think that my veins are closed due to radio therapy. Right now I am in search of a doctor to give me some medicines to open my veins so my pain will be gone. This was my whole story.

Interviewer: What about the other symptoms did you have any other problems?

Participant: look I did not have any information about prostate and I was careful of my whole body and I haven’t got any symptoms such as frequency or nocturia. At the nights I never woke up. I didn’t have any symptoms, but I don’t know how I got this illness and why it got metastasis to my bones.

Interviewer: The time that you have been under investigations and go to different doctors, with respect to your symptoms, what did you feel about your illness?

Participant: I thought that the start of the story was here. My daughter and I wanted to go to Tehran. I picked up her suitcase one handed to put it in the train. When the train started to depart, my back got twisted, it was that, that got me lost. I felt a pain in my back. I thought that all the pain that were in my pelvis and my back had something to do with lifting the
suitcase and I thought that with exercise I could make my pain go away. So when I did exercise I saw that the pain was not getting better. And I understood that this issue is not related to that. Then I went to the doctors and they did radiography and at the end they took me to a doctor that was an urologist.

**Interviewer:** At last when you understood that the illness had something to do with prostate, how did you feel?

**Participant:** Look. I didn’t have any special kind of feelings and I didn’t think that it is anything important. And when Dr... did the operation I thought that I will get fine and will not have any problems and really I did not have any problems after the operation.

**Interviewer:** At the next stage when you had to do the radiotherapy, how did you feel?

**Participant:** While I was having the radiotherapy I had a lot of hope. Because I saw that after few days the pain of my leg was gone. At the... I also had a pain that finally got better. That means that the pains I had were gone by doing the radiotherapy. The side effects of the radiotherapy happened after the 16th session.

At the moment I feel that the radiotherapy was good but I am worried that my radiotherapy closed all my veins. And this needs a massage and some medicines for it to get better. I feel like if there was a doctor here right now he would prescribe a medicine for me to open or to dilate my veins, I think that I will feel better.

**Interviewer:** You have a good idea about your health control, so please tell me how did you cope with your illness and which factors did help you to cope?

**Participant:** First of all I got help from God. Secondly when I was diagnosed I went to holly shrine of Imam Reza, it was also the birthday of Hazrat Zahra. I got out of the car and went forward few steps but I couldn’t go more. I said “Imam Reza, my deal with you was that till I am alive I am able to come to you on my own ability and now it is your mum’s birthday but you can see that I can’t come. I want you to make me healthy and blessed”. At that moment I felt like that Imam Reza had given
I got health and blessed. The important thing was that I trusted and believed in God and I was confident that I got health and I was healed.

**Interviewer:** What is your family’s role?

**Participant:** My family? Well I got a wife who is very kind and has sympathy. Every night she wakes up a few times. At day time she goes to my office and does all the work. She is very kind to me. My children, especially my youngest daughter takes so much care of me.

**Interviewer:** What about your friends?

**Participant:** My friends are really helpful. They keep on asking me if I am all right. They come to me and take me out and pray for me to get well soon.

**Interviewer:** How is your social activity after therapy?

**Participant:** If I want to do, I can work like how I used to work but because of taking Flutamide I am sleepy so I have to take some rest. This matter annoys me. I don’t want to be a person that is useless and can’t do anything. I want to be active. When I walk, sometimes I feel weakness inside me. My PSA got up again and reached 284. But recently I have not checked it.

**Interviewer:** How your illness has affected your sexual function?

**Participant:** you know, we accepted the sexual consequences of the illness. We hundred percent accepted the failure.

**Interviewer:** what do you mean by failure?

**Participant:** I accepted the sexual failure just for my health. It’s no matter for me. I discussed it with my wife and she has accepted it as well.

Most of the people, who have problem with their prostate, say that the problem of ejaculation is related to this. As a result, when they accept the therapy for this illness they inevitably accept its sexual complications. They have a feeling of failure and weakness. They call it impotence and think that they have no masculine power. They don’t want to have a feeling of inferiority when they face to their wives or their friends. For this reason, they hide their illness from friends and particularly from...
women. But I have this braveness and I accepted that my health is much more important.

**Interviewer:** how is your relation with your GP and specialists?

**Participant:** well I have a very good relation with my GP and some of my specialists such as Dr. R.

Maybe I am a rude person and try to know more or ask a lot of questions. But generally, they think that we don’t know anything about our illness and also they think if we don’t know anything, it maybe better for us. For instance, I understood that I have got cancer. Well firstly, it was very difficult for me to accept and to cope with my disease, but it help me to know more about it for example I know this disease is very common in the world and understood that many men suffered from prostate cancer but died from other disease. So I think we need to know more about the diagnosis process and therapy procedures especially about the side effect of treatment.

**Interviewer:** have you experienced any positive or difficult moments during this process?

**Participant:** yes, the most beautiful and happiest time for was the time that I received Stransum, as I thought I found my health and felt that I flying.

The worst time for me is after radiotherapy because this pain is going to kill me and I so suffered from it. But I always am waiting for good news to remove this pain from my body. Maybe radiotherapy was necessary for me do you think so?

**Interviewer:** yes of course, it was necessary for you. especially as you know your cancer have got metastasis to your bones. Hope you take good effects from this phase of your therapy and forget this side-effect.

At the end, again thank you very much for this interview. If you have any other comments, please let me know.

**Participant:** no thanks, I really enjoyed this interview. You gave me high morale and hope you be successful in your research and I be alive to see your success.
Disseminations

The results from this study have been presented in several relevant conferences, seminars, and research festivals as oral or poster presentations so far. A paper from these findings was submitted for publication as a chapter of Conference book in 2007. This paper was presented previously at 6th Global Conference on “Making Sense of Health, Illness & Disease”, Mansfield College, Oxford University and was selected for publishing within 45 presented papers. It was also attempted to present the findings of the qualitative phase of the study at appropriate national and international conferences. At the end of the project, the results will be presented in Division of Health & Social Care, Faculty of Health & medical sciences, University of Surrey and also in Mashhad University of Medical Sciences. It will be reported to Iranian Ministry of health and Medical Education for using of policymakers and also to relevant groups such as urologists, GPs, and primary health professionals in Iran.
A. Oral presentations:

1. Taghipour A. “Comparison of Quantitative and Qualitative Research Methods” Omid Hospital, Mashhad University of Medical Sciences, Iran, November 2006.

2. Taghipour A. “Men’s health perceptions and early detection of prostate cancer: an interim analysis using grounded theory” PhD peer group, 25th April 2007, European Institute of Health and Medical Sciences (EIHMS), University of Surrey, UK.


B. Poster presentations:

1. Taghipour A., Vydelingum V., Faithfull S., “Iranian men’s illness perceptions: a grounded theory study with theoretical perspective of social constructionism”. Poster presentation in the 1st Postgraduate poster show, Faculty of Health & Medical Sciences, 24th October 2007, University of Surrey, UK. (Being awarded the second prize for the best poster)

2. Taghipour A., Vydelingum V., Faithfull S., “Seeking help through the process of prostate cancer detection”. Poster presentation in the 1st Postgraduate poster show, Faculty of Health & Medical Sciences, 24th October 2007, University of Surrey, UK.


C. Publications:


Comparison
Quantitative and Qualitative Research Methods

Dr. Ali Taghipour
PhD student at University of Surrey

Overview
- Qualitative and Quantitative Research
- Purposes of Research
- Qualitative and Quantitative Research Methods
- Teaching
- Research
- Assessment

Research Methods
- Research methods are generally categorised as being either qualitative or quantitative.
- What matters is that the methods used fit the intended purposes of the research.

Qualitative and Quantitative Paradigms
- The qualitative paradigm concentrates on investigating subjective data, in which the
  researcher's own experiences and opinions are used to illuminate these
  descriptions and help gain greater insight and knowledge.
- The quantitative paradigm concentrates on what can be measured. It involves testing
  hypotheses and analysing whether the data fit to determine data that can
  be observed and tested.

Qualitative and Quantitative Research

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<th>Quantitative Research</th>
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<td>descriptive/hypothesis-</td>
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<td>driven deductive</td>
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<td>Focus</td>
<td>inductive</td>
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<td>For what</td>
<td>identify concepts</td>
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<tr>
<td>and who</td>
<td>investigation of theories</td>
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<tr>
<td>Method</td>
<td>sometimes only describes a situation BUT in action- research, partly intervenes</td>
</tr>
<tr>
<td>Result</td>
<td>tests relationships between concepts</td>
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<tr>
<td>Supporting</td>
<td>accepts or rejects proposed theory</td>
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<tr>
<td>Argument</td>
<td>truth seen as context bound</td>
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Research
The purposes of research can be categorised as:
- Description (narrative)
- Explanation (theory-based)
- Analysis (operational)
- Prediction (forecasting future events or predicting)
- Prevention (preventing the occurrence of events)

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Typical Methods

Research Methods Categorised by Activity

Teaching: Elementary Concepts

- What is a Variable?
- Scales of Measurement
- Qualitative vs. Quantitative
- Continuous vs. Categorical / Discontinuous
- Independence vs. Dependence

Teaching: Selecting Statistics

Teaching: Software

- Spreadsheets
  - EXCEL
- Statistical Software
  - SPSS (http://www.spss.com)
  - MINITAB (http://www.minitab.com)
  - SAS (http://www.sas.com)

Conclusion

What matters is that the methods used fit the intended purpose of the research.
Men’s health perceptions and early detection of prostate cancer: an interim analysis using grounded theory

By

Dr. Ali Taghipour

Introduction

Who am I?

Why prostate cancer?

What are the aims of study?

Why qualitative study?

Who am I?

GP & lecture in social medicine, Department of Health & Social Medicine, MUMS

some of previous research:
- Mental Health (report to ministry of health),
- IVF & Islam (published as a chapter),
- Risk factors of STD & HIV (in India, non published)

Interested in Social epidemiology
- medical knowledge,
- perceptions of health & illness,
- experiences of health & illness,
- social and cultural aspects of health,
- pattern of health & illness in relation to social construction,
- study of social organization of health care.

Why prostate cancer?

Medical aspects of prostate cancer

-Incidence

The fifth most common cancer in the world (2005)
UK: 98/100,000 men (2004)
Iran: > 1% (1985)?

-Aetiology & Risk factors are unknown (?)

-Screening is controversial (?)

Medical scope & Social scope

Psychosocial aspects of prostate cancer

-Emotional? embarrassment & DRE

-Decision-making? 

-Decision-making? 

-Ethnos period of prostate cancer does not begin when the man first comes into contact with the physician, clinic, or hospital.

-There is a significant period of decision making and self-awareness between illness period and illness period which is named illness period
Aims of study

- General objective:
  - To explore British GPs' and men's beliefs about early detection of prostate cancer.

- Specific objectives:
  - To understand the experiences and perceptions of GPs about the early detection of prostate cancer.
  - To understand the experiences and perceptions of men about the early detection of prostate cancer.
  - To determine what patients' perceptions about the early detection of prostate cancer.

Why qualitative study? 1

- In epidemiology, view about screening of prostate cancer is based on Medical Model or Biomedical Model.

  > Assumptions of Biomedical Model (Kottenton, S, 2006):
    1. Monodisciplinary solution: believes that the mind and body can be treated separately.
    2. Mechanical metaphor: believes that the body can be repaired like a machine. It is disease reduction pathology like rigidity into natural or non-natural bodies.
    3. Technological imperative: means the use and development of technology in medicine which assumption is applied.
    4. Reductionism & finance as disease and in biological (molecular and cellular) changes and).__
    5. Skeptomorphism & evolution; which assumed the every disease is caused by a specific, identifiable pathogen thereby a disease study.

  > Therefore, this model focuses on the disease rather than on the patient, and on the cell and tissue rather than on the person.

Why qualitative study? 2

- To overcome the limitation of biological model, many studies were carried out to create an alternative model.

  > The sick role: it is the first theory which was designed by Talcott Parsons in 1951.
  
  He used ideas from Freud's psychoanalytic theories as well as from functionalism and from Max Weber's work on authority to create an 'ideal type' that could be used to shed light on the social forces involved in episodes of sickness.

Why qualitative study? 3

- Since this publication, many studies were carried out to describe aspects of the illness experience. So, many authors focused on understanding of disease processes and illness experiences.

  > Although, understanding of illness experiences is necessary but not sufficient to have a more comprehensive view about illness.
  
