

Deanship Of Graduate Studies

AL – Quds University

**Healthy Eating Index
Among Population In Bethlehem District**

Jamal Ibrahim Al-wahadneh

M.Sc Thesis

Jerusalem – Palestine

2004



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 the
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 Signatures of the examining Committee members are
as follows:-

1- Dr. Ziad Abdeen Head of committee

Signature



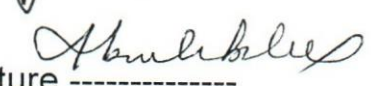
2- Dr. Anwar D~~u~~din Internal examiner

Signature



3- Dr. Bassam Abu Libdeh External examiner

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Al - Quds University

2004

Dedication

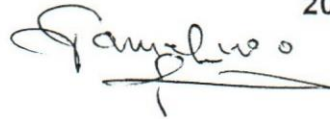
To my father, my wife , my children and
my Colleagues in Emergency Department
at Makassed Islamic Charitable Hospital.

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

2003

A handwritten signature in black ink, appearing to read 'Jamal Al-Wahadneh', with a horizontal line underneath.

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.

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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 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.

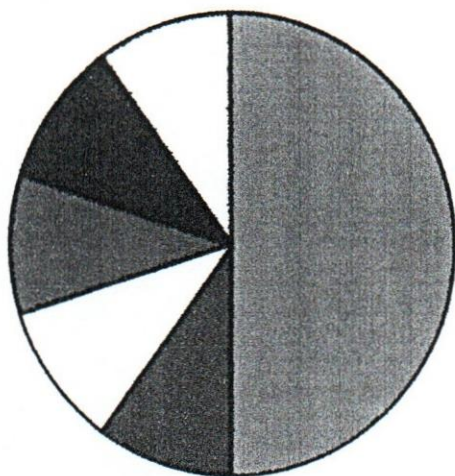
To assess the dietary status of the population sample, the researcher used the healthy eating index, an important new tool for measuring the individual's food consumption patterns which allows monitoring of changes in one's dietary intake quality.

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

GRAPH: 1



- food guide pyramid:
grains, vegetables, fruits,
milk, meat foods
- total fat

- saturated fat

- cholesterol

- sodium

- variety

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.**

Thus the measurement of dietary intakes of an individual is through the assessment of individual's intakes, (24-hour recall).

This study will examine the influence of socioeconomic characteristics, nutrition knowledge, and awareness of diet – disease relationships and dietary patterns. The study will make a strong case in which information and knowledge are the keys that will unlock the door to a better diet and in turn better health. ,

Also the study will show if there is a positive effect between income and education on diet quality.

This study will provide information on food and nutrient intakes of Palestinian people in Bethlehem, using the 24 hours diet recall method

This method is more valid in group surveys than in individual assessment, and is simple to administer and cost – effective.

consumed with the respondent. A final question checked whether anything had been omitted from the recall.

AI – Quds Nutrition and Health Research Institute has adapted the 24 hour recall survey for the Palestinian diet.

The 24-hour diet recall interview was structured into three steps to maximize respondent recall of foods eaten.

The first step, the quick list, involved respondents supplying a broad description of all food and beverage items consumed in the previous 24 hours (4:00am to 4:00 am).

In the next step, a detailed description of each food or beverage items on the quick list was ascertained through a series of questions and prompts specific to each item.

Questions for each item included: time of consumption; eaten in combination with other foods (i.e. hummus and olive oil); the cooking method; fats used in preparation; and recipe where appropriate. If the respondent did not know the recipe of a mixed item, probe questions about ingredients likely to influence the fat content of the food such as the type of fat, (milk, yogurt and/or cheese used) were asked.

If the respondent was able to supply some information about these ingredients this information was used to modify a standard recipe (see nutrient analysis section).

Where the respondent had the packaging available, product names were noted. The amount of food or beverages consumed was measured by volume using cups, spoons, and food photography and shape dimensions.

When the respondent supplied a recipe, the amount of each ingredient was obtained and the portion of the whole dish eaten was recorded.

The third and final step was a review of the recall. The interviewer read aloud the foods eaten in chronological order and verified the descriptions and amounts consumed with the respondent. A final question checked whether anything had been omitted from the recall.

Any information that was forgotten or incorrectly entered was added or edited at this step. Development of 24 hours recall from previous study.

Chapter (I)

Statement of the problem

The researcher aimed at identifying the food habits that contribute to causes of disease among Palestinian people. Meanwhile the researcher thinks that Age, gender, education and income are important factors contributing significantly to the quality of an individual's diet. This affect person eating patterns, either positively or negatively, and ultimately leads to fluctuation in the health status of the people.

Furthermore, absences of written Palestinian food guidelines, and absence of previous studies about Healthy Eating Index, have negatively affected the chosen of healthy diet.

Significant of the problem

Bethlehem is one of the big cities in Palestine where people live in different socio-economic classes of life. These classes differentiation made the study of Healthy Eating Index, make sense.

Most people all over the world are focusing today on the quantity of food which has a significant impact on their health status.

They should follow the recommended types and amounts of foods people can eat to achieve a healthy diet.

Purpose of the study

Aims of the study:

- 1= To assess the dietary status of the Palestinian community in Bethlehem district (18 – 64) years of age.
- 2= To investigate people's awareness of healthy diet in Bethlehem district.
- 3= To come up with recommendations that improve people's awareness of dietary intake and their Healthy Eating Index.

Research questions

In this study, the researcher examined the dietary patterns in order to answer the related questions:

- 1- Is there any relationship between diet consumption and the recommendations of dietary guidelines, or food guide pyramid?
- 2- Do differences exist in healthy diet, based on independent variables such as age, gender, education, and income... etc?

Assumption of the study

The author assumes that:

1. Tools used in this study are valid.
2. Participants in age group (18-64 y) can easily remember what they ate in the last 24hrs.
3. Participants are reliable in telling the truth about their food habits and demographic data.
4. Attitudes, beliefs, and cultural values may influence the outcome of the study.

Limitations of the study

The following were the limitations of the study:

- 1- Political situation in Bethlehem district related to check points and curfews that may stand against gathering data.
- 2- The findings of this study may not be generalized to all Palestinian as it is limited to Bethlehem district.
- 3- Participants in this study may have been affected by factors other than those stated in demographic data, such as education and house hold income.

Definition of Variables

The following are the conceptual and operational definitions of the important variables used in this study:—

Conceptually

- Actual food habits: Eating and drinking habits by an individual were measured with or without planning.
- Healthy diet: The awareness about the quality of diet in order to improve food consuming pattern.

Operationally

- Actual food habits: The actual quality of diet from what a person has consumed is measured by the component of Healthy Eating Index.
- Healthy diet: can reduce major risk factors for chronic diseases depending on the ten components of food.

Variables

- **The Dependent Variables:**
 1. Healthy Eating Index.
 2. Diet- Conform.
- **The Independent Variables:-**
 1. Annual income.
 2. House hold size.
 3. Education (Head of house hold).
 4. Food guidelines pyramid.

