



شبكة المعلومات الجامعية

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ





شبكة المعلومات الجامعية



شبكة المعلومات الجامعية

التوثيق الالكتروني والميكرو فيلم

جامعة عين شمس

التوثيق الالكتروني والميكروفيلم



نقسم بالله العظيم أن المادة التي تم توثيقها وتسجيلها
علي هذه الأفلام قد اعدت دون أية تغيرات



يجب أن

تحفظ هذه الأفلام بعيداً عن الغبار

في درجة حرارة من 15 – 20 مئوية ورطوبة نسبية من 20-40 %

To be kept away from dust in dry cool place of
15 – 25c and relative humidity 20-40 %



شبكة المعلومات الجامعية



بعض الوثائق الأصلية تالفة



شبكة المعلومات الجامعية



بالرسالة صفحات

لم ترد بالأصل

B1-90V

A study on The Energy Nutrients Intake In Relation to Growth and Socio - economic Status of Pre-school Children.

By

Nihad Hassan Ahmed El- Arabi

B.Sc.1992

(Rural Home Economics)

Faculty of Agriculture

Cairo University

Thesis

Submitted in Partial Fulfillment of The Requirements for

The M.Sc. Degree

In

Home Economics

Department of Food Science and Technology

FACULTY OF AGRICULTURE

CAIRO UNIVERSITY

2002

Supervised by

Dr. Fatma Sayed Galal

**Associate Professor of Home Economics, Faculty of
Agriculture Cairo University.**

Dr. Howida Mostafa Zaghlol.

**Lecturer of Home Economics, Faculty of Agriculture,
Cairo University**

Dr. Atiat Mohamed El - Sayed Arafa

**Associate Professor of nutrition and food sciences
National Research Center.**

Approval Sheet

A study on The Energy Nutrients Intake In Relation to Growth and Socioeconomic Status Of Preschool Children

By

Nihad Hassan Ahmed
B.Sc.1992
Home Economics
Faculty of Agriculture
Cairo University

This thesis for M.Sc. degree has been approved by:

Prof.Dr. Samira Ahmad Kandeel
Professor of Home Economics Department,
Faculty of Agriculture Alexandria University.

Samira Kandeel

Prof.Dr.Nadia M. Abdallah
Professor of Home Economics Department,
Faculty of Agriculture Cairo University.

Nadia... Abdallah

Dr. Fatma Sayed Galal
Associate Professor of Home Economics Department,
Faculty of Agriculture Cairo University.

Fatma...S.. Galal

Date 28/ 8 / 2002

Name of candidate: Nihad Hassan Ahamed

Degree: M. Sc.

Title of Thesis: A study on The Energy Nutrients Intake In Relation to Growth and Socioeconomic Status of Preschool Children.

Supervision : Dr. Fatma Sayed Galal - Dr. Howida Mostafa Zaghlol - Dr. Atiat Mohamed El Sayed Arafa

Department: Food Science and Technology.

Branch : Rural Home Economics

Degree Date :

Abstract

The study was carried out to assess and evaluate the nutritional status of pre-school children.

The study included fifty-nine pre-school children aged between 2-6 years old at Giza Governorate were randomly from four daycare centers located in Faisal. The nutritional status was assessed by antropometric measurements (height & weight) as well using questionnaire sheet included socio-economic data and 24 hour dietary recall

The most important results could be summarized as follow:

- There were highly significant relationships between child's age and each of height, weight, BMR, protein/kg/day.
- There was very significant relationship between child's height and each of WAP and HAP.
- There was very significant relationship between child's weight and each of WAP, HAP and WHP.
- There were highly significant relationships between child's age and each of height, weight, BMR, protein/kg/day.
- There was a significant relationship between child's age and each of calorie intakes/body weight and fat intakes.
- There was significant relationship between child's Cal / B.W and protein intakes.
- There were negative relationships between child's age and each of socioeconomic level, cal/kg/day, protein/B.w and protein /kg/day.
- the prevalence of obesity among males and females were 2.9 % and 8% respectively in age group > 4 years. While no significant differences between the boys and girls in the two age groups.
- The daily intake of calories and nutrient yielding energy for children under study ranged from 749.8 to 1125.0 Kcal/day, While the fat intakes ranged from 16.7 to 32.9g/day. The total carbohydrate intakes ranged from 109.9 to 196.9 g/day. The protein intakes ranged from 22.1 to 46.5 g/day.

Fatma S. Galal

Acknowledgement

First and foremost thanks are due to “ **ALLAH**”, the most beneficent and merciful.

I desire to record my thanks to Dr. **Fatma S. Galal**, Assistant Professor of Home Economics, Departments of Food Science and Technology, Rural Home Economics Section, Faculty of Agriculture, Cairo University .for her direct supervision, and valuable assistance during the investigation.