  It seems that developing a perfect illness model should be based on:
    1. Illness experiences,
    2. Illness perception, and
    3. Illness approach.

  > Qualitative methods allow for the development of models without losing any of the above characteristics.

Why grounded theory?

- GT is a qualitative research approach for investigating social processes and structures (Chenzel & Swainson, 1986).

  > It is also a highly systematic approach for studying social experiences and interactions (Holloway & Wheeler, 2002).

  > Grounded Theory (GT) is the best suited approach to describing the social processes of prostate cancer.
Theoretical perspective

- Every research is built upon a paradigm.
  - Overall, in medical research, there are two paradigms:
    1. Problematic (Empirical or Inductive) approach is centered on observation and experiment and assumes the biological aspects of wellness and illness; the main aim of this approach is to test a deductive hypothesis which moves from the general to the specific.
    2. Interpretative (Descriptive or Qualitative) approach focuses on social and anthropological aspects of wellness and illness.
  - GT needs a perspective based on the aims of the study. For example:
    - Symbolic Interactionism is a theory about human behavior and is derived from George Herbert Mead (1934) and developed by Herbert Blumer (1952) and Ellis (1970).
    - Social Constructionism is a wake social theory about knowledge and derived from Berger and Luckmann (1966). GT makes the greatest contribution in areas in which little research has been done.

Social construction

- The focus of social constructionism is to uncover the ways in which individuals and groups participate in the creation of their perceived reality.
  - Berger & Luckmann argue that all knowledge (including medical knowledge) is derived from and maintained by social interactions.
  - Prostate cancer, like other disease, is a transformation from wellness to illness.
  - Social constructionism as a qualitative paradigm is an ideal theoretical perspective of GT to understand GPs' and men's experiences and perception on prostate cancer.

Grounded Theory-1

Use of GT

- Areas:
  - GT makes its greatest contribution in areas in which little research has been done.
  - GT can be used:
    1. As a precursor for or complementary to further investigation.
    2. For the generation of the specific focus.

Grounded Theory-2

History

- In the 1960s, Barney Glaser and Anselm Strauss generated GT from using symbolic interactionism to find out health professionals' interaction with dying patients.
- They discovered systematic methodologies for developing theories from research grounded in data rather than deductive hypotheses from research.
- They published "The Discovery of Grounded Theory" (1967).
- Challenge between Glaser and Strauss.
- Strauss and Corbin developed a new coding process. In this regard, there are three coding phases including open, axial, and selective coding. Through this process, analysis passes from one phase to another (Strauss & Corbin, 1990).
- But, Glaser remained consistent with his earlier work. He contends that Strauss & Corbin's process of developing categories is contrary to the fundamental aspects of GT (Glaser, 1985).

Grounded Theory-3

Sampling

- Initiate by purposeful sampling: It is used in the initial stages to select participants with rich information.
- Continue by theoretical sampling: It is used in the initial stages to select participants with rich information.
- Theoretical sampling occurs as making participant data the generating theory.
  - Theoretical sampling is based on the need to collect data that:
    1. Is adequate for properties of a category.
    2. Is rich in details about categories.
    3. Ensures the properties of a category.
    4. Distinguishes between categories.
    5. Clarifies the relationship between categories.

Grounded Theory-4

Analysis processes in GT

- Analysis is started immediately after each interview. There are 3 phases of analysis (Strauss & Corbin, 1990):
  1. Coaxing the data by open coding: Open coding is defined by Strauss and Corbin as "the analytic process of breaking down, examining, comparing, conceptualizing, and categorizing data."
  2. Connecting categories by axial coding:
    - Axial coding is defined as a set of procedures whereby data are put together in new ways after open coding by taking connections between categories.
  3. Focusing on core category by selective coding:
    - Selective coding is defined as "the process of selecting the core category, systematically relating it to other categories, validating those relationships, and filling in categories that need further refinement and development."
GT & Prostate cancer

- GT has been used for prostate cancer in aspects of:
  1. Treatment by O'Rourke (1999) and Berry et al. (2003).
  2. Adaptation to long-term prostate cancer survival by Kaeppel et al.

- There is no study that used GT to understand GPs and patients' beliefs about early detection of prostate cancer.

Research Method

- The study is designed to be carried out in two phases.
  1. Qualitative study:
     A qualitative study conducted using the grounded theory approach to understand:
     1. the beliefs of GPs on prostate cancer screening, and
     2. the beliefs of men who had been diagnosed with prostate cancer in Iran.
  2. Quantitative study:
     Using the findings from the first phase, a quantitative study (survey) will be carried out to determine the practice outcomes of GPs and their approaches to early detection of prostate cancer.

- Interview
  Using a semi-structured interview guide, a purposive and theoretical sampling of 12 men from public and private sector hospitals who had received therapy and 12 GPs from private and governmental clinics were interviewed face to face in Persian.

Part: Results of men's interview 1

Analysis process

- Transcription
  - All audio-taped interviews recorded in Persian were transcribed in full.
  - For validation of transcription, two transcribed interviews were checked by participants.

- Translation
  - The transcribed interviews were translated into English by the investigator.
  - Among them, two translated interviews were validated by two experts in English in Iran, Mashhad, and also by English tutors of the Language Centre of the University of Surrey.

- Coding
  Data were analysed in two stages:
   1. by hand (immediately after interview)
   2. by using MAXQDA software.

Part: Results of men's interview 2

Coding

- Coding strategy
  The coding strategies are included:
   1. Being close to the data,
   2. Trying to be open related,
   3. Making relationship between data and research topic areas,
   4. Resting on the participant responses, such as abstract and text composition, and
   5. Using simple codes.

- Coding process
  Based on Strauss & Corbin coding procedure, there are three coding phases including:
   1. open
   2. axial, and
   3. selective coding.

Through this process, analysis passes from one phase to another.

Part: Results of men's interview 3

Open coding

1. Initial codes
   Open coding procedure was employed to examine the transcribed interviews by words, phrases, lines, and paragraphs.
   Then the concepts of data were discovered and named as the initial codes.
   These codes were examined and compared to distinguish their characteristics and their dimensions.
   The coding of these 12 men interviews resulted in more than 300 various codes.

2. Subcategory
   The similar codes were grouped to develop subcategories.

3. Major categories
   Open coding resulted in the identification of properties and dimensions of three major categories of men's perception:
   1. Knowledge
   2. Coping, and
   3. Uncertainty.

These different categories provide a unique transformation from men's wellness perception into illness perception.

Part: Results of men's interview 4

Major categories of men's perception

- Men's perception
- Transformation
- Stages

- Knowledge
- Uncertainty
- Coping
Part 1: Results of men's interviews

1. Coping transformation
   - Hiding
   - Controlling

2. Power
   - Mandatory transformation

3. Results of men's interviews

PhD Support Group Meetings,
University of Surrey, GS6486
28 April 2007

Dr. Ali Taghipour Disseminations
on 25th April 2007

An interim analysis using Grounded Theory

"Men’s health perceptions and early detection of prostate cancer"

DR. ALI TAGHIPOUR

This is to certify that

CERIFICATE

and Medical Sciences
European Institute of Health

University of Surrey
7th August 2007

Confirmation of seminar presentation

This is to confirm that Ali Taghipour together with Vasso Vydelingum presented the paper ‘Health seeking behaviour in patients with prostate cancer in Iran’ on the research seminar: ‘Illness and identity in healthcare: afternoon seminar on medical sociology’ at the University of Surrey, Guildford on the 6th of June 2007.

Yours sincerely,

[Signature]

Dr John Aggergaard Larsen
Illness and identity in healthcare: afternoon seminar on medical sociology

Illness raises questions about individual identity and the fluidity of continuity of self – themes that have sparked the sociological imagination. Talcott Parsons famously observed that the sick role imposes certain rights and obligations on the individual, and Goffman shed light on the institutionalizing factors of mental health asylums. More recently, social scientists have examined how medical technologies and therapeutic processes impact on individuals’ sense of self and recovery.

At the University of Surrey medical sociologists and anthropologists are working alongside healthcare practitioners and researchers to contribute a critical and interpretive social science approach to largely applied research in the health sector. This seminar brings together a number of researchers to present their work on illness and identity, and to discuss wider theoretical and practice related implications.

This afternoon seminar is an opportunity to invite colleagues across the campus to take part in the discussion of developments in medical sociology – and to flag up this sub-discipline within social sciences, which is gaining increasing prominence nationally and internationally.

Wednesday 6 June: 1 - 4.30 pm
EIHMS, Duke of Kent Building, 17DK02

The seminar is free, but please register latest 31 May: c.white@surrey.ac.uk

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<tr>
<th>TIME</th>
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<tr>
<td>1-1.15 pm</td>
<td>Welcome and introduction Professor Pam Smith (Centre Director, CRNME) and John Aggergaard Larsen (Research Fellow, EIHMS)</td>
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<td>1.15-1.40 pm</td>
<td>Experiences of Infertility: liminality and the role of the clinic Helen Allan (Senior Research Fellow, CRNME)</td>
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<td>1.40-2.05 pm</td>
<td>Private and public ageing: the transition through the menopause Karen D Ballard (Programme Director, PGMS), Mary Ann Eliston and Jonathan Gabe</td>
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<td>2.05-2.30 pm</td>
<td>The social negotiation of meaning and self in recovery from psychosis John Aggergaard Larsen (Research Fellow, EIHMS)</td>
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<td>2.30-2.50 pm</td>
<td>Discussion</td>
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<td>2.50-3.10 pm</td>
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<td>3.10-3.35 pm</td>
<td>Health seeking behaviour in patients with prostate cancer in Iran Vasso Vydeilingum (Senior Lecturer, EIHMS) and Ali Taghipour</td>
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<td>3.35-4.00 pm</td>
<td>Negotiating identity during fieldwork in palliative care settings Anne Arber (Lecturer, EIHMS)</td>
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<td>4.00-4.30 pm</td>
<td>Discussion – and the future of medical sociology at Surrey</td>
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Dr. Ali Taghipour

Disseminations

ABSTRACTS: Illness and Identity in Healthcare. 6 June 2007

Dr. Ali Taghipour

Disseminations
Medical Sociology Seminar: 06th June 2007

Health seeking behaviour in patients with prostate cancer in Iran

- Dr. Vass Vydellinum, Dr. Ali Taghipour, Prof. Sara Faithfull

EHIMS, University of Surrey

An overview on Kleinman's (1988) framework

- Naming and recognising the problem
  1. What do you call the problem?
  2. What is at stake for the patient?
  3. Why do you think it exists when you did it?
  4. What do you think the sickness does? How does it work?
  5. How severe is the sickness?
  6. What do people expect from treatment?
  7. What are the chief problems the sickness has caused?
  8. What do you fear most from the sickness?

Introduction

- Population:
  - 80% Iranian
  - 2nd largest in the world
  - 3rd largest in the world

- Problems:
  - Not yet diagnosed
  - Not yet treated
  - Not yet managed

- Healthcare:
  - Public
  - Private

- Prevention:
  - No prevention

- Diagnosis:
  - No diagnosis

- Treatment:
  - No treatment

- Management:
  - No management

- Health System:
  - Public
  - Private

I. Naming & recognising the Illness

- Experience of the illness linked to urinary problems:
  - Majority of the participants (nine out of twelve)

  Five years ago I got urinary problems... (e.g. pain, frequency, difficulty) such as going frequently to toilet, especially at night, and I had difficulty to start urination (M. 1).

  I suddenly felt that I need to go to washroom but it (urine) wouldn't come (M. 9).

  Around three years ago my illness started suddenly. I went to toilet more than usual. The urine came very slowly and so I had to force to pass my urine (M. 4).

Naming & recognising the Illness: 'Role of significant other'

- After many months in which I had urinary problems, I didn't take it more seriously and I thought that it is a temporary issue. But later when my wife understood my problem, she sought advice from a health professional and explained clearly for me. So, at that time I understood... Oh! I need to be serious about it (M. 12).
Naming & recognising the illness: “Role of significant other”

- I tried to hide my problem from my wife but finally she understood. She called our family physician and took an appointment. I felt so bad, so she explained the whole story to the doctor. He (doctor) referred us to a specialist (urologist). Well, after diagnosis, he explained all about my illness to my wife and she told me this is a benign tumor and curable. (M. 6).

2. What caused the problem?

- Well, actually I didn’t know anything about prostate. Well, physicians just know but lay people actually um... they don’t know. For example, I didn’t know where my prostate is. (M. 2).
- I thought that I would be always healthy and I’ve never expected this problem. I didn’t really understand how my illness started (M. 6).