Summary:

In summary, this study was designed to describe the eating habits of the people in Bethlehem district.

The ultimate goal of this study was to learn more about the contributing factors that affect the food consumption among people in Bethlehem district.

Chapter (II)

Bethlehem District

Bethlehem District is situated 10 kilometers to the south of Jerusalem and is considered one of the most important pilgrimage and tourist sites in the world.

Bethlehem District includes three cities, three refugee camps, and 57 villages at different locations.

Population

The total number of inhabitants in Bethlehem District in 2002 was 168,563 inhabitants; the male to female ratio is 51.81% and 48.2% respectively. The number is expected to reach 185,128 persons in mid 2005 (P.C.B.S) 2002.

Sex ratio: 104.8 males per 100 females in 1997 and the median age was 18 years. There are 85,268 people aged 18-64.

Education

The literacy rate was 87.1% among individuals aged 15 years or more in 1997, while 4.7% of population holds B.A or higher degrees. School attendance rate among Palestinian children aged (6-18) years is 88% (PCBS) 1997.

Social Indicators

About 2% of the population was disabled, and results showed that mobility related disability was 27.2% of total disabilities.

In addition, 28.2% of the total populations were refugees. The population density in mid 2000 is 223 persons / square kilometer (PCBS).

used to analyze the H.E.I for representative sample of the U.S population. The U.S.D.A used the H.E.I to monitor changes in dietary intake over time and as the basis of nutrition promotion activities for the population.

- ❖ Jayachandran N. Variyam, James Blay Lock, and David Small wood. They developed a comprehensive model to measure the extent that nutrition knowledge and diet-health awareness, among other factors, influence an individual's H.E.I.

This is the first study that rigorously attempt to examine variation in the index across population groups by controlling for personal and household characteristics and nutrition information levels, as well as test for endogeneity of the nutrition information. The results indicate that one's level of nutrition information has an important influence on one's H.E.I.

- ❖ . Lion, m (2002) Reported that the American's eating patterns, as measured by the H.E.I, have improved slightly since 1989 but have not changed from 1996 – 1999 – 2000 . In all three periods, the average H.E.I score indicated that the diet of most Americans needed improvement. In 1999 only 10 percent of Americans had a "good" diet.

They added that gender, age, race, place of birth, education, and income are factors that influence diet quality and, in general, they mention that children less than 11 y of age, adults over the age of 50 y, females, and those with more education and income had a better diet compared with their counterparts.

- ❖ Agricultural Research Service, 1998, February (USDA).

Reported that the dietary intakes of individuals were collected on two non consecutive days. Data was collected through an in- person interview using the 24-hour dietary recall method. The survey was designed to be representative of U.S. population living in lower income households. Data was over sampled to increase the precision level in analysis of this group. The H.E.T was computed for people with completed food intake records the

first day of the survey.

Department of agriculture. Agricultural Research Service, 1998, February.
Continuing survey of food intake by individual's diet and health knowledge
survey.

American college of sports medicine, (2000)

They reported that food intake data based on one – day dietary recall method
which is reliable measures of usual intakes of groups of people.

Pregnant and lactating women were excluded because of their special
dietary needs

Chapter (IV)

Frame Of References

Studies have indicated that H.E.I is affected by internal and external factors. In this study the researcher summarized the effect of these factors as follows (See Figure 2):

↓ External Factors

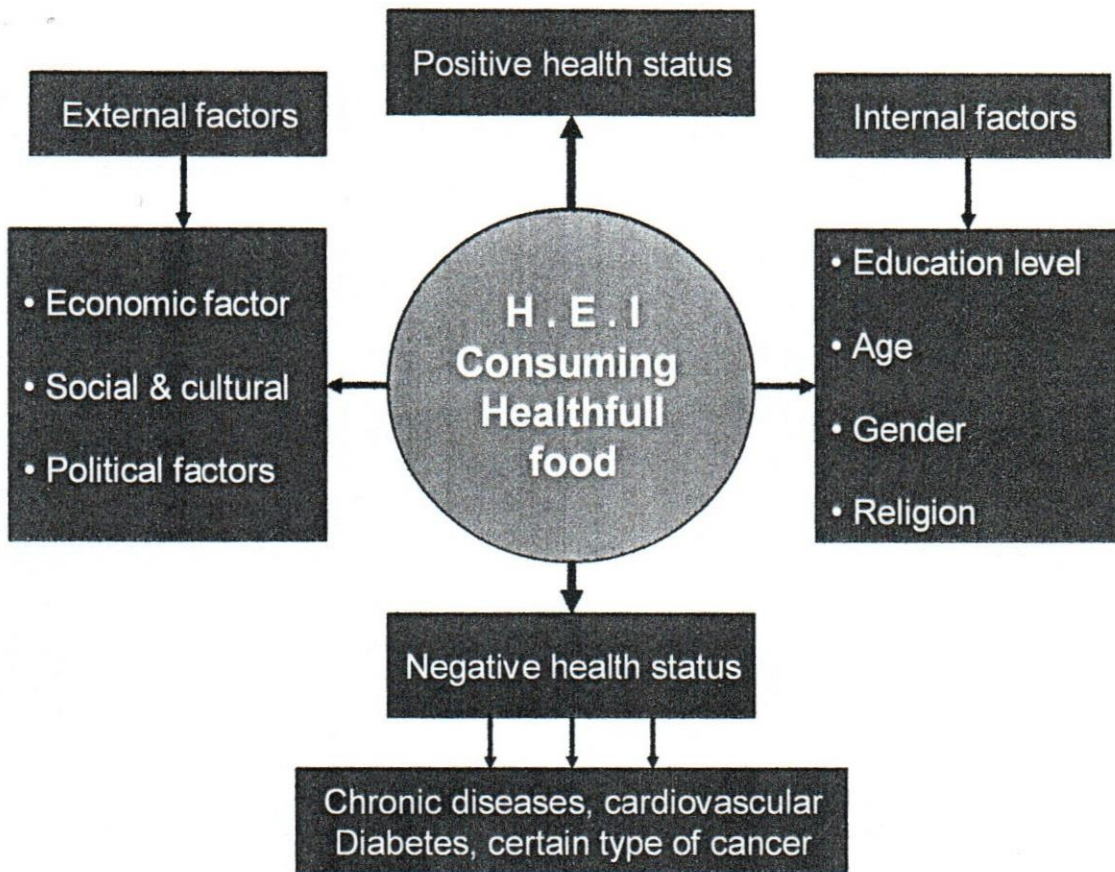
1. **Economic factor:** Family wages is different from family to another, which affects type & quality of food consumed.
2. **Political Situation:** occupation, siege, curfew, are among many obstacles were Palestinians denied free access to work places which results in less opportunity to improve their income.
3. **Social & Cultural factors:** size of the family and the marital status affects the quality and quantity of food consumed by each family member.

