The Effect of Nutrition Counseling on the Mothers' Knowledge to Prevent Improper Nutrition of the Infants

Thesis
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Abstract

Background: Nutrition is a significant factor in the growth, development and overall functioning of a child. Nutrition education is a critical component of most major health promotion and disease prevention programs.

Aim: To evaluate the effect of nutritional counseling to the mothers of infants aged from 6 months to 2 years focusing on proper weaning and nutrition practice.

Method: A descriptive cross sectional study that included 107 mothers of infants aged from 6 months to 2 years (57 males, 50 females; median age was 10 months) who attended nutritional counseling classes focused on proper weaning and nutrition practice. The counseling was done using a written tool (mother card) and verbal counseling. Pre- and post- educational questionnaires in Arabic language were filled by the mothers to assess the improvement in their knowledge.

Results: A significant improvement of the maternal knowledge was noted after medical counseling and during the follow up visits (5 days after). Maternal knowledge about gaining information about their infants weaning and nutrition increased from 16% to 77% ($p = <0.00$). Data revealed that mothers respond better to information that focus on their specific areas of concern about their infants' nutrition.

Conclusion: Verbal counseling was effective in conveying brief concrete information and the written tool (mother card) was effective in addressing more complex information and helped the mothers to recall the information delivered by verbal counseling.

Key words: nutrition – infants – weaning – counseling.

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List of Abbreviations

AAP : American Academy of Pediatrics.

CD : Celiac Disease.

FAO : Food and Agriculture Organization.

HIV : Human Immunodeficiency Virus.

HTLV : Human T-cell Lymphotropic Virus.

IMCI : Integrated Management of Childhood Illness.

IMNCI: Integrated Management of Neonatal and Childhood Illness.

MDG : Millennium Developmental Goals.

PAHO/WHO: Pan American Health Organization/ World Health Organization.

sIgA : surface Immunoglobulin A.

UNICEF: United Nations Children's Fund.

UNICEF/UNU/WHO/MI: United Nations Children's Fund/ United Nations University/ World Health Organization/ Micronutrient Initiatives.

U.S. : United States.

WHO : World Health Organization.

WIC : Women, Infants and Children program.

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Introduction

Nutrition is a significant factor in the growth, development and overall functioning of a child. Good nutrition provides the energy and nutrients essential to sustain life and promote physical, social, emotional, and cognitive development. Prevention is easier than treatment — it is far simpler to help young children and their mothers learn healthy eating and physical activity habits than to change unhealthy habits later on **(Connecticut State Department of Education, 2001).**

The establishment of feeding practices that are comfortable and satisfying for both the parents and the infant is crucial not only for the emotional well-being of both but also for ensuring adequate nutrient intakes for the infant. Appropriate guidance and support from an empathetic and experienced health professional can increase such a mother's confidence, which in turn, allows her to relax and increases the likelihood of establishing successful feeding practices during infancy as well as throughout childhood and beyond **(Heird, 2007).**

Promotion of appropriate feeding practices is fundamentally important in reducing child malnutrition which increases the risk of child mortality and impairs child development. Identifying approaches to reduce the prevalence of malnutrition particularly in the vulnerable first 2 years of life is a priority in developing countries. Malnutrition rates increase between 6 and 18 months, the period of complementary feeding. Inappropriate practices such as the delayed introduction of complementary foods, low energy and nutrient density of foods offered, feeding in small amounts at meals are common causes of malnutrition **(Bhandari et al., 2004 and Zaman et al., 2008).**

Nutrition education is a critical component of most major health promotion and disease prevention programs. Nutrition education has been shown to improve eating habits and health status thus preventing health problems later in life. Comprehensive nutrition education refers to a

planned, sequential instructional tool that provides knowledge and teaches skills to help adapt and maintain lifelong eating patterns **(Briggs et al., 2003).**