3. Sickness timeline

- I didn’t think that it was something serious. I thought may be it’s because of flu or something related to old age. But when I understood the source of the illness, I attempted to follow it. (M. 10)

4. What do you think the sickness does?

- I had two kinds of feelings in two stages. At the first stage, when I had just an elevated PSA I didn’t really think that it is serious. Therefore, I wasn’t too worried. But at the next stage when I was faced with a positive result of a biopsy, I became very anxious and took it very seriously. This cancer became my thinking, my working, my sleeping, and everything. At that time I really felt my illness. I said to myself: “Don’t feed a dead snake in your sleeve” (proverb) (M. 9).

5. How severe is the sickness?

- Suddenly, I’ve got urinary retention. It was very painful. As a man, I never cried before but I cried from this pain. I lost my job because I wasn’t able to do anything (M. 3).
- I experienced pain in two phases of my illness. My illness began by severe back pain. It was horrible. But after radiotherapy, exactly after the 16th session I felt a very severe back pain, and I never had such an experience of pain before. This pain was worse than the last one, which I’d forgotten about. I wish that I hadn’t undergone any radiotherapy. I would prefer to have the last pain instead of the pain that I’ve got now. This pain is going to kill me and I so suffer from it (M. 1).
6. What kind of treatment should you receive?

- We should be told of the diagnosis at the beginning. When I understood that my illness is cancer, I mean prostate cancer, I became depressed for a long times, about one year. I often cried. I became demoralized. But my wife helped me to recover (M3).

7. What are the chief problems you presented to the sickness caused?

- Well, most of my friends who have got the same illness underwent surgery. All of them experienced two problems. One was urinary incontinence and the other was their potency. They all lost their libido and potency. Well, it was very important. On the other hand some of my friends with the same illness didn't have surgery and died due to other illnesses like cardiac arrest or stroke or hypertension. Therefore, I wasn't concerned about it. I thought I can live with it for the rest of my life. For this reason, I didn't think it was so serious and didn't like to report my illness to somebody. I wanted to have an active life. So I refused seeking medical care for a long time (M10).

8. What do you fear about the sickness?

- It is difficult to explain what happened to my genital system. Well, you know it was finished. I felt my penis went into my tummy and my testicle was shrunk. I can't see them. Actually I think that there is nothing there (M3).

- When a man loses his sex, he loses his masculinity. For this reason, I delayed my operation on the prostate. Well, of course some of my friends operated very early without any knowledge about it and now they are in trouble. Unfortunately, our physicians just pay attention to the illness not to me (M10).

Conclusion/Discussion

- The 8 step framework proposed by Kleinman can serve as a useful tool in understanding health-seeking behaviors in men with prostate cancer.

- The illness narrative describes the causes and consequences of the illness as perceived by the patient.

Questions?

References & Further reading

Tuesday 10th July 2007

Re: Ali Taghipour


Letter of Confirmation


Ali presented a paper entitled "Iranian Men’s Perceptions and Experiences about Early Detection of Prostate Cancer" which was well received by the delegates. He was also very active throughout the conference at the different panels and presentations. His comments and observations stimulated considerable academic dialogue. We are grateful for his participation in the conference and contribution to the global dialogues which took place in Oxford.

Warmly,

Dr Robert Fisher
Network Founder and Leader
Introduction 1

- Prostate cancer is the 5th most common cancer in the world
- It is the 2nd most frequent cancer in men
- Aetiology is unknown
- The evidence is not yet strong to be helpful men to identify risk for developing prostate cancer (age, family history)
- There is currently insufficient evidence to support a widespread policy for prostate cancer

Introduction 2

- Illness period of prostate cancer does not begin when the man first comes into contact with the physician, clinic, or hospital.
- There is a significant period of decision-making and self-therapy between wellness and disease periods.
- From a sociological perspective, little is known of patients' perception and experiences about their illness and why they often delay in seeking diagnosis.

Methodology 1

- Understanding of illness experiences is necessary but not sufficient to have a more comprehensive view about illness.
- It seems to developing a perfect illness model should be based on:
  1. Illness experiences.
  2. Illness perception, and
  3. Inductive approach.
- Qualitative methods allow for the development of models without losing any of the above characteristics.
- Why grounded theory?
  - GT is a highly systematic approach for studying social experiences and interactions.
  - It is also a qualitative methodology for investigating social processes and structures.
  - And it is an inductive approach.

Methodology 2

- GT focuses on generating a theory based on social process and interaction.
- The method of creating a theory in GT is essentially based on two elements:
  1. Concepts
  2. Propositions.
- Concepts are terms which are used to denote abstract perception of phenomena at the empirical level through the use of symbols.
- Propositions are used to express the relationships between concepts.
- This study focused on creating a theory on the men's perception and experiences about the early detection of prostate cancer.

Method 1

- Using a semi-structured face-to-face interview guide, 12 Iranian men who had been diagnosed with prostate cancer, interviewed.
- Sampling was guided by theoretical sampling, which is the process of data collection for generating theory whereby the analyst jointly collects, codes, and analyzes the data and decides what data to collect next and where to find them, in order to develop the theory as it emerges.
- In the initial stage of sampling, the method of purposive sampling was used to select the most informative men who could provide sufficient data related to the beliefs about early detection of prostate cancer.
- The selection of participants was continued until data saturation, that is, there was no new data for adding to the categories.
Analysis process 1

- All interviews were audiotaped and conducted in Persian and then transcribed in full.
- The analytic process of GT has three phases including:
  1. Categorising the data by open coding,
  2. Making connection between categories by axial coding,
  3. Focusing on a core category by selective coding.

Analysis process 2

- Axial coding was carried out in which "data were put back together in new ways after open coding, by making connections between categories and subcategories".
- It was done using paradigm model, which is identified "an analytic tool devised to help analysts integrate structure with process".
- By connecting emerged categories, three phenomena were formed including: making sense of the illness, seeking help, and decision-making.

Making sense of the illness (1st P)

- Making sense of the illness resulted from different causes including: urinary problem (obstructive symptoms), low back pain (metastasis symptoms), diagnosis (routine test), and personal control (self-screening test of prostate cancer).
- The main casual condition of this phenomenon was urinary problem. In this regard, one of the participants indicated:
  Five years ago I put urinary problem - using pain, pressure, and pain in the lower back - together, especially at night, and it had difficulty to start urination, then I had difficulty to start urination, then I had to get up and go to washroom. Afterwards, the intensity of my illness changed, and I decided to do more (M. 2).

Context (P 1st P)

- Intensity of the illness symptoms was the main context in which the phenomenon of making sense of illness was formed. During the illness progression, its dimensional ranges can be changed from mild to severe.
- This dimensions influenced selection of the action/interaction strategies. In this regard, one of the participants pointed out:
  I tolerated my illness for 3 years. After that, I couldn't, because I was not able to control my urine. The intensity of my illness increased and I tried to know more (M. 11).

Causal condition 1st P

- The main casual condition of this phenomenon was urinary problem. In this regard, one of the participants indicated:
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Intervening conditions (1st P)

- These conditions might be had either a trigger or barrier role on action/interaction strategies taken within the context of phenomenon:
  - Lack of knowledge, aging issues, temporary issue, and feeling healthy were the barriers intervening condition.
  - Pain, interferes in social life, ritual (e.g. going to Hajj), routine check-up, and death of colleagues were the most important trigger intervening conditions.
  - The main condition was the state of participants' knowing about their illness. This meaning is evident in the following extract:
    Well, actually I didn't know anything about prostate and I thought it was a simple dysfunction and would maybe go away by itself. Many physicians just knew that laypeople actually... they don't know. For example, I didn't know what prostate is. Moreover, I don't know what the relationship between my illness and my testicles is (M. 2).
Action/interactions (1st P)

- The main strategy of this phenomenon in action/interactions was hiding. Based on this strategy, the participants took different actions/interactions including denial, self-treatment, and self-monitoring.
- This strategy often led to delay in seeking appropriate help and decision-making as well.
- They denied accepting the illness, so they thought that their illness was not an important or serious problem. Moreover, they thought that it could be a temporary dysfunction. Some of the participants with respect to this issue indicated:

  "I didn't have any information about my illness. Therefore, when it was started, I didn't like to disclose it finally (M.3). I didn't consider it serious. I just thought that it's nothing special and tried to keep it secret (M. 8). I thought that it's not important and it will be OK spontaneously and did it from my family (M. 4)."

Consequence (1st P)

- These actions/interactions resulted in disclosing of the illness. Through this process, gradually the illness transformed from an individual issue to a familial and/or social concern. One of the participants elaborated how he did conclude with this consequence:

  "I got retention many times and tried to manage it myself. It happened many times. Fortunately, the management was successful and for a few months, I didn't have any problem. Nevertheless, later it came back more severe than previous times. I worried and felt that it is more serious than my imagination and needs more attention. Therefore, I decided to see a GP who is my old friend and to talk about my urinary problem (M. 8)"

Seeking help (2nd P)

Decision-making (3rd P)
1. Naming & recognising the illness

Experience of the illness linked to urinary problems:
Majority of the participants (nine out of twelve)

Five years ago I got urinary problems...um (long pause, apologising) such as going frequently to toilet, especially at night, and I had difficulty to start urination (M. 2).

I suddenly felt that I need to go to rest room but it (urine) wouldn't come (M. 5).

Around three years ago my illness started suddenly. I went to toilet more than usual. The urine came very slowly and so I had to force to pass my urine (M. 4).

2. What caused the problem?

Well, actually I didn't know anything about prostate. Well, physicians just know but lay people actually um... they don't know. For example, I didn't know where my prostate is. (M. 2).

I thought that I would be always healthy and I've never expected this problem. I didn't really understand how my illness started (M. 6).
3. Sickness timeline

- I didn’t think that it was something serious. I thought maybe it’s because of the flu or something related to old age. But when I understood the source of the illness, I attempted to follow it. (M. 10)

4. What do you think the sickness does?

- I had two kinds of feelings in two stages. At the first stage, when I had just an elevated PSA I didn’t really think that it is serious. Therefore, I wasn’t too worried. But at the next stage when I was faced with positive result of a biopsy, I became very anxious and took it very seriously. This cancer became my thinking, my working, my sleeping, and everything. At that time I really felt my illness. I said to myself: ‘Don’t feed a dead snake in your sleeve’ (proverb) (M. 9).

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- I experienced pain in two phases of my illness. My illness began by severe back pain. It was horrible. But after radiotherapy, exactly after the 16th session I felt a very severe back pain, and I never had such an experience of pain before. This pain was worse than the last one, which I’d forgotten about. I wish that I hadn’t undergone any radiotherapy, I would prefer to have the last pain instead of the pain that I’ve got now. This pain is going to kill me and I so suffer from it (M. 1).

6. What kind of treatment should you receive?

- We should be told of the diagnosis at the beginning. When I understood that my illness is cancer, I mean prostate cancer, I became depressed for a long times, about one year, I often cried, I became demoralized. But my wife helped me to recover it (M3)

7. What are the chief problems the sickness caused?

- Well, most of my friends who have got the same illness underwent surgery. All of them experienced two problems. One was urinary incontinence and the other was their sexuality. They all lost their libido and potency. Well, it was very important. On the other hand some of my friends with the same illness didn’t have surgery and died due to other illnesses like cardiac arrest or stroke or hypertension. Therefore, I wasn’t concerned about it. I thought I can live with it for the rest of my life. For this reason, I didn’t think it was so serious and didn’t like to report my illness to somebody… I wanted to have an active life. So I refused seeking medical care for a long time (M. 10).
8. What do you fear about the sickness?

- It is difficult to explain what's happened to my genital system. Well, you know it was finished. I felt my penis went into my tummy and my testicle was shrunk. I can't see them. Actually I think that there is nothing there (M, 3).
- When a man loses his sex, he loses his masculinity. For this reason, I delayed my operation on the prostate. Well, of course some of my friends operated very early without any knowledge about it and now they are going. Unfortunately, our physicians just pay attention to the illness not to me (M10).

Conclusion

- The 8 step framework proposed by Kleinman can serve as a useful tool in understanding health seeking behaviours in men with prostate cancer.
- The illness narrative describes the causes and consequences of the illness as perceived by the patient.

References & Further reading

Methodology

Understanding of illness experiences is necessary but is not sufficient. It is also important to understand the perceived meaning of the illness.