↓ The internal factors

Consist of the following:

1. **Education:** people with higher education may acquire more nutrition knowledge which improves the quality of their diets.
2. **Age:** studies showed that children younger than 11years and adults older than 50 years have better diet than others.
3. **Gender:** females tend to have a slightly more healthy diet than males.
4. **Region:** people live in refugee camps have poorer quality diet than others.

Graph 2 conceptual framework



Summary:

This chapter presented the conceptual framework which shows internal and external factors that might influence populations consuming healthy diet.

Chapter (V)

Methodology

Research design

A cross sectional design was used to study the relationship between demographic data (age, gender – education – income) and food habits among people in Bethlehem district. This study is the first study type ever conducted in Palestine.

Identification of population and sample

- The researcher collected participants' names from the governorate office in Bethlehem with the co-operation of Palestinian statistical institution (PCBS).
- There were 85,268 persons in the age group (18-64 years).
- Systematic random sampling was used. . Name lists were reviewed by the researcher, then list of the names of the participants were selected from the first name which includes every other 100 name.
- The total number of participants was 300, their addresses and phone number were registered, and appointments were made by the researcher to do the interview. 250 of the target population agreed to participate in the study.
- 51% of the participants were males and the rest were females.

Ethical Consideration:

- The Al-Quds Nutrition and Health Research Institute (ANAHRI) has been granted the University IRB committee approval for the HEI in 1993.
- A letter to conduct this study has been issued to the participants, and the objectives of the study were clearly conveyed as well as the researcher

address and phone number, and the participants' rights to know the result were indicated.

- According to our culture, all interviews of female participants were conducted in the presence of a female study assistant. Sensitive issues such as weight of participant or related questions were not included in the interview. See appendix (II).

Instrument

- Participants were asked to answer a structured interview (appendix II) designed by the ANAHRI and to complete the questionnaire including the demographic information.
- The consent statement was typed in the cover page of the questionnaire.
- Each questionnaire was accompanied by a cover letter which includes description and providing instructions.
- Participants were assured of anonymity and confidentiality
- Part one of the interview was about the participant's self information and his/her family.
- Part two of the interview was about socioeconomic status, education, and health status of the family.
- Part three of the interview was related to 24 hrs recall diet following the steps.
- Part four was listing the food, and dividing it according to the ten components to measure the HEI.

Pilot testing

- Fifteen persons, 5 from each area, Bethlehem City, Al Duhiesha refugee camp, and Hindaza village, were sampled and interviewed
- Data obtained was analyzed and unclear questions were deleted or clarified.

Data collection

It was not difficult to interview most of the target group that was randomly selected after asking permission to conduct this study.

The researcher contacted some key persons to facilitate the interview so as to complete the questionnaire. The data was collected between Feb and March, 2003

Method of analysis

Upon collecting the data, the researcher numerically coded the data to prepare it for statistical analysis using statistical package for social sciences (SPSS). General frequencies were used to describe the demographic characteristics of the sample.

Data Analysis:

All data was coded by the researcher and entered to computer by data entry professional. The data was double checked through a comparison of the computer printout with the data in the code sheet.

Summary

This chapter presents an overview of the methodology used in this research; pilot testing of the questionnaire was conducted and then analyzed

Chapter (VI)

Discussion of results

The desire to improve overall quality of people's diet is related to several factors including the selected Characteristics:

- 1- Gender.
- 2- Age group.
- 3- Education level
- 4- Household income.

However, some factors proved to be more significant than others.

Gender

In this study, gender plays a significant role. Results revealed that 49% of the sample were females, 51% are males. This indicates that both males and females have almost the same opportunity to share in developing this study.

According to results, females had slightly higher score than males.

Overall mean scores for males are 69.1, females 69.7.

Age:

Age seems to play a significant role, those aged 55 years or more had higher healthy eating index score than younger adults.

According to the study results, the over all (all ages) score was 70.3, while for age group of 18-24 years the over all score was 66.7.

Education level

People with higher education may acquire more nutrition information, which improves the quality of their diet, so education also influences diet quality.

People with Bachelors Degree have a better diet than those with less education according to the study results.

Education may be a predictor of people's ability to translate nutrition guidance information into better dietary practices. Higher education is also associated with higher earnings.

Household Income

Income is a good predictor of ability to purchase food. Higher income groups have the ability to buy relatively expensive food, such as fresh fruits and lean meats, which result in better diet quality.

They are also able to have more variety in their diets. People in higher income households did better on the saturated fat and sodium components of the H.E.I than did people in lower income households.

Furthermore, the number of children was high in the low H.H income families. Therefore gender, age, H.H income and level of education are factors that influence diet quality.

Sources of problems in improving dietary patterns:

- Low education level
- Low financial capability
- Un awareness about healthy diet

So, to minimize their effect, the following recommendations are made:

1. Create more job opportunities, so as to increase the house hold income.
2. Increase people's awareness about healthy diet by a proper use of available mass media.

Results:

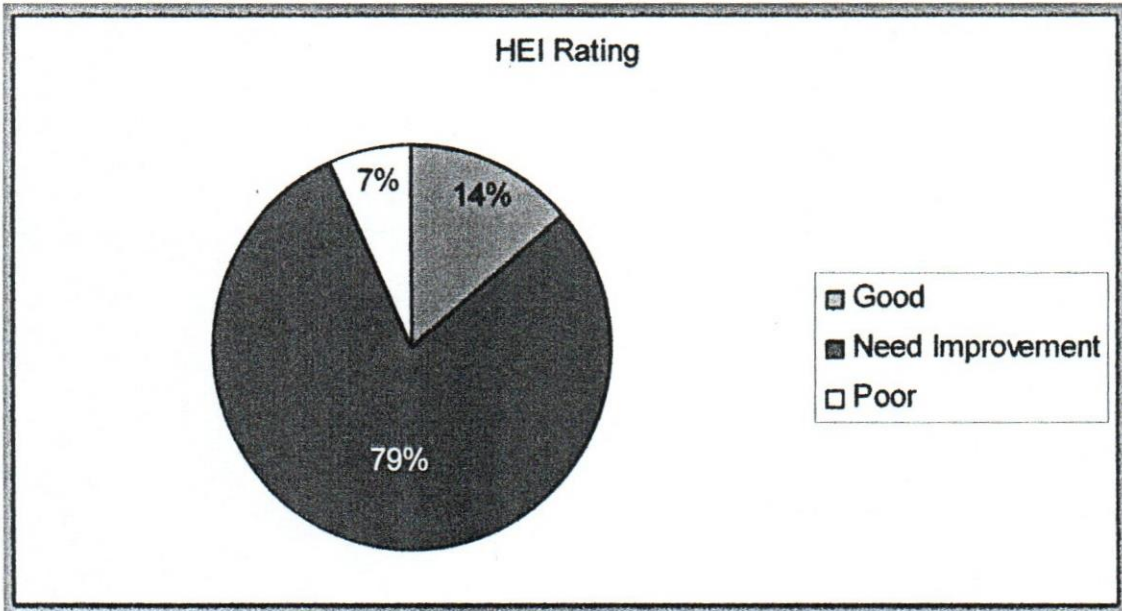
Of the 250 households, only 9 (4%) did not participate for personal reason.

