Patterns of Weaning and its Impact on Infants' Weight in a Rural Lower Egypt

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Presented by

Amira Mostafa Mohamad

M.B.B.CH

Under supervion of

Prof.Dr. Ahmad Esmat Shouman

Professor in the Department of Community, Environmental and Occupational Medicine
Faculty of medicine Ain Shams University

Dr. Nahla Fawzy Abul Ezz

Assistant Professor in the Department of Community, Environmental and Occupational Medicine
Faculty of medicine Ain Shams University

Dr. Sahar Khalil Kandeel

Lecturer in the Department of Community, Environmental and Occupational Medicine
Faculty of medicine Ain Shams University

Faculty of medicine
Ain Shams University
2015

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إعداد

الطبيبة/أميرة مصطفى محمد

بكالوريوس الطب والجراحة جامعة عين شمس

تحت إشراف

الأستاذ الدكتور/ أحمد عصمت شومان

أستاذ بقسم طب المجتمع والبيئة وطب الصناعات

كلية الطب جامعة عين شمس

الدكتور/ نهلة فوزى أبو العز

أستاذ مساعد يقسم طب المجتمع والبيئة وطب الصناعات

كلية الطب جامعة عين شمس

الدكتور/ سحر خليل قنديل

مدرس بقسم طب المجتمع والبيئة وطب الصناعات

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LIST OF CONTENTS

Title	Page No.

List of Abbreviations ..... *i*

List of Tables ..... *iii*

List of Figures ..... *iv*

Abstract *1*

Protocol *2*

Introduction and Aim of the Work *12*

Review of Literature:

Chapter 1: Nutrition of infants *16*

Chapter 2: Breastfeeding *26*

Chapter 3: Malnutrition *83*

Chapter 4: Growth of infants *97*

Chapter 5: Anthropometric assessment of the nutritional state *107*

Participant and Methods *135*

Results *141*

Discussion *156*

Conclusions *166*

Recommendations *167*

Summary *168*

References *174*

Appendix *216*

Arabic Summary .....__

LIST OF ABBREVIATIONS

AAP	*American Academy of Pediatrics*
AHRQ	*US Agency for Healthcare Research and Quality*
AURT	*Acute upper respiratory tract infection*
BCM	*Body Cell Mass*
CD	*Celiac Disease*
COPD	*Chronic Obstructive Pulmonary Disease*
DXA	*Dual energy x-ray absorptiometry*
EBM	*Expressed Breast Milk*
ECM	*Extracellular Mass*
$FADS_2$	*Fatty Acid Desaturase 2*
FMLA	*Family Medical Leave Act*
FSH	*Follicle Stimulating Hormone*
HAMLET	*Human Alpha-Lactalbumin Made Lethal to Tumor Cells*
HPL	*Human Placental Lactogen*
IgA	*Immunoglobulin A*
IQ	*Intelligence Quotient*
kcal/cm	*kilocalories per centimeter*
LH	*Luteinizing Hormone*
MUAC	*Mid-upper arm circumference*
MUAMA	*Mid upper arm muscle area*
NEC	*Necrotizing Enterocolitis*
RDA	*reference dietary allowance*
SIDS	*sudden infant death syndrome*
SIR	*Systemic Inflammatory Response*

WHO	*The World Health Organization*
WWII	*World War II*
WIC	*Special Supplemental Nutrition Program for Women, Infants, and Children*

LIST OF TABLES

Table No.	Title	Page No.
Table (1)	Functions of the nutrients	16
Table (2)	Average weight in kg at different age groups	116
Table (3)	Average height in cm at different age groups	118
Table (4)	Demographic Characteristics of the Studied Group and the Distribution of Infants' Weight	141
Table (5)	Effect of Demographic Factors and Weight at Birth on the Infants' Current Weight	144
Table (6)	Relationship between Age of Introduction of Different Food Items and Infants' Weight	147
Table (7)	Effect of Breastfeeding and Other Types of Milk Intake on Infants' Weight	150
Table (8)	Effect of the Age of Beginning of Milk Intake on Infants' Weight	152
Table (9)	Effect of Diarrhea and Upper Respiratory Tract Infection within the Previous two Months on Infants' Weight	154

LIST OF FIGURES

Figure No.	Title	Page No.
Figure (1)	Food guide pyramid	**23**
Figure (2)	Queen Marie Casimire of Poland with children by Jerzy Siemiginowski, 1684	**28**
Figure (3)	Family of a Camacan chief preparing for a celebration by Jean-Baptiste Debret shows a woman breastfeeding a child in the background	**29**
Figure (4)	The prolactin reflex	**34**
Figure (5)	The milk ejection reflex	**35**
Figure (6)	Rooming-in bassinet	**63**
Figure (7)	Two 25 ml samples of human breast milk	**66**
Figure (8)	Manual breast pump	**69**
Figure (9)	Expressed Breast Milk (EBM) or infant formula can be fed to an infant by bottle	**72**

ABSTRACT

The World Health Organization (WHO) estimated that inappropriate weaning of infants and young children was responsible for one-third of the cases of malnutrition worldwide. This study aimed to describe the weaning practices and its impact on infant weight. Consecutively, we enrolled 200 infants from 6 to 24 months of age coming for immunization or for follow up in rural area of Tokh district. Mothers were interviewed a closed-end interviewing questionnaire for demographic data about herself, her infant, data about weaning process and diseases may suffered during this period.