1. Taking men's experiences into condition
2. Taking men's experiences into account
3. Using an inductive approach

In this regard, qualitative methods are not useful to understand these issues.

Method

Using a semi-structured face-to-face interview guide, 121 Iranian men who had been diagnosed with prostate cancer, were interviewed.

Sampling was guided by theoretical sampling, which is the process of data collection for generating theory.

However, in the initial stage of the sampling, the method of theoretical sampling was used to select interviewees who could provide sufficient data related to their experiences about early detection of prostate cancer.

Throughout the process, the analyst reviewed the data, and coded and analyzed the data. The code sheets were used to indicate findings and to analyze the data. The data were analyzed by the research team.

Data analysis was conducted using an inductive approach.

Using GT, the study focused on Iranian men's perceptions and experiences about the early detection of prostate cancer.

Introduction

Prostate cancer is the fifth most common cancer in the world and the second most frequent cancer in men. Treatment is unknown, and it is often diagnosed by symptom-driven biopsy. Men are often reluctant to seek diagnosis for prostate cancer.

There is a significant period of delay and lack of therapy between the diagnosis and the disease.

Tumors are often diagnosed in a stage of advanced disease due to the lack of symptoms.

From a psychological perspective, it is known that patients' perception and experiences about illness period and health care are often delayed seeking diagnosis.

The findings also recommended that knowledge about prostate cancer and the role of masculinity in men's identity must be considered properly in the early detection of the illness.

Results

By connecting emerging categories, three paradigms were formed including making sense of the illness, seeking help, and decision-making.

Discussion

Using the hiding strategy, the participants attempted to manage their urinary difficulties by self-monitoring and indirect therapy. However, due to failure in self-monitoring and impact of the symptoms, the participants often did not realize their problems. However, understanding the symptoms is an essential tool for identifying the illness and its impact on the daily life.

The findings of this study support the view that the more visible and intense the symptoms, the greater the likelihood the participant diagnosed their symptoms and then sought help. It is also important to provide information about the importance of early detection and screening for prostate cancer.

Using an inductive approach, men's perceptions and experiences about the early detection of prostate cancer were analyzed. The findings of this study support the view that the more visible and intense the symptoms, the greater the likelihood the participant diagnosed their symptoms and then sought help. It is also important to provide information about the importance of early detection and screening for prostate cancer.
Faculty of Health and Medical Sciences

This is to certify that

Dr Ali Taghipour

has been awarded 2nd prize at the 1st Faculty of Health and Medical Sciences Post-graduate poster show 24th October 2007

Dr J. E. Brown 25th October 2007

Organiser of the 1st Faculty of Health and Medical Sciences Postgraduate Poster show
Psychosocial aspects of the early detection of prostate cancer in Iranian men

Dr. Ali Taghipour*, Under supervision of Dr. Vasee Vydelingum** and Prof. Sasa Faithful†

*Department of Social Medicine, Faculty of Medicine, Mashhad University of Medical Sciences, Mashhad, Iran
**Division of Health & Social Care, Faculty of Health & Medical Sciences, University of Surrey, Guildford, UK

Introduction
- Prostate cancer is the fifth most common cancer in the world and the second most frequent cancer in men.
- The evidence is not yet strong to be helpful in men to identify risk for developing prostate cancer.
- Despite significant progress in prostate cancer research over the last two decades, screening of the disease has remained controversial.
- Illness period of prostate cancer does not begin when the man first comes into contact with the physician, clinic, or hospital.
- There is a significant period of seeking-help and decision-making between the illness periods.
- From a psychological perspective, little is known regarding patient’s beliefs about their illness and why they delay in seeking diagnosis.

This qualitative study was carried out to understand the psychosocial aspects of the illness detection process from patients’ view rather than physicians.

Methodology
- Understanding of this period needs:
  1. Taking men's experiences into account.
  2. Taking men's perceptions into condition, and
  3. Using an inductive approach.
- This study used a Grounded Theory (GT) approach with a theoretical perspective of Social Constructionism (SC) because:
  1. GT is a highly systematic inductive approach to study men's social experiences and interactions,
  2. SC is a wide sociological theory of knowledge which considers how societal aspects of prostate cancer are develop in social contexts of a particular culture and society.

Methods
- Using a semi-structured face-to-face interview guide, 12 Iranian men who had been diagnosed with prostate cancer were interviewed.
- Sampling was guided by theoretical sampling which is the process of data collection for generating theory.
- However, in the initial stage of sampling, the method of purposeful sampling was used to select the most informed men who could provide sufficient data related to their beliefs about early detection of prostate cancer.
- Through this process, the analysis jointly collected, coded, and analyzed the data and decided what data to collect next and where to find them, in order to develop the emerged theory.
- The selection of participants was continued until data saturation, that is, there was no new data for adding to the categories.

Discussion
- Using the hiding strategy, the participants attempted to handle their urinary dysfunction by self-medication and self-therapy.
- Due to progression of symptoms and failure in first strategy, they persuaded to manage the issue by discarding strategy.
- The findings of this study support the view that the more visible and intense the symptoms, the greater the likelihood that the participants does does his urinary problem to others for seeking help (Hays et al., 1992).
- The seeking help was the third strategy which was used to find more knowledge about the illness.
- Through this process, the participants referred to different healthcare systems include lay referral system (family members and friends), and health system (Abuse Johnson, 1991).
- Through the seeking-help process, they encountered with labeling the problem as a prostatic disorder rather than a urinary dysfunction.
- Decision-making can be viewed from a medical model view or a descriptive view (McKinley et al., 1996).
- Although, clinical decision-making attempts to maximize benefit to the patient by correctly diagnosing the illness, there is an inaccuracy and uncertainty in the early detection tests of prostate cancer.
- The descriptive view of decision-making focuses on social factors, which are logistically unrelated to the medical issues, but they can have dramatic influence on medical decision (Eisenberg, 1992).
- These findings confirm previous research that has shown that through the detection process of prostate cancer the side effects of the illness have affected the masculinity aspects of men's social identity (Chapple & Bredlund, 2002).

Regarding the gender consequences of prostate cancer masculine had a significant role through the detection process of the illness.

Conclusion
- Given psychosocial aspects of the illness, the detection of prostate cancer seems to have wider implications rather than medical model.
- The findings suggest that the social process are affected by some intervening conditions, which is able to be done or constrain the strategies taken to manage the early detection of prostate cancer.
- It is recommended that knowledge about possible causes of the disease and the role of masculinity and men's social identity must be considered properly in the early detection of the illness.

References
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Psychosocial aspects of the early detection of prostate cancer in Iranian men

A Taghipour, V Vydelingum and S Faithfull,

European Institute of Health and Medical Sciences
Faculty of Health and Medical Sciences

Despite significant progress in prostate cancer research over the last two decades, screening of the disease has remained controversial. From a psychosocial perspective, little is known of patients' beliefs about their illness and why they often delay in seeking diagnosis. The purpose of this qualitative study was to understand the psychosocial aspects of the early detection of prostate cancer.

This study used a Grounded Theory (GT) approach incorporating the theoretical perspective of social constructionism. A purposive sampling of twelve men from public and private sector hospitals who had received therapy were interviewed face to face in Persian using a semi-structured interview guide. Interviews were audiotaped, then transcribed in full, translated into English by the investigator, and analysed using MAXqda2 software.

Findings of this study showed that the illness symptoms and therapy consequences considerably influenced the participants' perceptions. They chose hiding as a strategy for symptoms management. Choosing this strategy may be related to embarrassment, normalization, and minimization of the illness problems. Lack of knowledge about the illness was an important barrier in making sense of the illness. The finding also showed that masculinity and doctor-patient relationship were the most important barriers for making decision, but family support and trusted physicians were the major factors to facilitate the decision-making for the illness detection.

The findings recommended that the early detection of prostate cancer need a model based on both biomedical and psychosocial aspects. Given men's perceptions and experiences of the illness, screening of prostate cancer seems to have wider implications.
IMPACT OF PROSTATE CANCER EXPERIENCES ON MEN’S PERCEPTIONS FOR EARLY DETECTION: A QUALITATIVE STUDY

Dr. Ali Taghipour, Dr. Vasso Vydelingum, Prof. Sara Faithfull

Division of Health and Social care

Background: Illness period of prostate cancer does not begin when the man first comes into contact with the physician, clinic, or hospital. There is a significant period of decision-making and self-therapy between wellness and disease periods. Little is known of patients’ perception and experiences about their illness and why they often delay in seeking help.

Method: Using GT, this study focused on Iranian men’s perceptions and experiences about the detection of prostate cancer. Using a semi-structured face-to-face interview guide, twelve men who had experienced prostate cancer were interviewed. Through the process of obtaining data, the investigator jointly collected, coded, and analyzed the data. The selection of participants was continued until data saturation.

Results: Findings of this study showed that the symptoms experienced and therapy consequences considerably influenced the participants’ perceptions. The men felt that medical interventions were focused on the biological aspects rather than psychosocial concerns of the illness. The participant attempted to minimize the therapeutic side effects. However, they did not recommend detection of the illness without a realistic understanding of post treatment complications.

Conclusion: be arguing that men’s experiences and perceptions should be considered in the process of decision-making for any medical intervention.

PSYCHOSOCIAL ASPECTS OF THE EARLY DETECTION OF PROSTATE CANCER IN IRANIAN MEN

Dr. Ali Taghipour, Dr. Vasso Vydelingum, Prof. Sara Faithfull

Division of Health and Social care

Background and objective: Despite significant progress in prostate cancer research over the last two decades, screening of the disease has remained controversial. From a psychosocial perspective, little is known of patients’ beliefs about their illness and why they often delay in seeking diagnosis. The purpose of this qualitative study was to understand the psychosocial aspects of the early detection of prostate cancer.

Method: This study used a grounded theory approach with the theoretical perspective of social constructionism. A purposive sampling of twelve men from public and private sector hospitals who had received therapy were interviewed face to face in Persian using a semi-structured interview guide. Interviews were audiotaped, transcribed in full translated into English and then analyzed.

Results: Findings of this study showed that the illness symptoms and therapy consequences considerably influenced the participants’ perceptions. They chose hiding as a strategy for symptoms management. Choosing this strategy may be related to embarrassment, normalization, and minimization of the illness problems. The finding also showed that masculinity and doctor-patient relationship were the most important barriers for making decision, but family support and trusted physicians were the major factors to facilitate the decision-making for the illness detection.

Conclusion: The findings recommended that the early detection of prostate cancer need a model based on both biomedical and psychosocial aspects.
Unhealthy Professional Boundaries?
Working together in Health and Social Care

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The case studies illuminate the multifaceted, multidimensional and contextualized nature of the organ donation decision-making process. Essential to this process appears to be a knowledgeable individual who remains available to the family during their decision-making to support them and answer their questions. The need for individualized, ongoing assessment to fulfill the family's needs, evaluate their ability to process and use information, and ensure their decision is one that will not be regretted, also appears crucial.

The caregiving experience in cancer: a partner's perspective

Zoe Stamatak, Davina Porock and Alison Edgley - University of Nottingham
nxsu@nottingham.ac.uk

Aim: The aim of the study is to explain and explore the role and impact of caregiving on partners of people with cancer across the cancer journey.

Background: Developing a conceptual framework of informal caregiving was the first step in the study to clarify, define and describe the concept of informal caregiving. This was derived by a concept analysis technique, using literature from a mixture of disciplines, namely nursing, sociology, psychology and medicine. To establish the social, political and economic contexts for the emergence and evolution of the concept of caregiving, several national, international policy documents and anecdotal records were retrieved. The conceptual framework shows that informal caregiving is a multidimensional context, affecting the individual both positively and negatively. In particular the physical, psychosocial and financial aspects of the caregiver's life are all affected and influence how the individual is coping and adjusting to the cancer illness. According to the conceptual framework, demographic and personality characteristics of the caregivers and their relationships with the patient, influence the caregiving experience too.

Methods: Using a Hybrid model adapted by Reynolds (1971) and the results from the concept analysis, a mixed method cross-sectional, explorative study is currently being conducted. This involves semi-structured interviews, along with eight previously used and validated questionnaires with partners of people with different types of cancer across the cancer journey. The conceptual framework of caregiving was used as a guide to identify the concepts to further explore and examine through the use of mixed methods. Data are currently collected concurrently, independent from one another and have equal priority. Qualitative data are analysed using grounded theory and the NVIVO software. Quantitative data are subjected to statistical analysis by the SPSS software.