Study results showed that the mean HEI score for the population was 69.4.

And diet of most people in Bethlehem district (79 percent) needs improvement. While 14 percent of the population had good diet, and 7% percent had a poor diet.

	Frequency	Percent
Good	36	14
Need Improvement	186	79.4
Poor	19	6.6
Total	241	100

Table 1



graph 3

Healthy eating index scores by characteristics:

Healthy eating index by gender, female had slightly higher over all score than males in Bethlehem 2003.

Sex	Over All score
Male	69.1
Female	69.7
Total	69.4

Table 2

Healthy eating index scores among age groups in Bethlehem 2003:

Age group	Over all	Frequency	Percentage
18-24	66.7	60	25%
25-34	70.2	50	21%
35-44	69.5	45	18%
45-54	69.2	46	19%
55-64	70.3	40	17%
Total	69.4	241	100%

Table 3

The age group 25-34 had over all mean score 70.2. The age group 55-64 had over all mean score 70.3.

This indicates that older ages group (55-64) had higher H.E.I score than younger groups.

Distribution of Records by gender in Bethlehem 2003:

Sex	Freq.	percentage
Male	124	51%
Female	117	49%
Total	241	100%

Table 4

- Distribution among males and females was almost equal.

Healthy eating index score by income in Bethlehem 2003.

Income/month in \$	Over all
≤ 423	68.8
424 – 854	69.4
855 – 1281	64.8
1282 – 2847	69.9
Unknown	70.1
Total	69.4

Table 5

- People with higher household income had better score on the meat, milk, vegetables, and fruits components of the H.E.I. than did people with lower household income.

Healthy eating index score by education level in Bethlehem 2003.

- H.E.I scores generally increased with level of education and income

Education degree	Over all
Primary school	64.6
Secondary school	67.4
Diploma & bachelor	70.0
Higher than bachelor	70.2

Table 6

- People with more education may acquire more nutrition information, which improves the quality of their diets.

Components of the healthy eating index and scoring system.

	Score Ranges 1	Criteria for maximum score of 10	Criteria for minimum score of 0
Grain consumption	0 to 10	6-11servings	0 servings
Vegetable consumption	0 to 10	3-5servings	0 servings
Fruit consumption	0 to 10	2-4servings	0 servings
Milk consumption	0 to 10	2-3servings	0 servings
Meat consumption	0 to 10	2-3servings	0 servings
Total fat intake	0 to 10	30% or less energy from fat	45%or more energy from fat
Saturated fat intake	0 to 10	Less than 10% energy from saturated fat	15%or more energy from saturated fat
Cholesterol intake	0 to 10	300 mg or less	450mg or more
Sodium intake	0 to 10	2400mg or less	4800mg or more
Food variety	0 to 10	8 or more different items in a day	3 or fewer items in a day

Table 7

1. People with consumption or intake between the maximum and minimum range or amounts were assigned scores proportionately.

2. Number of servings depends on recommended energy allowance (see the above table). All amounts are on/day basis.

In developing the index, the researcher used serving recommendations from the food guide pyramid for 1600, 2200, and 2800 kilocalories as the basis to interpolate serving recommendations for people with other food energy recommendations.

In contrast, adult males 18 to 64 years old have an REA slightly greater than 2800 kilocalories.

Since the food guide pyramid does not specify additional food group servings for caloric levels above 2800 kilocalories, researchers decided that food portions for these individuals would be truncated at the maximum levels recommended in the food guide pyramid.

The appendix includes more details on determination of food guide pyramid serving definitions, estimation of food group serving requirements by age and gender, and design automotives.

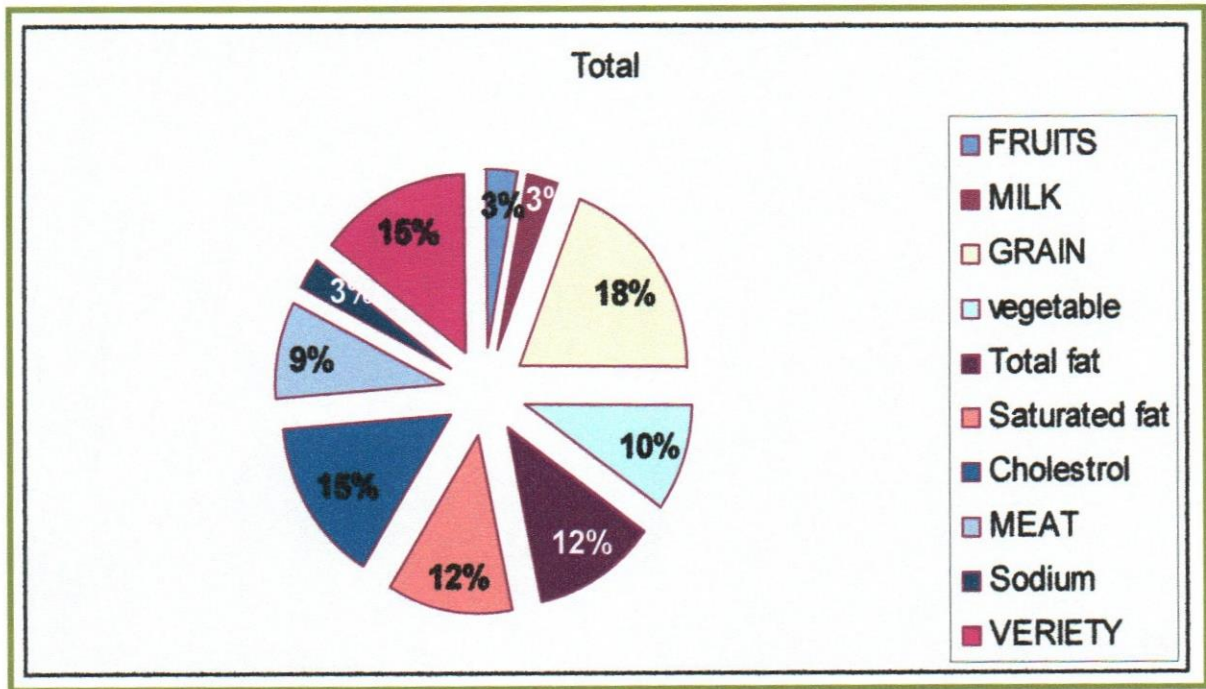
Healthy eating index: Components mean scores by Gender.

	Male	Female	Total
Overall	69.1	69.7	69.4
Fruits	1.7	2.0	1.9
Milk	2.1	1.9	2.0
Grain	14.0	10.6	12.2
Vegetables	6.4	5.8	6.1
Total Fat	7.3	7.8	7.6
Saturated Fat	7.4	7.7	7.6
Cholesterol	9.5	9.6	9.5
Meat	6.5	4.9	5.7
Sodium	1.9	1.5	1.7
Variety	9.4	9.3	9.4

Table 8

- Females had slightly higher H.E.I score than males (69.7 69.1).
- The over all H.E.I score ranges from 0 – 100.
- Each H.E.I component score ranges from 0 – 10.
- High component scores indicate intake close to recommended rages or amount; low component score indicate loss compliance with recommended rages or amounts.