There is high percentage of under nutrition among infants below two years.

Mothers' age, weight of the child at birth, many siblings and exposure of infants to diarrhea and respiratory tract infections can affect the infant weight significantly during complementary feeding.

However, further research on weaning practices and dietary assessment is required. Prevention and control of diarrheal disease should be done.

Keywords: Weaning, breastfeeding, malnutrition, infant, growth.

PROTOCOL

Introduction

Childhood is a period of an active growth, and this is an interval containing the major transformation from birth to adulthood. Normal growth is depending on adequate nutritional supplement, whereas the human body uses the essential supplement (carbohydrate, protein, fat) as a source of energy. When the intake of these is not sufficient, malnutrition is obtained. ***(Mamoun et al, 2005)***

Weaning is defined as the transitional period commences with the need to introduce food to complement breast milk and ends when the child is fully consuming the family diet. The WHO recommends exclusive breastfeeding for the first six month of life after which infants should receive nutritionally adequate and safe complementary foods while breastfeeding continues up to two years of age or beyond. ***(WHO, 2003a)***

Adequate nutrition during infancy and early childhood is fundamental to the development of each child's full human potential. It is well recognized that the period from birth to two years of age is a "critical window" for the promotion of optimal growth, health and behavioral

development. Longitudinal studies have consistently shown that this is the peak age for illnesses such as diarrhea

After a child reaches 2 years of age, it is very difficult to reverse stunting that has occurred earlier ***(Martorell et al., 1994).*** The immediate consequences of poor nutrition during these formative years include significant morbidity and mortality and delayed mental and motor development.

In the long-term, early nutritional deficits are linked to impairments in intellectual performance; work capacity, reproductive outcomes and overall health during adolescence and adulthood. Poor breastfeeding and complementary feeding practices, coupled with high rates of infectious diseases, are the principal proximate causes of malnutrition during the first two years of life. For this reason, it is essential to ensure that caregivers are provided with appropriate guidance regarding optimal feeding of infants and young children. ***(WHO, 2003c)***

According to Center for Disease Control and Prevention (CDC), **underweight** among infants from birth up to 24months is defined as less than or equal to 2^{nd} to 3^{rd} percentile on gender specific growth charts for birth to 24months weight for age. ***(WHO, 2006)***

Normal weight are infants from birth up to 24 months of age who are more than or equal to 5th percentile & below to 85th percentile weight for age

Overweight are infants from birth up to 24 months of age who are more than or equal to 85th percentile and below 95th percentile weight for age. ***(EDHS, 2008)***

Appropriate infant and young child feeding (IYCF) practices include timely initiation of feeding solid/semi-solid foods from age six months and increasing the amount of foods and frequency of feeding as the child gets older while maintaining frequent breastfeeding. Feeding practices for only around 40 percent of children age 6-23 months met the minimum standard with respect to all three of these feeding practices i.e. inappropriate infant feeding practice is as common as 60 %.***(EDHS, 2008)***

The problem of **inappropriate** and inadequate weaning foods is not new and not unique to the Third World. In the past century in the US and Europe, inadequate weaning practices were associated with mortality rates of infants and young children that exceeded those in most developing countries today. Mothers traditionally have used sugar water, barley water, rice water, corn starch, and other cereal gruels and paps with unfortunate consequences.

Growth assessment is the single measurement that best defines the health and nutritional status of children, because disturbances in health and nutrition, regardless of their etiology, invariably affect child growth. Health and nutrition problems during childhood are the result of a wide range of factors, most of which relate to unsatisfactory food intake or severe and repeated infections, or a combination of the two.

Using the WHO Global Database on Child Growth, which covers 87% of the total population of under-5-year olds in developing countries, describe the worldwide distribution of protein energy malnutrition, The findings confirm that more than a third of the world's children are affected. For all the indicators (wasting, stunting, and underweight), a total 80% of the children affected live in Asia (mainly in southern Asia) 15% in Africa, and 5% in Latin America. (WHO/FAO document ICN/92/2)

EDHS 2008 indicates that there is considerable chronic malnutrition among Egyptian children, 7% of children under age five were wasted. Low weight-for age was slightly more common among children from Upper Egypt (7%) than children from other areas. Urban Governorates (10%) were most likely being wasted. ***(EDHS, 2008)***

Looking at the height-for-age measures, the prevalence of stunting in young children was 23 percent in both 2000 and2005. In 2008, however,

the prevalence of stunting increased to 29 percent. The proportions of children who were found to be wasted and underweight were also higher in2008 than in either of the two earlier EDHS surveys

Optimizing nutrition in early life is increasingly seen to have effect to long term health. Pattern of growth in infancy are correlated with the later risk of metabolic disease. The challenge of optimal infancy nutrition is to match supply with demand throughout this period of life. ***(Rolfs et al, 2004).*** In accordance with the essential role of PHC units and family physician in addressing the local community needs and responding to their demands, There is an urgent need to describe the extent to which the complementary feeding practice of our society is in accordance with the "WHO practice guidelines for complementary feeding" and what are the factors leading to non adherence, so as to help formulating local and culturally specific feeding recommendations.

Aim of work:

To describe the weaning practices and its impact on infant weight.