Results: The results from both methods will be compared and contrasted. If any contradictions arise, the qualitative questions will be refined and additional data will be collected. Results from both methods will be incorporated into the emerging model to offer a richer explanation of the caregiving phenomenon.

Conclusion: Different research methods within the same study can provide richer and deeper understanding of the area under investigation. Using a mixed method design to study the same phenomenon, there is greater likelihood to reach more convincing and robust explanations of the social processes involved with the informal caregiving phenomenon in cancer context.

An exploration of social perspectives about the early detection of prostate cancer in Iranian men

Ali Taghipour, Vasso Vydelingam and Sara Fidjell - University of Surrey and 'Mashhad University of Medical Sciences
a.taghipour@surrey.ac.uk

Background and aim: Prostate cancer is the 5th most common cancer in the world and the 2nd most frequent cancer in men. There is intense debate over the last three decades about the early detection of prostate cancer. Despite significant progress in prostate cancer research, screening of the disease has remained controversial. Evidences suggest that the early detection of the disease has social as well as
biological consequences. The period of illness from prostate cancer does not begin when the man first comes into contact with the physician, but there is a significant period of seeking help and decision-making between the experience of the illness and the disease process. Little is known on the man’s perceptions and experiences about their illness and why they often delay in seeking diagnosis. This study was carried out to understand the social aspects of the early detection of prostate cancer from the men’s perspectives.

**Method:** Grounded Theory (GT) approach with theoretical perspective of Social Constructionism (SC) was used because GT is a highly systematic inductive approach to study the men’s social experiences, and SC is a wide social theory of knowledge which considers how social aspects of prostate cancer develop in social contexts of a particular culture and society. Using a semi-structured face-to-face interview guide, twelve Iranian men from public and private sector hospitals who had been diagnosed with prostate cancer were interviewed face to face in Persian. Purposive sampling was used to select the most informant men who could provide sufficient data related to their beliefs and practices about early detection of prostate cancer. Interviews were audiotaped, and then transcribed in full, translated into English by the investigator. Through this process, the investigator jointly collected, coded, and analyzed the data using MAXqda2 software and decided what data to collect next and where to find them, in order to develop the emerged theory. The selection of participants was continued until data saturation.

**Results:** The value men accorded to early detection of prostate cancer was found to be conditional upon their beliefs of prostate illness and their experiences about their illness and their experiences about care. Findings of this study showed that the symptoms experienced and therapy consequences considerably influenced the participants’ perceptions.

There was a lack of information about the early detection process. The men felt that medical intervention was focused on the biological aspects, ignoring the needs of the individual. The finding also showed that masculinity and the doctor-patient relationship were the most important barriers for making decision, but family support and trusted physicians were the major factors to facilitate the decision-making for the illness detection.

**Conclusion:** The findings of this study support the view that the more visible and intense the symptoms, the greater the likelihood that the participants disclose their urinary problems to others for seeking help. To make a decision for detection of the disease, the participants focused on social factors unrelated to the medical issues, but had dramatic influence on medical decision. These findings confirm previous research that has shown that through the detection process of prostate cancer the side effects of the illness have affected the masculinity aspects of male social identity. It is recommended that the early detection of prostate cancer requires an integrated approach that combines incorporated perspective of both biomedical and social aspects, which should be addressed by health and social care professionals.

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The ethics of undertaking research with children: Is there a need for a interprofessional approach?

Alison Twycross — Kingston University and St George’s, University of London

**Background and aim:** Research needs to be carried out ethically to ensure that (potentially) vulnerable participants are protected from harm. This means considering issues relating to informed consent, anonymity and confidentiality, protection of privacy, and the protection of participants from discomfort and harm. Several documents in the UK outline the principles that should be adhered to when carrying out research with children and young people (For example: Royal College of Paediatrics and Child Health 2000; National Children’s Bureau 2003; Medical Research Council 2004). However, there are disparities between the different codes/statements of principles and in whether adherence to these codes/statements of principles is monitored. Furthermore, in relation to research with and on children and young people there is currently no consensus document in use, within the UK or elsewhere, that all disciplines are called to adhere to. This results in a variety of inconsistent approaches being adopted. In part, this may be the very contentious nature of ethics, indeed, Dimond (2002) notes that ethical decision-making is fraught because there are no clear right and wrong answers. The paper
Faculty of Health and Medical Sciences
Festival of Research
4th July 2008

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Guest Speakers:
Professor Martin Bennett
Department of Medicine
University of Cambridge

Professor Sir Colin Berry
Emeritus Professor of Morbid Anatomy
Queen Mary College
University of London

http://www.surrey.ac.uk/fhms/research/events/festival.html
THE REMOVAL OF LEAD AND COPPER FROM AQUEOUS SOLUTION BY GRANULAR ACTIVATED CARBON IN BATCH AND FIXED BED PROCEDURES

Jenyn A. Al-Niajar, Abbas T. Sulayman, Angela F. Daniil de Namor, Adel O. Sharif

Thermochemistry Laboratory, Chemical Science (FHMS), University of Surrey

Center for Osmoses Research & Application, Chemical and Process Engineering

Heavy metals are among the most toxic contaminants of surface and water. Since most heavy metal compounds are non-degradable into nontoxic end products, these concentrations must be reduced to acceptable levels before being discharged into the environment. Otherwise these could pose a serious threat to public health and/or affect the quality of potable water (1).

The effect of metals and their compounds on humans, animals and plants, are quite varied. According to the World Health Organization and the International Programme on Chemical Safety (2), (3) the most toxic metals are magnesium, iron, cobalt, nickel, copper, zinc, cadmium, mercury and lead.

Adsorption of Pb(II) and Cu(II) onto granular activated carbon DARACO 20-40 mesh has been investigated. From the batch experiments, adsorption isotherms were produced and the kinetics of the adsorption process was assessed. It was found that this material removes Pb(II) more efficiently than Cu(II). The adsorption data fitted using both, the Langmuir and the Freundlich isotherms. The kinetics of the adsorption process shows the effect of the contact time on the uptake of metal ions. It was found that the adsorption for each element reaches a maximum after 300 min. The fixed bed method was used to determine the experimental breakthrough curve for each element. The effect of flow rate, height of bed and initial metal concentration was investigated.

Acknowledgement: The authors thank the Republic of Iraq, Ministry of High Education for financial support

References:

SOCIAL DETERMINANTS IN THE CONTEXT OF SEEKING DIAGNOSIS OF PROSTATE CANCER

Dr. Ali Taghipour, Dr. Vasso Vydellis, Prof. Sara Fatlifull

Division of Health & Social Care

Background and objective: Little is known about men's social perspectives when they make a decision for diagnosis of prostate cancer. This study was carried out to understand the social determinant of prostate cancer in the process of seeking diagnosis.

Method: Using grounded theory with theoretical perspective of social constructionism, twelve men who had experienced prostate cancer were interviewed face to face.

Results: The findings showed that seeking diagnosis in men with prostate cancer was complicated by some social factors like reluctance to accept the label of prostate cancer, masculinity, gender-related complications of the illness and as a result spoiled identity. These issues were logically unrelated to the medical issues but had dramatic influence on the patients' decision-making to follow the diagnosis. However, receiving support from family especially wife and also trusted family physicians helped men to make an appropriate decision for detection of the illness.

Conclusion: The findings of this study suggest that men's perceptions on the social factors of the illness had a significant influence on delay or acceleration in seeking diagnosis of prostate cancer.
No. 83
Title IMPACT OF PROSTATE CANCER EXPERIENCES ON MEN'S PERCEPTIONS FOR EARLY DETECTION: A QUALITATIVE STUDY
Authors Dr. Ali Taghipour, Dr. Vasso Vydelioglu, Prof. Sara Faithfull
Group Division of Health & Social Care
Abstract
Background: Illness period of prostate cancer does not begin when the man first comes into contact with the physician, clinic, or hospital. There is a significant period of decision-making and self-therapy between wellness and disease periods. Little is known of patients' perception and experiences about their illness and why they often delay in seeking help.

Methods: Using GT, this study focused on Iranian men's perceptions and experiences about the detection of prostate cancer. Using a semi-structured face-to-face interview guide, twelve men who had experienced prostate cancer were interviewed. Through the process of obtaining data, the investigator jointly collected, coded, and analyzed the data. The selection of participants was continued until data saturation.

Results: Findings of this study showed that the symptoms experienced and therapy consequences considerably influenced the participants' perceptions. The men felt that medical interventions were focused on the biological aspects rather than psychosocial concerns of the illness. The participant attempted to minimize the therapeutic side effects. However, they did not recommend detection of the illness without a realistic understanding of post treatment complications.

Conclusion: By arguing that men's experiences and perceptions should be considered in the process of decision-making for any medical intervention.

No. 84
Title ARSENIC SPECIATION IN WATER SAMPLES USING SOLID PHASE EXTRACTION - LINK TO ARSENIC POISONING IN HUMANS
Authors J. O'Reilly, M. Watts and N. I. Ward
Group Chemical Sciences
Abstract
In recent years arsenic (As) has become a major concern in terms of its toxicological effects on humans and the environment. Studies are needed to help identify and quantify the levels of As that reside in the environment, particularly the more toxic As(V) species. Development of a field-based method utilizing disposable Bond Elut SPE cartridges incorporating strong cation exchange (SCX) and strong anion exchange (SAX) phases for the determination of As(III), As(V), DMA and MMA has been employed for waters (well, river, tap and bottled). This methodology enables the separation and preservation of As species in the field with subsequent elution and analysis in the laboratory. Each fraction is analysed by ICP-MS for total As, with correction for the polyatomic 40Ar32Cl and validation using CRM's and inter-laboratory comparison data. Separation of As using the cartridges was confirmed by HPLC-ICP-MS.

The field-based method was employed on waters from various rural areas of Argentina (La Pampa, Santiago del Estero and San Juan), where total As levels have been reported to be as high as 8000 µg/l (1). High levels of naturally occurring As in groundwater in Argentina have been further affected through extensive mining of gold in areas such as San Juan.

In La Pampa As levels in well water are over 700 µg/l (WHO level for drinking water is 10 µg/l As). Contaminated well waters provide a possible uptake of As into the local populace, potentially leading to chronic As poisoning. Therefore studies have been carried out on human and animal samples to establish a link between the natural As levels and the current state of health. Human health in regions like La Pampa and Santiago del Estero have reported many cases of skin lesions, pigmentation changes, hyperkeratosis and various forms of cancer associated with the consumption of this water.
No. 85

**Title**
MEASUREMENT OF POSTPRANDIAL TRIGLYCERIDE KINETICS IN BOTH ENDOGENOUS AND EXOGENOUS LIPOPROTEINS USING STABLE ISOTOPES

**Authors**
F. Sun, M. Stolinski, F. Shojaee-Moradie, M. Umpathy

**Group**
Diabetes and Endocrinology, Postgraduate Medical School

**Abstract**
Abnormally elevated postprandial triglycerides (TG) are a feature of metabolic syndrome and type 2 diabetes and are predictive of an increased risk of cardiovascular disease. The cause is poorly understood due to the lack of selective and sensitive methods to accurately quantify the kinetics of postprandial exogenous (chylomicrons) and endogenous (VLDL) triglyceride-rich lipoproteins. In this study, postprandial TG kinetics were measured in healthy subjects using a novel method to separate exogenous and endogenous lipoproteins. Six healthy volunteers (2M, 4F), age 36.8±3.9y, BMI 24.4±1.1kg/m² (mean±SEM) were studied on 2 occasions in random order: 1) after an overnight fast and 2) during a continuous feeding protocol with 6 liquid meals (486kcal, 11% carbohydrate, 88% fat) given every 2h. In both studies a bolus injection of [1H]-glycerol was administered to label TG. VLDL1 and VLDL2 lipoprotein fractions were separated by sequential ultracentrifugation. Endogenous and exogenous particles were isolated using a novel immunoprecipitation method (Protein G coupled to three monoclonal antibodies specific for apoB100-4G3, 5E11 and B306) which allowed complete separation of apoB100 and apoB48 containing lipoproteins. TG was extracted from the purified particles and glycerol enrichment measured by gas chromatography mass spectrometry. TG fractional catabolic rate (FCR) was calculated using a mathematical model of the exogenous and endogenous TG pathways. Plasma TG concentrations were 0.88±0.11mmol/L in the fasted study and 1.47±0.20mmol/L in the fed study. There were no differences in VLDL1 and VLDL2 TG FCR between the fasted and fed studies (VLDL1, 4.8±3.0 vs 5.7±2.9 pools/day; VLDL2, 2.6±1.4 vs 20.4±2.1 pools/day). In the fed study chylomicron TG FCR (48.0±18.5 pools/day) was not different from VLDL1 FCR but small chylomicron TG FCR (27.6±1.9 pools/day) was significantly lower than VLDL2 FCR (p=0.022). Feeding did not change the clearance rate of VLDL1 and VLDL2 in healthy subjects. Although chylomicrons are cleared at the same rate as VLDL1 the clearance of small chylomicrons (the same density as VLDL2) is lower than the clearance of VLDL2.