All over Scores for the Ten Components, by gender in Bethlehem 2003.

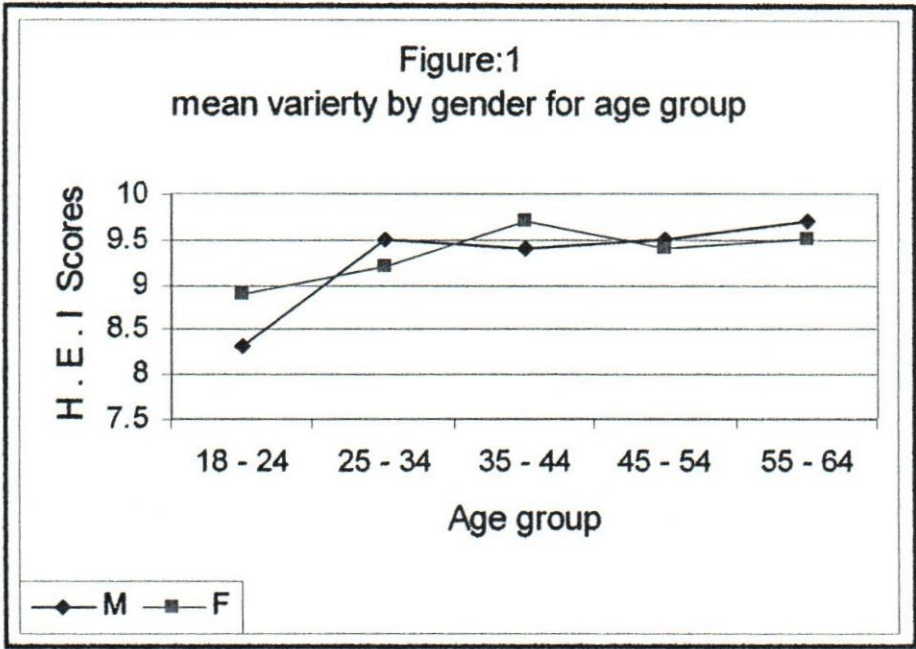


Graph 4

Over all Scores for the ten Components, by gender, age group, H.H, income, and education level in Bethlehem 2003.

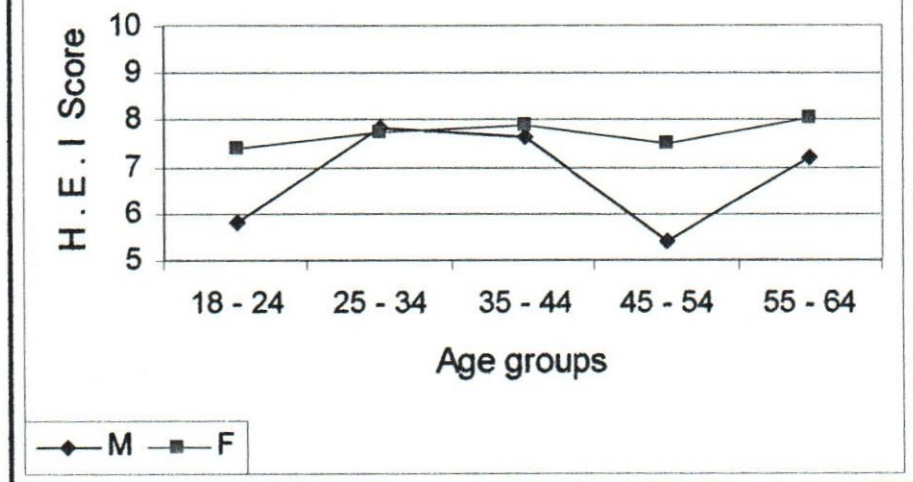
SEX	OVERALL
Male	69.1
Female	69.7
Total	69.4
AGE GROUP	OVERALL
18 – 24	66.7
25 – 34	70.2
35 – 44	69.5
45 – 54	69.2
55 – 64	70.3
Total	69.4
INCOME / MONTH IN \$	OVERALL
< 423	68.8
424 – 854	69.4
855 – 1281	64.8
1282 – 2847	69.6
UNKNOWN	70.1
Total	69.4
EDUCATION DEGREE	OVERALL
Primary school	64.6
Secondary school	67.4
Diploma and bachelor	70
Higher than bachelor	70.2
Total	68.05

Table 9

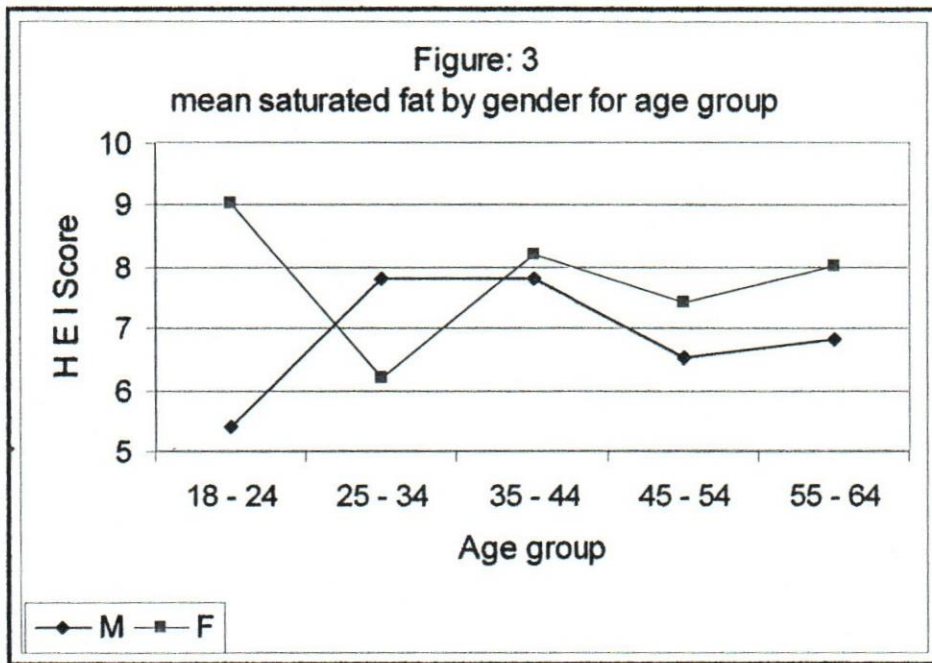


- Highest HEI score for male and female genders were in the age groups (55 – 64 years) and (35 – 44 years) respectively.
- Lowest HEI scores for male & female genders were in the age group (18 – 24 years). (In Bethlehem 2003)