My sincere gratitude and appreciation are also extended to Dr. **Howida Mostafa Zaghlol**. Lecturer of Home Economic, Departments of Food Science and Technology, Rural Home Economics Section, Faculty of Agriculture, Cairo University. For her guidance close supervision and valuable useful advice.

Many thanks are also extended to Dr. **Atiat Mohamed El-Sayed Arafa** Assistant Professor of nutrition and food sciences, Nutrition and Food Sciences Department, National Research Center, for her direct supervision, and continuous encouragement during the investigation.

Deepest thanks are also extended to Prof. Dr. **Shafika A. Zaki**. Professor of Home Economics, Departments of Food Science and Technology, Rural Home Economics Section, Faculty of Agriculture, Cairo University, for valuable guidance, her sincere help and keen interest.

I wish to express my thanks and gratitude to Prof. Dr. **Laila Hussein** professor of nutrition and food sciences, Nutrition and Food Sciences Department, National Research Center. For her encouragement, useful discussion and other facilities she effort through the preparation of this study.

My sincere gratitude is extended to Dr. **Aly Ezz.El-Arab** Lecturer of nutrition and food sciences, Nutrition and Food

Sciences Department, National Research Center. For his guidance close supervision and he effort through the preparation of this study.

I wish to express my deep gratitude to the staff of the Lab of Nutrition and Food Sciences, National Research Center, and all those who offered any help, advice or criticism throughout this study.

Particular thanks are to the sample subjects and care-day centers for their contribution in the practical part of this thesis.

Cordial thanks and gratitude to my family for their encouragement by every possible means.

TO MY PARENTS

TO MY HUSBAND

TO MY SONS

Table of CONTENTS

Subject	Page
. Introduction	1
. REVIEW OF LITRATURE	5
.1.Prevalence of Nutritional Problems Among Preschool Children In The eveloping Countries	5
.2. Prevalence of Nutritional Problems Among Preschool children in Egypt	7
3. Socio-economic Factors Affecting the Nutritional status of Preschool-Children	9
2.3.1 - Family income	9
2.3.2 - Family and size	12
2.3.3 – Educational and occupational status of the parents	14
2.3.4 - Birth order of the child	16
4.Energy requirement of preschool children	17
2. 4.1 - Energy requirement among pre-school children	17
2.4.2 - Protein Requirements among Pre- school Children	18
2.4.3 -.Carbohydrates requirements among Pre- school Children	19
2.4.4 - Fat requirements among Pre- school Children	20
5. Assessment of the nutritional status of pre-school children:	21
2.5.1- Anthropometric measurements	22
5.2. Dietary intake of preschool children	26

2.5.2.1.	Energy and protein intakes	30
2.5.2.2.	Fat intake	34
2.5.2.3.	Carbohydrates intake	40
5.4.	Dietary Intake at Child Care day Centers	40
6.	Contribution of breakfast to nutrients intake among preschool aged children	42
MATERIALS AND METHODS		44
1.	The subjects and places of the study	44
2.	Methods	44
3.	The-questionnaire sheet included the following data.	44
3.1.	Data related to the family	44
3.2.	Data related to the parents.	44
3.3.	Data related to the house	44
3.4.	Data related to the children	44
4.	Assessment of anthropometric measurements	45
5.	Dietary data of the child	45
6.	Assessment of the socio- economic level of the children	45
7.	Assessment of the nutritional status of the children	46
3.7.1.	Anthropometric Measurements	46

.8. Dietary Assessment	46
.9. Chemical analysis of foods	48
.9.1 Selecting foods for chemical analysis	49
.9.2. Chemical analyses of food samples	50
.10. Estimation of the daily nutrient intakes	54
.11. Evaluation of Anthropometric measurements	54
.12. Adequacy of breakfast	56
.13. Statistical analysis	56
. RESULTS AND DISCUSSION	58
.1. The subjects of the study	59
.2. Family Characteristics	59
.3. Fathers' characteristics	60
.4. Mothers' characteristics	62
.5. The birth order of the children	66
.6. Housing facilities	68
.7. Educational status of the children's parents	69
.8. Assessment of the socio-economic status of the households	70
.9. Anthropometric measurements	73
.10. Assessment of the Dietary Intake	89

.11. Testing for the adequacy of the breakfast meal for the studied preschool children	89
.12. Food consumption pattern of the children under study	85
.13. Frequency of consumed Food Items	87
14. Chemical analysis of different foods and dishes	90
15. Yielding calorie nutrient intakes	91
16. The basal metabolic rates of the children	95
17. Correlation coefficients between studied preschool children	98
18. Stepwise prediction equations	101
Summary and Conclusion	104
Recommendation	110
References	111
Appendix	
Arabic summary	