

Schmid MA, von Rosen-von Hoewel J, Martin-Bautista E, Szabo E, Campoy C, Decsi T, Morgan J, Gage H, Koletzko B, Raats M (2009) Infant feeding and the concept of early nutrition programming: A comparison of qualitative data from four European countries. *Advances in Experimental Medicine and Biology* 646, 183-188.

ABSTRACT

The concept of early nutrition programming is appearing in policy documents, leaflets and magazine articles with different types of statements. However, the level of representation and influence of this concept is unknown in the area of infant nutrition. We established the degree of reflection and the impact of the concept of nutrition programming among the different government stakeholders of infant nutrition in four European countries.

In each country, a list of stakeholders in the area of infant feeding was established and key persons responsible for the remit of infant nutrition were identified. We conducted standardised face-to-face or phone interviews from January 2006 to January 2007. The interview guide included questions about the concept of nutrition programming. All interviews were digitally recorded and qualitative data analysis was done using QRS NVivo V2.

In total, we analyzed 17 interviews from government organizations in England (5 interviews), Germany (4 interviews), Hungary (3 interviews) and Spain (5 interviews). The concept of nutrition programming was recognized from 4/5 English and 3/4 German interviewees, whereby one organisation reflected the concept in their documents in both countries. In Hungary, 1/3 interviewees recognised the concept and reflected it in their documents. All interviewed Spanish governmental bodies (5/5) recognised the concept of nutrition programming and three of them reflected the concept in their documents.

The concept of early nutrition programming was widely recognized among the key persons of government bodies in all four European countries. However, the concept was not necessarily represented in the produced documents.

Keywords: infant feeding, metabolic programming, nutrition programming, nutrition policy

1. INTRODUCTION

In the first stages of life, nutrition has a significant impact on the maintenance of lifelong health (Lucas 2005). The early diet can influence the neurological development (Dijck-Brouwer et al 2005) and the development of several diseases, such as cardiovascular diseases (Reddy & Katan 2004), diabetes (Steyn et al 2004), and certain types of cancer (Key 2004). This concept is known as early nutrition programming or metabolic programming, which has gained broad recognition among researchers (Demmel-mair et al 2006), as evidence increasingly shows that breastfeeding (Koletzko 2006) and complementary feeding could have an impact on child development and long-term health (Lucas 2005; Demmel-mair et al 2006).

There is an increasing major public health interest about the concept of early nutrition programming and statements reflecting this concept are appearing in policy documents, leaflets and magazine articles targeting infant nutrition. However, the level of representation and influence of this concept among the different stakeholders in the area of infant feeding is unknown.

The aim of this qualitative study was to establish the degree of reflection and the impact of the concept of early nutrition programming among key persons from government organisations and agencies with their remit in infant nutrition in England, Germany, Hungary and Spain.

2. MATERIAL AND METHODS

In 2006, a list of government stakeholder organisations or agencies in the area of infant feeding was established for England, Germany, Hungary and Spain. The key persons responsible for the remit of infant feeding were identified for each stakeholder and invited to participate in the study.

The standardised interview guide included several questions about the concept of early nutrition programming. The following two questions were analysed in this paper: *"Have you come across the term or concept of nutrition programming?"* and *"How is the concept of nutrition programming reflected in your publications?"*.

The face-to-face or phone interviews were conducted in the original language from January 2006 to January 2007 by the same four interviewers. The interviews were digitally recorded and qualitative data analysis was done using QRS NVivo V2.

Qualitative data analysis

As a first step the interview guide including all questions was developed in English and piloted. All interviews were conducted and transcribed in the original language in all countries. A standardised coding tree in English was used to identify the different statements made by the interviewees in regard to the concept of early nutrition programming in the original language. The identified statements were translated into English for further qualitative data analysis.

3. RESULTS

In total, we interviewed 17 government organizations and agencies in England (5 interviews), Germany (4 interviews), Hungary (3 interviews) and Spain (5 interviews). Table 1 lists the government organizations and agencies with key persons who agreed to participate in the qualitative study.

England

Four interviewees from the 5 English government bodies with infant feeding in their remit recognized the concept of early nutrition programming. They quoted the following statements: *"Yes"*, *"Well certainly not using that term"*, and *"Nutrition programming, yes we certainly would use that, is that what you mean"*.

One of the five interviewees state that they are reflecting this concept in their documents: *"One of the terms of references are to review the evidence and the influence of maternal nutrition including growth and development so that will be incorporated within"*.

Germany

Three interviewees from the four German government agencies recognized the concept of early nutrition programming. They responded with the following statements: *"The idea of programming is that nutrition imprints the later activity of metabolic functions during a critical window"*, *"the concept of programming sounds reasonable"*, and *"the basis for the prevention of allergy and dietary intolerance is a health promoting nutrition"*.

The concept of early nutrition programming was reflected in documents of one organisation. The interviewee answered as follows: *"Yes this is one of the pillars why policy are composed"*.

Hungary

One key person of the three Hungarian interviewees recognised the concept of early nutrition programming with the following statement: *“Well this is what I was talking about”*. This concept was reflected in their documents. The interviewee stated the following: *“Practically speaking I use it in my presentation and I try to attract attention to it”*.

Spain

All five Spanish interviewees representing government organisations in the field of infant feeding recognised the concept of early nutrition programming. They gave the following answers: *“yes”*, *“yes of course”*, *“yes since some years ago”*, and *“With this name not, but I imagine that you refer to the metabolism programming in the adult life while a good nutrition in the infancy”*.

Three of the five interviewees stated that their organisation were reflecting this concept in their documents as follows: *“We try to introduce the knowledge from our research projects in the formation of our future professionals”*, *“there is only one publication about this theme”*, and *“The results from our research, specially those related with metabolic alteration and gene expression in prepubertal obese children, are discussed based on this concept, it has not been yet reflected”*.

TABLE 1: Interviewed government agencies in England, Germany, Hungary and Spain

Country	Governmental Agencies
England	Department of Health National Health Service (NHS) Food Standard Agency National institute of Clinical Excellence Scientific Advisory Committee on Nutrition (SACN)
Germany	Federal Institute for Risk Assessment Federal Ministry for Nutrition and Rural Area – Baden Württemberg Bavarian Federal State Office for Health and Food Safety Bavarian Federal Ministry for Environment, Health and Consumer Protection
Hungary	National Institute for Food Safety and Nutrition National Institute for Child Health National Committee for Supporting Breastfeeding
Spain	Spanish Nutrition Society Scientific Research Council ESPGHAN Infant Nutrition Committee Spanish Paediatrics Association University of Granada University of Barcelona

4. CONCLUSIONS

In summary, the concept of early nutrition programming was widely recognized among the interviewed key persons from government organisations and agencies responsible for the remit of infant nutrition in England, Germany, Hungary and Spain. However, the concept of early nutrition programming was rarely integrated in the produced documents.

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