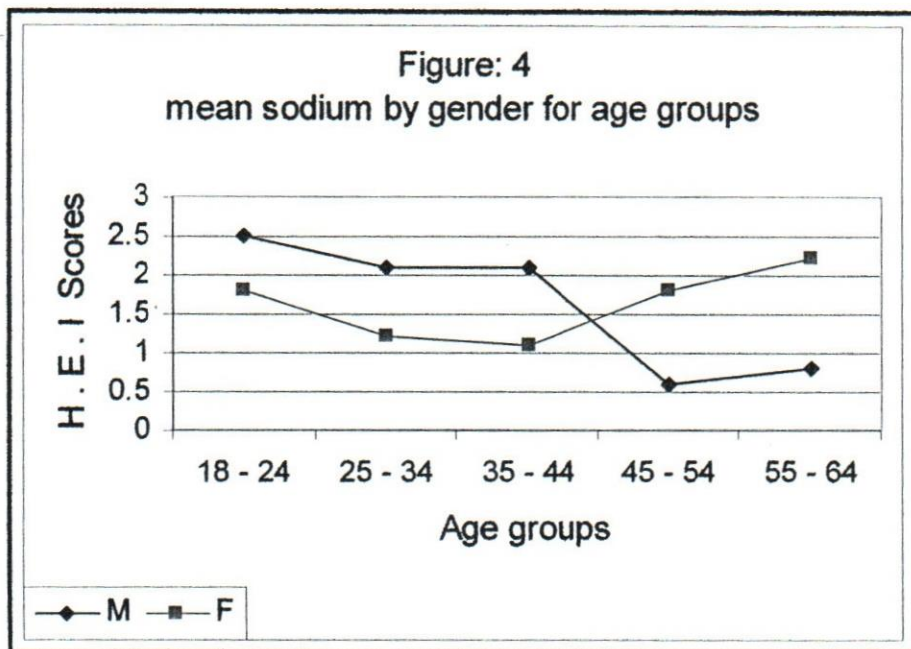
Figure: 2
total fat by gender for age group



- In general HEI scores for mean total fat were higher in female than male gender, and they are close to the recommended daily amount needed in most of age groups. (In Bethlehem 2003)

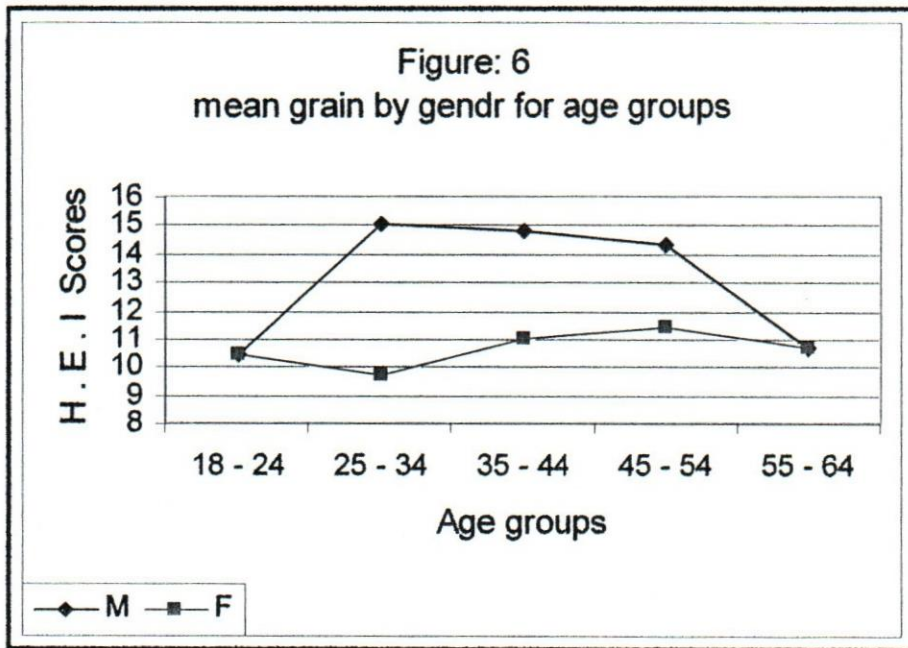


- HEI scores for mean saturated fat by gender for all age groups are higher in female gender except in age group (25 – 34 years).
- Males have higher activity than females. (in Bethlehem 2003)

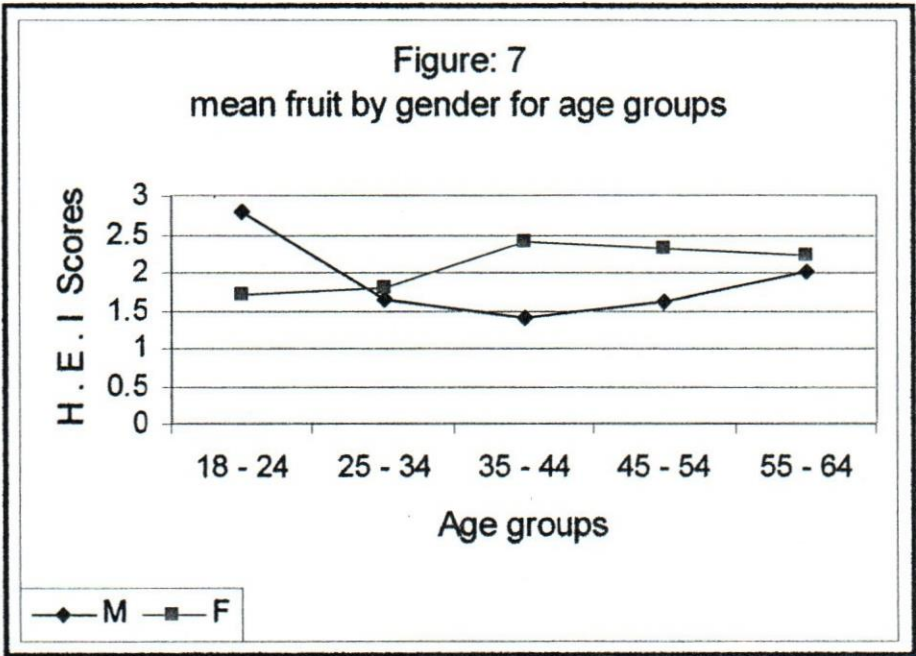


- Sodium scores reflect the amount of sodium contained in a consumed food. And sodium calculation doesn't include salt added at the table.
- The daily sodium intake values are higher in male gender in the 1st three age groups, while these values are reversed for gender in the last two age groups.
- Salt intake is decreased in males after the age of 40, particularly in those having positive family history or incidence of HTN, CHF, and IHD. (In Bethlehem 2003)