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No. 86

**Title**
PSYCHOSOCIAL ASPECTS OF THE EARLY DETECTION OF PROSTATE CANCER IN IRANIAN MEN

**Authors**
Dr. Ali Taghipour, Dr. Vasso Vydelingum, Prof. Sara Faithfull

**Group**
Division of Health & Social Care

**Abstract**
Background and objectives: Despite significant progress in prostate cancer research over the last two decades, screening of the disease has remained controversial. From a psychosocial perspective, little is known of patients' beliefs about their illness and why they often delay in seeking diagnosis. The purpose of this qualitative study was to understand the psychosocial aspects of the early detection of prostate cancer.

**Method:** This study used a grounded theory approach with the theoretical perspective of social constructionism. A purposive sampling of twelve men from public and private sector hospitals who had received therapy were interviewed face to face in Persian using a semi-structured interview guide. Intervies were audiotaped, transcribed in full translated into English and then analyzed.

**Results:** Findings of this study showed that the illness symptoms and therapy consequences considerably influenced the participants' perceptions. They chose hiding as a strategy for symptom management. Choosing this strategy may be related to embarrassment, normalization, and minimization of the illness problems. The finding also showed that masculinity and doctor-patient relationship were the most important barriers for making decision, but family support and trusted physicians were the major factors to facilitate the decision-making for the illness detection.

**Conclusion:** The findings recommended that the early detection of prostate cancer need a model based on both biomedical and psychosocial aspects.
Hi Folks,

I hope this finds you all well and in good spirits.

This is e-mail 1 of 1 today (you haven’t heard that for a long time!) and concerns the details and constitution of the hard copy themed volume which will emerge from the conference. There is no news to report on the eBook just yet: I’m afraid we are still searching for an editor or co-editors - so if you are interested, please drop me a line!

First off, thank you very much indeed for all your nominations and well reasoned supporting arguments for the inclusion of papers in the publication! It has been extremely interesting to gauge reactions to papers as well as to see how people perceive of the project in general and how it could best be represented. As always, at the end of the day we have had some very difficult decisions to make - and I believe the Board finally reached at a result which is both fair to the strength of arguments coming through the nomination system as well as to the project as a whole.

Please read the following notes very carefully; failure to do so will result in your exclusion from the volume.

There will be one volume, comprising of 14 chapters of 20 pages (maximum) each. It will be edited by Peter Twohig and Bob Perrins - a huge ‘thank you’ to both of them for their time and commitment to the project.

The chapters will be;

1) Nathalie Dinh
Indignation in a Cross-cultural Clinical Context

2) lain Law
Health, Wellbeing, Potential and Capability

3) Monica Greco
Self, Narrative and Illness as Creative Invention

4) Peter Kearney
The Barretstown Experience: Communitas and Liminality

5) Harold Schweizer
This Ever-transient Accidental Crossing of Momentsums*: On Alan Shapiro’s Poem, “The Accident”

6) Maria Vaccarella
“I have epilepsy but it's not who I am.” Making Sense of Epilepsy in Roy Robinson’s Electricity

7) Abir Hamdar
Death, Illness, and Disability: The Crisis of Iraqi Masculinity in Betool Khedairi’s Novel Ghaye

8) Bill Albertini
Body and Pain: David Wojnarowicz’s Avant-Garde Remaking of the World

9) Helen Sampson
An Alternative to the Concept of Stress as the Linking Mechanism Between Work and Ill-


I think this provides us with a fascinating and challenging publication which reflects strong facets of this year's conference and does justice to the direction of the project as a whole.

The procedure for publication is this:

a) All authors included in the volume must confirm their willingness to have their chapter included in the volume. Please send an e-mail to Peter, Bob and myself confirming your willingness to develop your chapter for inclusion in the themed volume. This must arrive by Friday 21st September 2007; if we do not receive confirmation, your paper will be withdrawn from the volume and the place offered to another contributor with immediate effect. As soon as you confirm your participation in the edited volume, Alejandro will be sending a template file to facilitate formatting and putting together submissions following guidelines and style sheets.

b) Please ensure you have the latest version of the style sheet; as part of your e-mail, please confirm that you are prepared to abide by the style sheet. Please make sure you are working with Version 7, and Oxford Referencing Version 1.5. Failure to abide strictly by the requirements of the style sheet will result in your paper being returned and, if time is short, excluded from the volume. We will shortly send out a template chapter in Word for you with everything correctly set up.

c) Your paper cannot have appeared anywhere else or require an acknowledgement from another publisher. Your paper is not eligible for inclusion should either of these conditions apply. Please confirm as part of your e-mail that the above condition applies.

d) Your chapter can be a maximum of 20 pages long, including footnotes and references, under the terms of the margins specified in the style sheet.

e) The inclusion of drawings, photographs, illustrations, diagrams, pictures or poetry must be cleared with Rob first; in particular, please note that it is the responsibility of the author to obtain written copyright permission for the use of any such materials. This must be supplied to the editor(s) with a copy to Rob before we will accept the chapter for inclusion. We can only do limited colour reproduction; black/white or grayscale reproductions are preferred.

f) The chapter is to be a development of the work originally given, modified and developed in light of the questions, discussions and feedback held at the conference. Authors submitting the original paper with no modification will be automatically excluded.

g) All chapters are to be submitted to Peter and Bob, with a copy to me by Friday 23rd November 2007 at the very latest. This is non-negotiable. If you miss the deadline, your paper will be excluded. It is usually a good idea to submit sample pages to the editor prior to the deadline date for clearance; it prevents any nasty surprises later in the process!

Peter can be emailed at: Peter.Twohig@SMU.CA Bob Perrins can be emailed at: robert.perrins@acadiau.ca You have my address at the top of this e-mail.

Thank you all very much indeed for your time and energy. We have the prospect of a lively and engaging volume dealing with significant issues. Please do not hesitate to contact me if there is anything further I can do.

Warmly,

Rob
Iranian men’s perceptions and experiences about early detection of prostate cancer

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Abstract

Background and objective: Despite significant progress in prostate cancer research over the last two decades, screening of the disease has remained controversial. From a sociological perspective, little is known of patients' beliefs about their illness and why they often delay in seeking diagnosis. The purpose of this qualitative study was to understand the experiences and perceptions of men about the early detection of prostate cancer.

Method: This study used a grounded theory approach incorporating the theoretical perspective of social constructionism. A purposive sampling of twelve men from public and private sector hospitals who had received therapy were interviewed face to face in Persian using a semi-structured interview guide. Interviews were audio taped, then transcribed in full, translated into English by the investigator, and analyzed using MAXqda2 software.

Results: The value men accorded to early detection of prostate cancer was found to be conditional upon their beliefs of prostate illness and their experiences about cure. There was a lack of information about the early detection process. The men felt that medical intervention was focused on the biological aspects, ignoring the needs of the individual. The men were not expecting to have symptoms because of prostate treatment; this influenced their subsequent seeking diagnosis.

Conclusion: Given men’s perceptions and experiences of the illness, screening of prostate cancer seems to have wider implications. The findings suggest that early detection of the disease in Iran may need a screening model that incorporates both biomedical and psychosocial aspects.

Key words: men, experiences, perceptions, prostate cancer, grounded theory
Introduction

Prostate cancer is a disease that affects men in a far larger proportion than its incidence would suggest. It is therefore hidden from view. The hidden part constitutes an important, unrecognized reservoir of the disease in the community, and its detection and control is a challenge for those working in public health and social medicine.

The incidence of prostate cancer has increased in the last two decades. The estimation of global cancer shows that prostate cancer has become the fifth most common cancer in the world, and the second more frequent cancer in men. It is clear that prostate cancer incidence rates vary widely from developed to developing countries. The reasons for difference in rates of prostate cancer in the developing world are not known, but differences in male life expectancy, lack of diagnostic investigation, poor health care systems, lack of screening policy, and possible environmental factors have all been suggested as influencing prostate cancer incidence. International trends in mortality from prostate cancer have increased but it is less than current incidence, which would suggest that there is a large proportion of undiagnosed disease.

The high incidence and mortality rates of prostate cancer justify for selecting an appropriate preventive strategy. Due to unknown aetiology and inconsistent or inconclusive risk factors, primary prevention of prostate cancer seems to be impracticable. Screening of the disease represents an appropriate strategy of secondary prevention to detect the disease at the early stage. Appraising a screening programme is based on the criteria, which must be considered for its efficacy and effectiveness. Melia summarized these criteria which include: importance health problem; natural history; suitable test; recognizable at an early stage; effective treatment; cost-effective; acceptable policy; acceptable clinical, social and ethical evidences; approved by randomized controlled trials; and overall benefit from screening and adequate staffing and facilities.

As can be demonstrated by these criteria, there is no question that prostate cancer is an important health problem. The incidence rate of prostate cancer has significantly increased by using prostate-specific antigen (PSA) test for detection of asymptomatic disease. PSA testing is available and it costs about £5 for simple testing and £10 for specific testing. The sensitivity and specificity have been affected by using different thresholds of PSA in different countries. In addition, the level of test can be affected by BPH, prostatitis, prostate biopsy, digital rectal examination, and some medicines such as Finasteride.

The natural history of prostate cancer is a study that observes the development of the disease from latent to declare and also its prognosis. Unfortunately, this screening criterion is poorly understood. Furthermore, it
is not possible to predict growth of prostate cancer. This unpredictable nature of the disease is creating debate about its treatment as well. The beneficial affect of prostate cancer screening, i.e. the advantages and disadvantages relate to whether there is a positive outcome of treatment to influence screening behaviours. Early detection reduces the disease-specific mortality by 7 per cent, and decreases the rate of metastasis development. However, over diagnosis may increase the morbidity of men by them receiving unnecessary treatment, which will lead to subsequent impairment of quality of life. The benefits of treatment may also not be realized due to slow progression of the disease. The major challenges for clinicians, therefore, are in clinical decision making in early stage of prostate cancer.

To summarise the debate, the evidences from reviews of the literature consistently demonstrate that there is currently insufficient evidence to support a widespread policy for prostate cancer screening. Screening may burden a large number of men with both psychological and physical complications, which may offset potential benefits of treatment. However, it would be suggested that if men request screening, they should be counselled and guided to make a well-informed decision. In conclusion, there is an ambiguity about whether screening is supported and confusion about what primary care physicians should do in practice. It is therefore important to understand the beliefs that patients themselves have in this process.

Several factors influence the seeking diagnosis of the early detection of prostate cancer. These factors include patients' beliefs about early detection of the disease, perceptions of patients about their health and the success of prevention, and their knowledge and information about prostate cancer. All these, influence the early detection of disease. One of the major implications is the effect of therapy on a patient's masculinity and sexual behaviours. This study addresses one of these issues exploring beliefs of patients about the early detection of prostate cancer using grounded theory based on the social constructionism.

**Methodology**

Grounded theory is a qualitative approach for investigating social processes and a highly systematic approach for studying social experiences and interactions. Although it was first used within the field of sociology, it has been applied by other researchers in different areas. As it becomes an ideal approach in social medicine and health care to conceptualize behaviour in complex situations and to understand the impact of health beliefs and experiences.
Social constructionism (constructivism) is a multi-disciplinary approach to the social sciences and its developing was influenced by philosophy, sociology, psychology and linguistics. It can be defined as a sociological theory of knowledge which focuses to explore the development of social construction (construct) in particular social contexts. A social construction can be a concept or a practice. People accept this construct as a natural or obvious phenomenon. But in reality it can be a product or invention of a particular culture or society.  
Berger and Luckmann argued that social reality is an ongoing, dynamic and re-producible process, which influences people by acting on their interpretations and their knowledge.  

