Deanship Of Graduate Studies

AL - Quds University

Healthy Eating Index Among Population In Bethlehem District

Jamal Ibrahim Al-wahadneh

M.Sc Thesis

Jerusalem - Palestine



Healthy Eating Index Among Population In Bethlehem District

BY

Jamal Ibrahim Al - Wahadneh

B.Sc Al – Quds university Palestine

A thesis submitted in partial fulfillment of requirements for trhe degree of master in public health / department of public health

Al – Quds University

September - 2004

ENDORSEMENT

Public Health School Deanship of post Graduate Studies.

Healthy Eating Index Among

Population In Bethlehem District

By:

Jamal Ibrahim AL - Wahadneh

Supervisor: Dr Ziad Abdeen

Master Thesis Submitted and Accepted,

Date 07/05/2004.

The names and Signaturs of the examining Committee members are as follows:-

1- Dr. Ziad Abdeen Head of committee

2- Dr. Anwar Douldin Internal examiner

3- Dr. Bassam Abu Libdeh External examiner

Signature -

Signature

Signature -----

Al - Quds University

2004

pedication

To my father, my wife, my children and my Colleagues in Emergency Department at Makassed Islamic Charitable Hospital.

Declaration

No portion of the work referred in this thesis has been submitted to an application for another degree or qualification of this or any other university or institute of learning.

Jamal Al – Wahadneh

Jamelus o

Abstract

Healthy Eating Index

To ascertain over all diet quality, **the Healthy Eating Index** (H.E.I) was developed based on a ten component system which comprises of five food groups, four nutrients, and a measure of variety of food intake. Each one of the ten components has score, ranging from 0 – 10, so the total possible index score is 100.

This study was conducted between Feb and March, 2003 in Bethlehem district among specific age group (18 – 64 years).

During the 1st three months of the year 2003, samples were randomly selected, 96% of them responded well to the tools used in the study.

Results indicated:

79% of the participants need to improve their diet habits.

14% showed good diet.

7% reported poor diet

The study highlighted the importance to improve awareness of dietary intake which improve their HEI.

GENDER:

Female gender showed difference in HEI scores than male. Their scores were 69.7% and 69.1% respectively.

INCOME:

- Subjects who have an income of < 423 \$ / month reported 68.8% of HEI.
- Subjects who have an income of (1282 2847 \$) / month reported 69.9% of HEI score.

EDUCATION:

- Subjects with only primary education reported 64.6% of HEI.
- While those with college and higher education scored 70.2% of HEI.

AGE GROUPS:

- 18 24 year group reported 66.7% of HEI score.
- 55 64 year group reported 70.3% of HEI score.

The study recommended the need to improve the dietary nutrients, depending on the recommended number of food servings per day. Also to increase the nutritional education and awareness to improve food consumption patterns which reduce risks of chronic diseases.

Our research needs to be directed at developing measures to assess over all dietary quality. While a number of analytical instruments have been developed which evaluate specific dietary components, such as fat and cholesterol, few instruments have been developed to assess the over all quality of a diet.

ACKNOWLEDGEMENT

I would like to express my gratitude to all who have contributed to the success of this study. First, acknowledgement goes to Dr Ziad Abdeen for supervising this study, for his cooperation and advice.

Thanks to the administration of Makassed Islamic Charitable Hospital; especially the Department of Nursing for their cooperation in opening opportunities for this study.

Thanks to Mr. Radwan Qasrawi who processed and analyzed statistical data on SPSS.

Great thanks to Miss Rana Abassi for typing this thesis.

Thanks to Mr. Derek Ehrihardt for editing this thesis.

Thanks to Mr. Issam Douglus for his cooperation in this thesis.

Thanks to Mr. Riyad Mahmoud for the Montage and finishing the print out of this thesis.

Thanks also to those who are working in the library at Makassed Islamic Charitable Hospital for their support and cooperation.

Special thanks to my father, and the soul of my mother for their inspiration, to my wife and my children who have always stood beside me.

Table of Contents

Chapter 1	-Introduction	1
-	-Statement of problem	6
	-Significant of problem	6
	-Purpose of study	6
	-Research Question	7
	-Assumption of the study	7
	-Limitation of the study	7
	-Definition of Variables	8
	-Summary	9
Chapter 2:-	-Research Setting	10
	-Bethlehem Governorate	10
	-Population	10
	-Education	10
	-Social Indicators	10
	-Economic Condition	11
	-Household Characteristics	11
	-Summary	11
Chapter 3:-	-Literature Review	12
	-Diet risky behavior of adolescent	12
	population	
	-Descriptive study of eating patterns and food habits	13
	-Agricultural Researches service	13
Chapter 4:-	-Form of References	15
	-Conceptual Framework	16
	-Summary	16
Chapter 5 :-	-Methodology	17
	-Research Design	17
	-Population and sample	17
	-Ethical Consideration	17
	-Instrument	18
	-Pilot testing	19
	-Data Collection	19

	-Method of analysis	19
	-Summary	19
Chapter 6:	-Discussion of Results	20
Chapter 6:-	-Discussion of Results	-
	-Selected characteristics	20
	-Major Findings and Interpretation	22
	- Results	23
	- Data Analysis	23
	- Result related Indicators	29
	- Mean Scores for Ten Components by gender, age	31
	groups, H.H income, and level of education.	
	The state of the s	
Chapter 7:-	Technical Issues	60
	- Healthy Diet	66
	- Recommendation	69
	Appendices	
	-Appendix 1: Food Guide Pyramid	70
	-Appendix 2: Questionnaire (Interview)	76
	-Bibliography	84