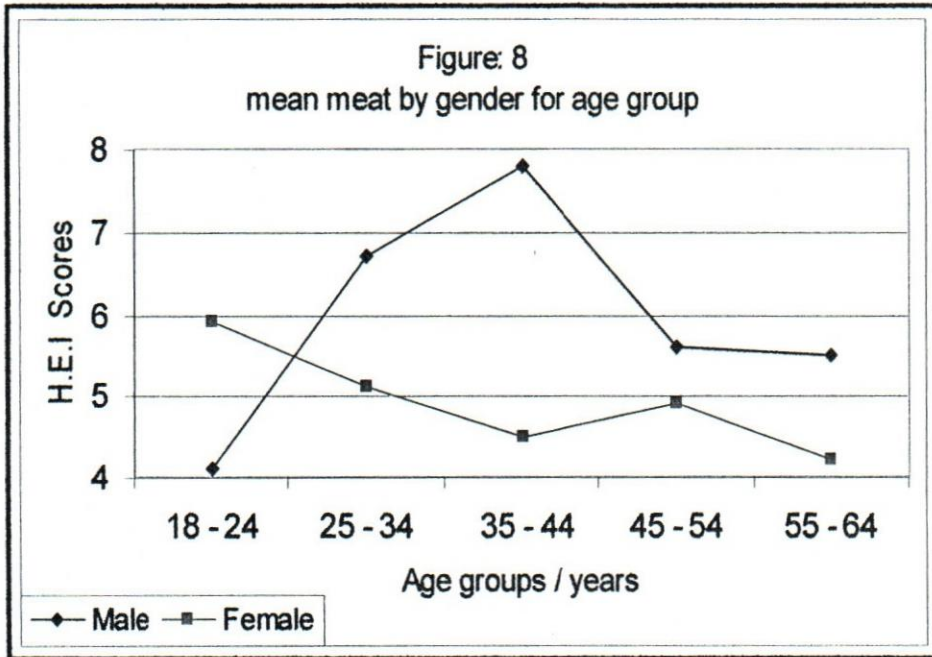
Figure: 6
mean grain by gender for age groups



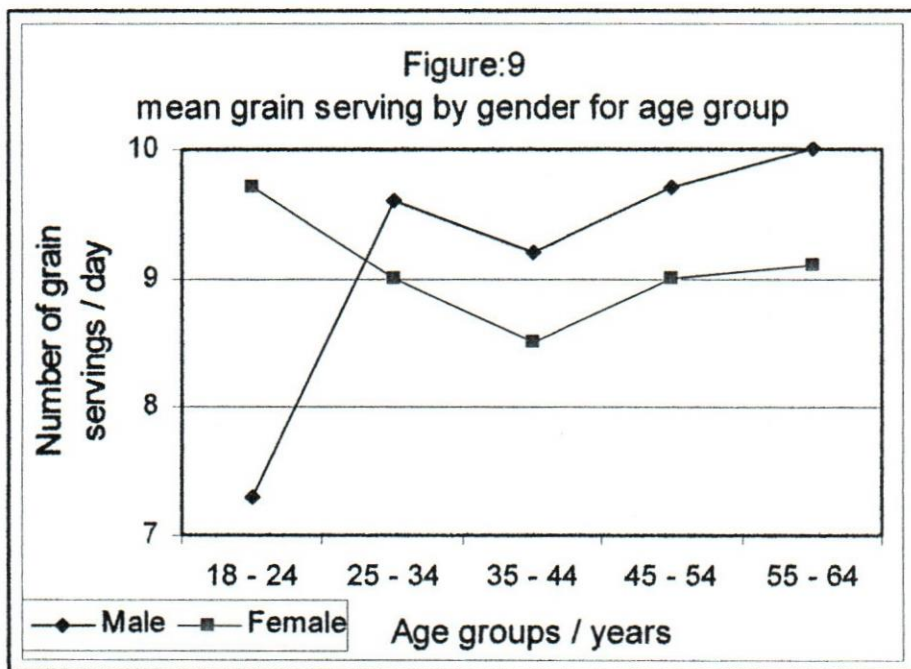
- It is clear that males have over extended HEI scores in this major food group. This indicates that males are taking more than the recommended number of food servings per day from grain and their products especially in age groups (25 – 34 years), (35 – 44 years) and (45 – 54 years).
- At the extremes of the age groups, both genders had the same HEI scores. (in Bethlehem 2003)



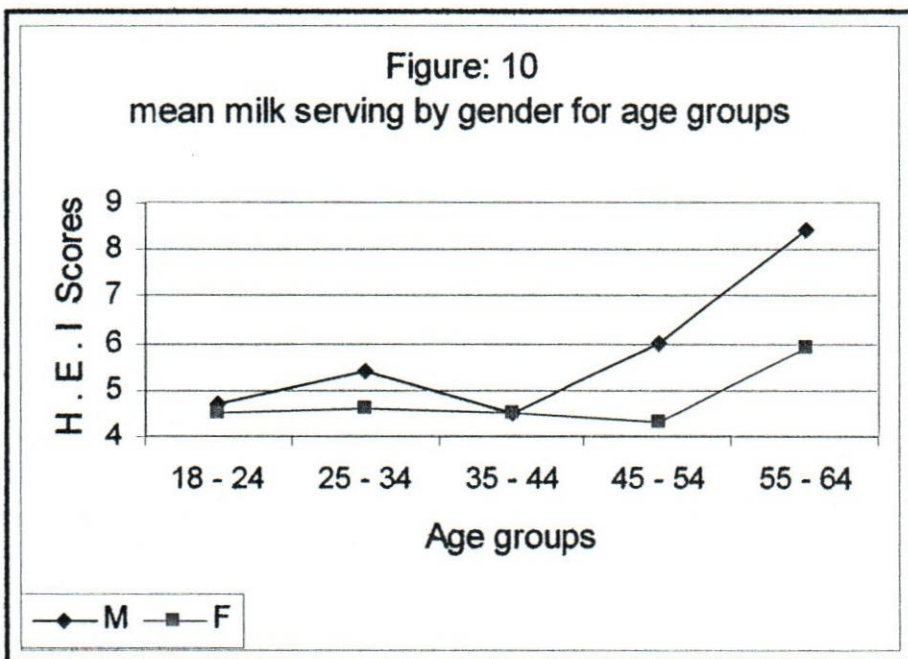
- The mean fruit scores by both genders are low in all age groups.
- Generally, scores were slightly higher in female than in male gender except in age group (18 – 24 years).
- In accordance to the recommended servings of fruits, the entire scores were too low. (in Bethlehem 2003)



- The study recommended eating 2 – 3 servings / day of meat or meat alternates, this equivalent to 5 -7 ounces of cooked lean meat, poultry or fish.
- Cooked lean meat is defined as meat such as red meat, poultry, or fish that contain 9.35 grams or less fat / 100 grams. **Dietary guidelines for American 2003.**
- Mean meat scores were low in all age groups of female gender {except in age group (18 – 24 years)} than those of male.
- The highest score was in male gender in age group (35 – 44 years).