Prostate cancer is one of the most common cancers in men. Previous studies showed that grounded theory has been used in different aspects of prostate cancer research. O’Rouke and Berry et al. conducted studies with regard to the treatment of prostate cancer using grounded theory methodology. Likewise, Walton and Sullivan carried out a study based on grounded theory to discover what spirituality means for men with prostate cancer and how it influences their treatment. Also Kaopua et al. used grounded theory to describe adaptation to long-term prostate cancer survival. Therefore, in comparison with breast cancer, there is not enough evidence on factors, which probably contributed to the construction of the disease as a social problem. Considering the study’s objective, it seems that using grounded theory with theoretical perspective of social constructionism may be give a wider perspective to find out more about men’s beliefs regarding the early detection of prostate cancer.

Method

Using a semi-structured face-to-face interview guide, 12 Iranian men who had been diagnosed with prostate cancer were interviewed. The majority of interviews were carried out at the participants’ houses. This provided an opportunity and freedom for the men to discuss their perceptions and experiences in greater depth. The researcher encouraged participants to talk freely about their beliefs, feelings, and experiences regarding the early detection of the disease. In order to elicit an in-depth explanation, the researcher guided the interviews by using probing questions. Sampling was guided by theoretical sampling. As Glaser and Strauss have noted “theoretical sampling is the process of data collection for generating theory whereby the analyst jointly collects, codes, and analyzes his data and decides what data to collect next and where to find them, in order to develop his theory as it emerges.” In the initial stage of sampling, the method of purposive sampling was used to identify participants who seemed most likely to provide sufficient data related to the beliefs about early detection of prostate cancer. The selection of participants was continued until data saturation, that is, there was no new data to add to the categories.
All interviews were audio taped and conducted in Persian and then transcribed in full. For validation of transcription, two transcribed interviews were checked by participants. The transcribed interviews were translated into English by the investigator. Among them, two translated interviews were validated by two experts in English in Mashhad, Iran, as well as native English academics in the Language Centre of the University of Surrey in the UK.

The analytic process of grounded theory was adopted in which constant comparative method is carried out to establish analytic distinctions and to compare data at different levels of analytic work. Based on Strauss and Corbin’s coding procedure, this process has various phases and analysis passes from one phase to another. These phases were followed through categorising the data by open coding, making connections between categories by axial coding, and focusing on a core category by selective coding.

Through the open coding process, an attempt was made to discover the concepts of data at the outset and then to select a proper names for them as the initial codes. Coding was carried out immediately after interviewing in two stages: at first manually, and then through using MAXqda2 software. This software helped the researcher to organize the textual data into codes and facilitate the management of a large volume of text. The initial coding process resulted in 297 various codes for the participants’ interviews.

Regarding the early detection of prostate cancer, the initial codes were examined to identify their characteristics and compared with other codes within the same interview or in different interviews to find similarities and differences. Then, similar codes were grouped into common types allowing initial subcategories to emerge. As a result, 13 minor categories emerged from the men’s data, which were abstracted to three major categories.

In the next step of analysis, axial coding was carried out in which “data was put back together in new ways after open coding, by making connections between categories and subcategories” It was done using a paradigm model, which is defined as “an analytic tool devised to help analysts integrate structure with process”. This paradigm model includes causal condition, phenomenon, context, intervening conditions, action / interaction, and consequences. Using this model helped the researcher to link subcategories to categories, and also to understand the phenomenon systematically.

In order to ensure credibility and trustworthiness of the finding in this study, participants guided the research process. Although interviews were conducted in Persian, it was not possible to use participants’ own language in the analysis. Help was obtained from two different professional translators (for approving of translated transcripts from Persian to English). Review of translated interviews by the researcher minimised potential
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mistranslations.\textsuperscript{29} To increase validity, the process of coding, categorising and integration of categories, was observed by the supervisors who are expert in qualitative research.

This study was approved by the Research Ethics Committee, University of Surrey and also the National Ethics Committee of the Ministry of Health, Treatment and Medical Education, Iran. All the participants received a verbal and a written information sheet about the purpose of the study and were asked to complete a consent form.

Results

The participants were between 55-80 years in age (average age 67 years). All the participants were literate apart from one and five were graduates from university. All of them were covered by the National Health Insurance but eight of them were additionally supported by private health insurance systems. Out of twelve participants who experienced the illness; in nine men illness began by the manifestation of lower urinary tract symptoms and in one by low back pain. Two other participants had not experienced any symptoms and prostate cancer was diagnosed by routine check up.

Through the analysis, all concepts of data, which were related to the early detection of prostate cancer, were coded. By categorizing the initial codes, 50 categories emerged from the data. Using the paradigm model, axial coding was carried out in which data were put back together in new ways after open coding to make connections between categories and to integrate structure of the early detection process. Finally, 13 minor categories emerged from the data about the early detection of prostate cancer.

These categories were abstracted into three major categories (phenomena) including making sense of the illness, seeking help and seeking diagnosis. For each phenomenon a paradigm model was developed. Paradigms consisted of different components including 1) causal and intervening conditions of the phenomenon, 2) the actions/interactions which were made by the participants, and 3) consequence(s). Through these processes, the illness gradually transformed from an individual issue to a social concern.

1. Making sense of the illness

“Making sense of the illness” was the first major phenomenon, which the participants experienced through the detection process. Making sense of the illness refers to the emotional and physical reactions of the participants when they initially encountered to the illness. In reality, there was an individual interaction between wellness and illness.

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Urinary symptoms the core and main causal condition, led to the occurrence or development of the phenomenon of making sense of the illness. Urinary problems included a wide spectrum of symptoms from an acute to a chronic urinary problem. Some of the participants experienced the illness by acute urinary retention or having difficulty in starting urination. This meaning is clear in the following statement:

I suddenly felt that I need to go to rest room but it (urine) didn’t come (M. 6). Around three years ago, my illness started suddenly. I went to toilet more than usual. It came very slowly and so I had to force to pass my urine (M. 4).

Intensity of the illness was the main context in which the phenomenon of making sense of the illness was formed. During the illness progression, its dimensional range changed from mild to severe. These dimensions influenced taking different actions/interactions strategies. With regard to the intensity, one of the participants pointed out:

I tolerated my illness for 3 years. After that, I couldn’t tolerate anymore, because I was not able to control my urine. The intensity of my illness changed my mind and I tried to know more about my illness (M. 11).

To make sense of the illness, there were some intervening conditions, which could acted either a trigger or a barrier regarding action/interaction strategies taken within the context of the phenomenon.

Interference with social life was a social intervening condition. In Islamic culture, getting urinary problems was a social troublesome. Men needed to be clean for daily prayers. Therefore, there was a social limitation to have group prayer in mosque or to attend a familiy or social ceremony. This meaning is evident in the following statement:

It was a dirty illness. I was in a big trouble when my illness begin. You know, I couldn’t go to the mosque. It became a great difficulty for my social life (M. 6).

Ritual was a religious intervening condition, which refers to some of the Islamic religious ceremonies such as performing Hajj. Hajji (a pilgrim to Mecca) should be Tahir (clean) during the performance of Hajj by having
Wudu (statutory ablution according to Islamic Shariah) before Salat (prayer) and also his body and dress should not be polluted with Najasah (dirty stuff). Urine is one of the Najasahs. Urination is one of the things which make Wudu invalid. Having urinary problems such as urinary frequency or incontinence, performing Hajj became very difficult and stressful. Therefore, people tried to treat this problem before going to Hajj. In this regard, one of the participants indicated:

I applied for Hajj along time ago. In between, I've got urinary problems. However, due to this problem, I thought that it was difficult to go to Hajj. Therefore, I try to solve this problem as soon as possible (M, 2).

Death of colleagues from prostate cancer was another intervening condition. This was a key factor in making the participants aware of the illness. This concept is evident in the following statement:

Seven years ago, one of my colleagues who was my close friend died of prostate cancer in a very short time. You know, it was stressful. I talk to myself: “Look he was a healthy man without any urinary problems. How can this be happening to me? Why not try for prevention” (M, 9).

In contrast to the above triggers, there were some barriers, which interfered with the process of the early detection of prostate cancer. One of the most important barriers was lack of knowledge. Knowledge about the illness was poor among the participants. They did not know what the cause of their illness was and how they could control it. In addition, they were unable to answer to many other questions about the illness. Most of them said that they have never heard anything about the prostate gland and some of them did not still know where the prostate gland was located in the body. This meaning is evident in the following extract:

Well, actually I didn’t know anything about prostate and I thought it was a simple dysfunction and would maybe it would go away by itself. For example, I didn’t know where the prostate is (M.2).

Through the experience of the initial signals of the illness, the participants attempted to manage and handle the illness by choosing hiding strategy. The hiding means to keep the illness symptoms secret from family and/or friends. Based on this strategy, the participants took different actions/interactions including denial, self-therapy and self-monitoring of the illness to manage the illness. This strategy often led to delay in seeking appropriate help and seeking diagnosis, as well.
Denial refers to refusal of accepting that the illness has begun. Some of the participants thought that their illness was not an important or serious problem. Moreover, they thought that it could be a temporary dysfunction. Some of the participants with respect to this issue indicated:

I didn’t have any information about my illness. Therefore, when it started I didn’t like to accept the beginning of my illness (M. 3). I didn’t consider it serious. I just thought that it’s nothing special and try to keep it secret (M. 8). I thought that it’s not too important and it will be OK spontaneously and hid it from my family (M. 4).

Action/interactions taken by the participants in response to the first phenomenon resulted in the disclosure of the illness. In other words, the outcome (disclosing the illness) was formed by interaction between the conditions (intervening conditions, context) which affected the phenomenon and the actions/interactions, which were taken to handle the phenomenon. From this harmonic process, disclosing emerged as its consequence.

2. Seeking help

“Seeking help” refers to the second phenomenon, which was experienced by the participants through the process of illness detection. It is noteworthy that disclosing, which was the outcome of the first phenomenon, itself, became the main causal condition for the seeking help phenomenon. The data illustrated that the disclosing often happened because of failure in self-therapy or progress of the illness intensity. The finding of this study showed that the initial approach by men for seeking help was likely indirect. The participants often tended to view their spouses and/or friends as a primary source for help. It is notable that when the participants sought help from health system, they were often focused on urinary symptoms. They less likely disclosed the psychosocial aspects of their illness. One of the participants elaborated on how he did decide to disclose his illness and to seek help:

I got retention many times and tried to manage it myself. It happened many times. Fortunately, my management was often successful and for a few months, I didn’t have any problem. Nevertheless, later it came back more severely than previous times. I worried and felt that it is more serious than my imagination and needs more attention. Therefore, I decided to see my old friend who is a general practitioner as well and to talk about my urinary problem (M. 8)
Knowledge was the context of the second phenomenon. Through the experience of the illness, the participants gained their knowledge in a complex process.

Analysis of data showed that the participants' information about their illness was different. Initially, their knowledge about the illness and especially care and control of the illness was very low. Nevertheless, through experience of the illness, participants gradually gained more information from different sources such as wife, friends, or health professionals. Within the social interaction, they interpret, select, and organize their knowledge to form their perception about the illness.

When they understood that there is a relationship between their symptoms and prostate gland, their mind changed towards seeking deeper knowledge about the illness. This meaning is evident in following sentences:

When I understood the source of the illness, I attempted to follow it. (M, 10)

Understanding the illness and its cause, nature, and progress made a great change in the participants' knowledge and helped them for a better management of the illness. This understanding was more due to the help and support of their spouses. They had an important role to handle the illness and to seek appropriate help. They were very active and sensitive in the process of their husbands' illness. They monitored their husbands' behaviours and tried to understand their problems. The following statement shows this reality:

After many months, of having had urinary problem, I didn't take it more seriously, and I thought that it is a temporary issue. However, later when my wife understood my problem, she sought advice from a health professional and explained clearly for me. So, at that time I understood... Oh! I need to be serious (M, 12).

In addition, the participants' spouses had an important role in management of the symptoms. Through the process of their diagnosis, they always accompanied their husbands, from the time of being concerned that they had been seeking help. In this regard, one of the participants elaborated:

I tried to hide my problem from my wife. But, finally she understood. She called our family physician and took an appointment. At that time, I was feeling very bad. So, she explained the whole story to the doctor. He (doctor) referred us to a specialist (M, 6).
The findings showed that there were two referral systems. The first one was lay referral system which can be identified a non-systematic non-professional referral system. Regarding the lay referral system, the participants referred to friends who had experienced the same urinary problems. Therefore, before or through seeking professional medical help, the participants or their family attempted to gain more details about different aspects of the illness from their friends, especially about the illness cost, its consequences, and their quality of life. Despite of a positive and encouraging role of the wives to follow for diagnosis of the illness, the friends often provoked them into delaying of detection or treatment of the illness. The following statement reveals this concept:

I'd got urinary problems for many months. I saw that it's not tolerable. So I decided to see my friend who had the same illness. He said me: don't worry; you can treat it by herbal medicine’. He emphasized ‘don’t have any operation on... you would be in a big trouble’ (M. 3).