Integrated Management of Childhood Illness (IMCI) is a child survival strategy developed by the World Health Organization (WHO) and United Nations Children's Fund (UNICEF) **(Tulloch, 1999).** IMCI aims to improve coverage of essential child health interventions by improving case management skills of first level health workers, strengthening the health system for effective management of sick children, and promoting good community child care practices **(Bryce et al., 2005).** By training physicians to assess nutritional status and feeding problems, to provide appropriate feeding counseling and to give follow-up recommendations, caretaker knowledge and behavior is expected to improve. Consequently, the child's intake of energy and other nutrients should improve, with an impact on nutritional status and morbidity **(Santos et al., 2001).**

The Aim of Work

The Aim of Work was to assess mothers' knowledge about nutrition of their infants through a cross sectional study implementing a pre- and post- educational intervention. A questionnaire in Arabic language was handed to the mothers before and after using a mother card. Questions were based on the IMCI guidelines. Verbal counseling was used to explain a mother card that contains simple information about proper nutritional advices including proper weaning practice.

Chapter 1
Normal Infant Nutrition

The importance of nutrition in pediatrics has become more apparent in recent years as a result of significant observations that have helped both to define the specific needs of young infants to attain optimal growth and development and to prevent the expression of nutritionally related diseases at a later age **(Walker & Watkins, 2003).**

Breast feeding

Breast milk is the natural food for infants. The degree of health benefits derived from breast-feeding is higher in developing countries than in developed countries, and is inversely proportional to the socioeconomic level of the population, which is obviously lower in developing than in developed countries. Evidence from developing countries demonstrates that under conditions of poor hygiene breast-feeding can be a matter of life or death. It has been estimated that 1.3 to 1.45 million deaths in 42 high-mortality countries could be prevented by increased levels of breast-feeding **(Lauer et al., 2006).**

In a recent analysis of the health consequences of child under nutrition, it was estimated that suboptimal breast-feeding was responsible for 1.4 million child deaths and 44 million disability-adjusted life-years, equivalent to 10% of the disability-adjusted life-years in children younger than 5 years **(Black et al., 2008).**

Although pediatricians are key people in the field of child health as counselors, educators, and opinion builders, it is regrettable that too many health professionals limit their advocacy of breast-feeding to the oversimplification that ‘‘breast is best’’. Support from clinicians is positively associated with breast-feeding duration. Pediatricians can and should actively protect, promote, and support breast-feeding, taking into account both public health aspects and the mother’s wishes **(Taveras et al., 2003)**.

The biological characteristics of human milk have been reviewed. Human milk is not a uniform body fluid but a secretion of the mammary gland of changing composition. Foremilk differs from hindmilk, and colostrum is strikingly different from transitional and mature milk. Milk changes with time of day and during the course of lactation. Human milk consists of nutrients, such as proteins, lipids, carbohydrates, minerals, vitamins, and trace elements that are of paramount importance to fulfill the nutritional needs of young infants and ensure normal growth and development **(Lawrence & Lawrence, 2005).**

Human milk also contains numerous immune-related components such as sIgA, leukocytes, oligosaccharides, lysozyme, lactoferrin, interferon-g, nucleotides, cytokines, and others. Several of these compounds offer passive protection in the gastrointestinal tract and to some extent in the upper respiratory tract, preventing adherence of pathogens to the mucosa and thereby protecting the breast-fed infant against invasive infections **(Hosea et al., 2008).**

Human milk also contains essential fatty acids, enzymes, hormones, growth factors, polyamines, and other biologically active compounds, which may play an important role in the health benefits associated with breast-feeding **(Hale & Hartmann, 2007).**

Exclusive Breastfeeding Duration:

Before 2001, the World Health Organization (WHO) recommended that infants be exclusively breast-fed for 4 to 6 months with the introduction of complementary foods (any fluid or food other than breast milk) thereafter. The issue of the optimal duration of exclusive breastfeeding, comparing mother and infant outcomes with exclusive breast-feeding for 6 months versus 3 to 4 months, was assessed in a systematic review of the available literature commissioned by WHO in early 2000 **(Kramer & Kakuma, 2004).**