List of tables

Table 1	HEI rating	23
Table 2	H.E.I by Gender	24
Table 3	H.E.I Scores among age groups	24
Table 4	Distribution of Records by gender	25
Table 5	H.E.I Scores by Income	25
Table 6	HEI by education level	26
Table 7	Component of HEI and scoring system	27
Table 8	H.E.I. Component means score by gender	29
Table 9	All over core by gender , age group ,H.H income and level of education	31

List of figures:

Figure 1	- Mean variety by gender for age group	32
Figure 2	- Mean Total fat by gender for age group	33
Figure 3	-Mean saturated fat by gender for age group	34
Figure 4	- Mean Sodium by gender for age group	35
Figure 5	- Mean Cholesterol by gender for age group	36
Figure 6	- Mean Grain by gender for age group	37
Figure 7	- Mean Fruits by gender for age group	38
Figure 8	- Mean Meat by gender for age group	39
Figure 9	- Mean Grain serving by gender for age group	40
Figure 10	- Mean Milk serving for gender by age group	41
Figure 11	- Mean Fruit serving by gender for age group	42
Figure 12	- Mean Meat serving by gender and age group	43
Figure 13	- Mean Overall by gender and age group	44
Figure 14	-Mean variety by gender and household income	45
Figure 15	- Mean total fat by gender and H.H income	46
Figure 16	- Mean Saturated by gender and H.H income	47
Figure 17	- Mean Sodium by gender and H.H income	48
Figure 18	- Mean Cholesterol by gender and H.H income	49
Figure 19	- Mean fruits by gender and H.H income	50
Figure 20	- Mean Grain by gender and H.H income	51
Figure 21	- Mean Vegetable by gender by H.H income	52
Figure 22	- Mean Meat by gender and H.H income	53
Figure 23	- Mean Fruits serving by gender and H.H income	54
Figure 24	- Mean Grain serving by gender by H.H income	55
Figure 25	- Mean Vegetable serving by gender and H.H income	56
Figure 26	- Mean Milk serving by gender and H.H income	57
Figure 27	- Mean Meat serving by gender and H.H income	58
Figure 28	- Mean Overall by gender and H.H income	59

List of Graphs:

Graph 1	Components of H.E.T	2
Graph 2	Conceptual framework	16
Graph 3	H.E.I Rating	23
Graph 4	All over score for ten component by gender	30

Introduction

It is the best interest of all societies to maintain the health of its people as a public good to be utilized by the nation to a drive their developmental goals and objectives. It is only with a healthy society that a nation can progress and prosper. Recently, reports have indicated that diet and lack of physical activity are significant contributing factors for most of the leading causes of death in the world, such as (Cardiovascular diseases, certain types of cancer, stroke and diabetes), (U.S.D.A. 1994 – 96.) It has been also well documented that a healthy diet reduces the risk of such diseases, Dietary Guidelines for Americans, and National Research Council's report on Diet, and Health (1989).

A study using a healthy diet indicator, based on the World Health Organization Dietary Recommendations, found that mortality was lowest in people with the healthiest diets. (Center for nutrition policy and promotion, "CNPP" 1994)

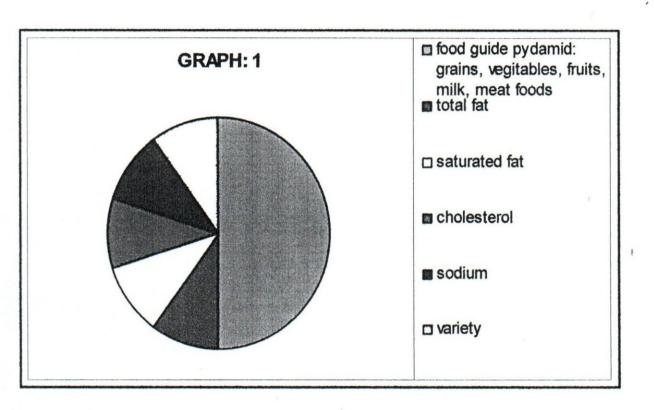
The Healthy Eating index, serves as a performance measure for the success of nutrition intervention efforts to improve dietary habits.

To assess the dietary status of the population sample, the researcher used the healthy eating index, an important new tool for measuring the n individual's food consumption patterns which allows monitoring of changes in ones dietary intake quality.

The Healthy Eating Index was developed by the USDA center for nutrition policy and promotion (CNPP).

The Healthy Eating Index is a summary measure of the overall people's diet:

See graph: 1



Each component of the index has a maximum score of 10 and a minimum score of zero. Intermediate scores were computed proportionately. The maximum over all score for 10 components combined is 100. High components scores indicate intakes close to recommended ranges or amount. Low component score indicate less compliance with recommended ranges or amount. An HEI score over 80 implies a "good" diet, an HEI score between 51 and 80 implies a diet that "needs improvement", and H.E.I score less than 51 implies a "poor" diet. U.S.D.A, Dec, 2002.