In the lay referral system, the participants were informed about the social, sexual, and emotional consequences of the illness by their friends. The majority of these friends experienced the same illness. Nevertheless, having a low awareness of prostate cancer sometime resulted in refusal of seeking professional help for a long time. In this regard, one of the participants elaborated:

Well, one of my friends had got the same illness and he was operated, but he got two problems, urinary incontinence and sexual inability. Well, this was an importance experience. So, I preferred to avoid treatment for long time (M. 10).

The second referral system was health professional system. One of the most important sources of the professional help was the participants trusted physicians. They were trusted counselors from the participants' perspective and gave them more information about the different aspects of the illness. One of the participants stated:

I understood that my illness had become severe and I needed to talk to somebody who I could trust. because my specialist was so busy and he just said me; you need to go to Tehran for biopsy of prostate. However, I wanted to know why biopsy and why Tehran. Therefore, I decided to see a GP who I knew him (M. 8).

Regarding the professional referral system, there was not enough primary cancer care support in Iranian health systems for the early detection
of prostate cancer in both private and government health care systems. Lack of a systematic approach contributed to that why the participants were viewed as reluctant to seek help and why they used this system less.

You know, when I understood that I needed help, there were many questions. But, actually, I wasn’t able to find appropriate answers. People need to know about the illness’s symptoms, prevention, diagnosis approaches, and therapy procedures.

The analysis of data revealed that through the seeking help resulted in two major actions including using herbal medicine and/or seeking medical care. Because of easy accessibility, low cost, and safety, the majority of the participants preferred to use herbal medicine before experienced any modern medical approaches. However, the finding illustrated that using herbal medicine often led to delay in seeking medical help. In this regard, one of the participants indicated:

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I explained my urinary problem to my friend. He told me: “Don’t worry I had the same problem and I sort it by herbal medicine”. He referred me to a famous herbalist. He gave me some powder and it was useful. I repeated for many times. However, after one year my illness became severe and I understood my illness was different from my friend’s illness and I can’t care it by just herbal medicine (M.3).
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Due to failure in using herbal medicine and/or the impact of the symptoms, the participants sought medical help. But to have an appropriate medical care, there were some psychosocial issues which would be considered for an appropriate decision.

3. Seeking diagnosis

“Seeking diagnosis” was the third phenomenon of the detection process. This phenomenon describes the detection process and its conditions and actions/interactions. From the participants' point of view, the most important condition, which encouraged them to contribute in the process of seeking diagnosis, was having anxiety from labeling the illness as a prostate problem not as a urinary problem, progression of the illness, failure in herbal therapy, insisting of family for following the illness, suspecting of malignancy, and/or controllability of the illness.

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My specialist told me that if I refused medical care, it may become malignant. Therefore, I accepted it because I wanted to prevent malignancy (M.10).
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Through the process of seeking diagnosis, one of the most important conditions was masculinity, which can be considered as social, sexual, and physical identities. In relation to the social identity, there was a significant relationship between this aspect of identity and seeking diagnosis. Iranian society has a male dominant culture. In these conditions, male identity plays an important role in seeking diagnosis. The findings illustrated that the participants argued that the illness consequences such as impotence are a gender issue rather than a sex problem or a physical side effect. The participants described this consequence as a failure and thought that this failure has spoiled their social identity. Moreover, they thought that this issue has not been considered seriously in the medical investigations. In this regard, one of the participants elaborated:

"Sex is an important issue for men and it is their identity. This illness related to men's identity. When a man loses his sex, he loses his masculinity. For this reason, I delayed my operation on prostate. Yes, I need my health and I also need to save my identity as well (M. 10)."

With respect to masculinity, male often did not like to be considered weak. Lack of muscular control such as incontinence may suggest a failure and raise the participants’ concern. Some of the participants knew what has happened to their friends after surgery. They were aware that their friends are unable to have control of their body and have lost their physical power by incontinence. For some of them, this inability led to social isolation. Consequently, some of the participants preferred to delay in seeking diagnosis because of these social consequences. In this regard, one of the participants indicated:

"Before decision, I asked my friends who had the same illness about the treatment. Well, they were not happy because they couldn't control urine and it was passed itself. It was very difficult for them to go to mosque. It was so stressful. So, for me it became very difficult to make decision (M. 4)."

Through this phenomenon, the participants understood that detection of the illness and medical interventions were necessary. Belief about the controllability of the illness was another trigger. Through the process of the illness, the majority of the participants understood that the early detection would have influence on curability and controllability of the illness.

"Look, consulting with one of my relatives who is living in Germany gave me a good view about curability of the illness. He told me: "don't worry prostate cancer can be controlled". I know that there are many different methods..."
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Through this phenomenon, the participants understood that detection of the illness and medical interventions were necessary. They also realized that there was no other choice to control their illness alone. Based on the acquired knowledge especially suspected malignancy and also severity of the illness, they attempted to relinquish the responsibility of the decision for detection and control of the illness to the trusted physician. This physician could be a GP or a specialist. Nevertheless, the doctor-patient’s relationship had significant influence on relinquishing control of the illness to their physician. In this regard, one of the participants elaborated:

I have a good relation with my physician. We have friendly relationship. They respect me and they explain my problem clearly to clarify the matter and try to make me understand that problem (M. 2).

Another important factor, which deeply affected men’s view through the seeking diagnosis, was confirming the diagnosing of the illness as a malignant disease. In Iran, people are usually afraid of cancer. They often think that cancer means death. Encountering with cancer is very painful for them. In this culture, diagnosis of cancer is an expression of an intractable pain, hopelessness, and a prolonged period of wasting time before death. Therefore, in Iranian society, cancer is a disaster. This concept is obvious in the expression of this participant:

I had two kinds of feelings in two stages. At the first stage, when I had just an elevated PSA, I didn’t really think that it is serious. Therefore, I wasn’t too worried. However, at the next stage when I encountered with positive result of biopsy, I became very anxious and took it very serious. This cancer became my thinking, my working, my sleeping, and everything. At that time, I felt my illness. I said to my self that don’t feed a dead snake in your sleeve (proverb) (M. 9).

Understanding the reality of the illness was difficult for the participants. This understanding was harder for those participants who had not enough knowledge about the illness.

Discussion

This study has illustrated the men’s perceptions and experiences about the early detection of prostate cancer. It was shown that the illness detection is a dynamic process and it contains three sequential phenomena...
including making sense of the illness, seeking help and seeking diagnosis about recognizing of the illness. All these processes are affected by some intervening conditions, which may facilitate or constrain the strategies adopted to manage, handle and response to the phenomena.

Making sense of the illness refers to those participants who suffered from some symptoms of the illness such as urinary problems. In a community-based survey of adults aged 40 years or more, Perry and his colleagues found that 34 percent of the study population reported clinical urinary symptoms. Only two percent of them reported the symptoms to healthcare. Although, the majority of the participants experienced urinary symptoms, it seems that there were some psychosocial triggers and barriers as intervening conditions to perceive the illness.

Regarding the gender aspect of these symptoms, masculinity was the main theoretical perspective of the participants in perceiving the illness and selecting hiding of the urinary problems as a strategy. Therefore, similar to the previous study by Chapple and Ziebland, masculinity was a barrier for disclosing the urinary problems.

Using the hiding strategy, the participants attempted to manage their urinary dysfunctions by self-monitoring and self-therapy. Nevertheless, due to failure in self-therapy and impact of the symptoms, the participants were obliged to disclose their problems. However, in order to understand the issue of disclosure it is necessary to consider different medical and social aspects of the symptoms. Unfortunately, research has paid little attention to the disclosure issue among men with urinary problems. Nevertheless, the findings of this study support the view that the more visible and intense the symptoms, the greater the likelihood that the participants disclose their urinary problems to others for seeking help.

The findings of this study also show that the seeking help is a process results from the disclosure strategy. Through this process, the participants referred to different referral systems including the family members especially their spouse, close reliable friends who had experienced the same illness, and finally the authoritative health professionals. This finding supports the view that the whole process of seeking help involved consultation with the family members, friends, and the health professionals. In general, the seeking help process has two periods including 1) preclinical period, that is, before contact with the physician or the emergency room via lay referral system (family members and/or friends), and 2) clinical period through health care system.

This finding is in agreement with the view that men generally seek most of their health care support from their spouse. This support made
a great opportunity for the participants to gain more knowledge, to understand the nature of the symptoms, and to manage the illness in a proper way.

In addition to the lay referral system, some of the participants sought help from their friends who had experienced the same urinary symptoms. Because of being informed about psychosocial consequences of the illness, there was a significant attitude towards avoiding or delaying the use of medical care.

The findings also show a strong association between the seeking help and embarrassment experienced by men. Roberts et al. reported that there were some difficulties for men to find appropriate terms to talk about urinary symptoms with health professionals. Moreover, when they sought help from health professionals, they were often focused on the urinary problems rather than counselling about psychosocial issues.

Irrespective of the lay referral system, the patterns of men's help-seeking behaviours had an important role in health professional system. Previous research support the popular belief that men are often unwilling to seek help from health professionals. Moreover, men appear to spend less time with physicians during their visit than women, and receive less advice from health professionals. Therefore, it is important to understand how masculinity ideologies and norms related to men's seeking-help behaviours.

Through the seeking-help process, the participants found more information about the symptoms. Then, they encountered with labeling the problem as a prostatic disorder rather than urinary symptoms and made a decision to finalize the diagnosis of the illness. Seeking diagnosis can be viewed from either a medical prescriptive model or a descriptive view. The medical prescriptive of seeking diagnosis is based on probabilities and uncertainties surround the diagnosis and treatment of prostate cancer. The descriptive view of seeking diagnosis focuses on social factors, which are logically unrelated to the medical issues, but they can have dramatic influence on medical decision. Regarding men's perceptions, the findings of this study showed that masculinity and doctor-patient relationship were the most important non-medical factors in seeking diagnosis.

The findings of this study demonstrated that seeking diagnosis has been complicated by the unwanted side effects of the therapeutic procedures of the illness such as impotence and incontinence. Little is known about men's sense of masculinity when they seek help for the early detection of prostate cancer. It is important to find out these effects on the decision about the early detection of prostate cancer.
The findings of this study support the view that the contextual conditions of prostate cancer (symptoms, diagnosis tests, and therapy consequences) most closely concerned with men’s sexual function. Therefore, any physical dysfunction caused by the symptoms and side effects of treatment, might adversely influences men’s gender identity and sense of masculinity. Based on social constructionism, masculinity issues of prostate cancer has a substantial effect on man’s perception to accept the gender related conditions of the illness and can be led to delay in seeking diagnosis for early detection.  

The results of this study also illustrated that the patient-doctor relationship has an important role in seeking diagnosis. Regarding this issue, there are some important aspects including the difficulties of this relationship from the patient’s perspective rather than clinician’s, and the communicative aspect of this relationship, which is influenced by affective behaviour of physicians and their communication skills. This study revealed a more negative perception of patient-doctor relationship.

Implication

Understanding of male perceptions about the illness has several important implications for the early detection of prostate cancer including: definition of a policy for primary cancer care, systematizing the lay referral system, improvement of men’s knowledge, considering the masculinity of the illness, and identification of wife and GP’s roles through the early detection of prostate cancer.

Conclusion

Given men’s perceptions and experiences of the illness, screening of prostate cancer seems to have wider implications. The findings suggest that early detection of the disease in Iran may need a screening model that incorporates both biomedical and psychosocial aspects of the detection process. These social processes affected by some intervening conditions, which is able to facilitate or constrain the strategies taken to manage the early detection of prostate cancer. The findings also recommended that knowledge about prostate cancer and the role of masculinity and men’s identity must be considered properly in the early detection of the illness.

Note

This study has carried out by Dr. Ali Taghipour, PhD student in Division of Health & Social Care, Faculty of health & Medical Sciences.
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University of Surrey, Guildford, UK, under supervision of Dr. Vasso Vydelingum and Prof. Sara Faithfull.

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