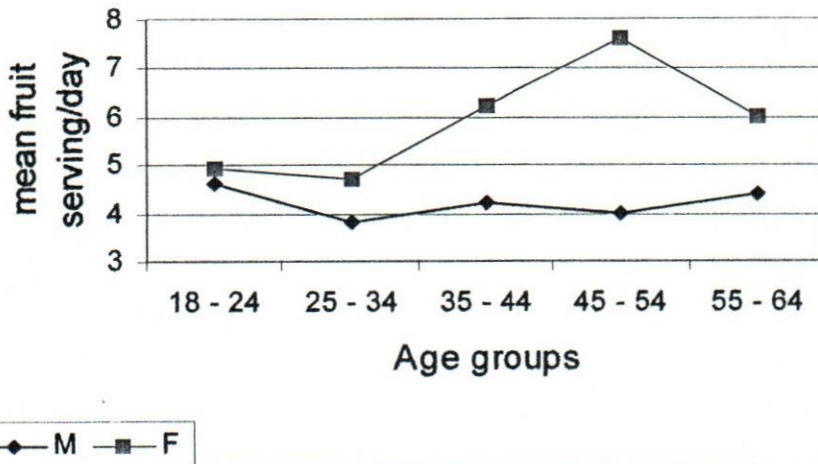


- The maximum recommended grain servings were 6 – 11 / day.
- Number of grain servings in male gender were almost the same in all age groups except 1 age group (18 – 24 years).
- In male gender: the age group (55 – 64 years) had higher number of grain servings in all age groups for both genders.
- The age group (18 – 24 years) is the only age group where female gender has higher number of grain servings than male gender (in Bethlehem 2003).

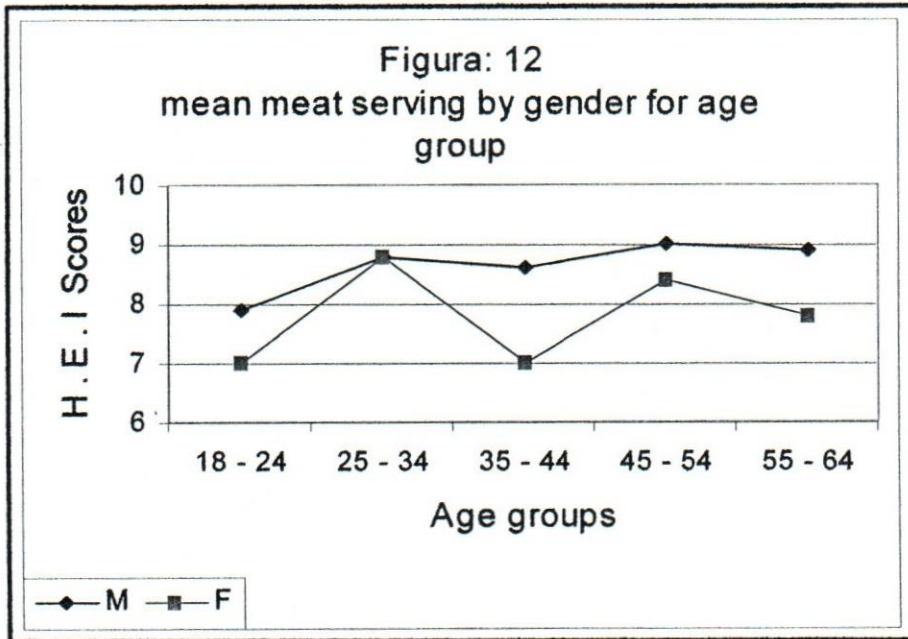


- Mean milk serving in age group (55 – 64 years) for both genders were satisfactory.
- Other age groups for both genders need to be improved (in Bethlehem 2003).

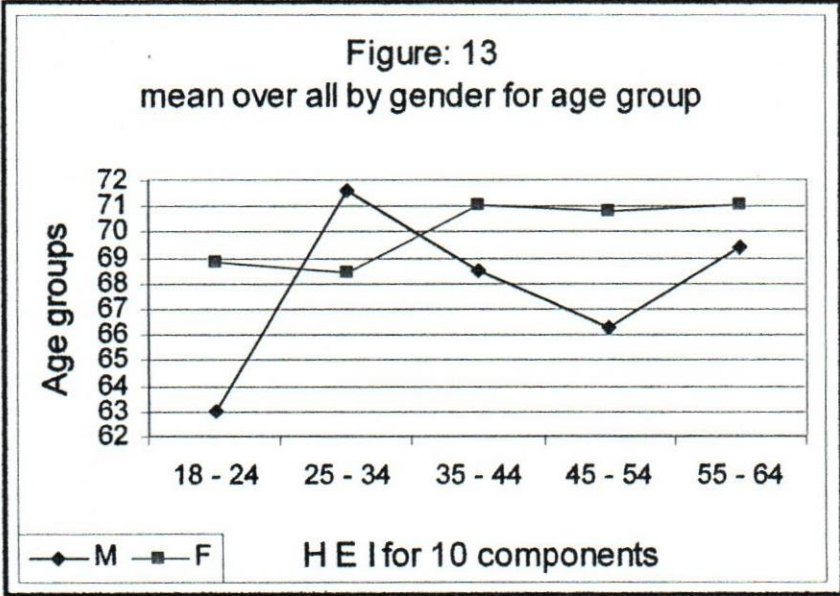
Figure: 11
mean fruit serving by gender for age group



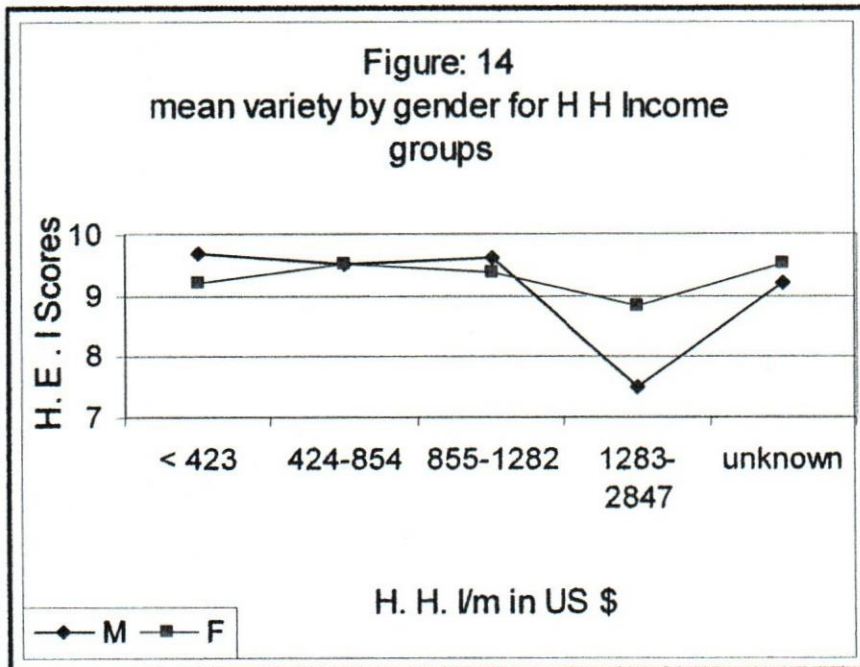
- Mean fruit serving scores were higher in female gender in all age groups particularly in age group (45 – 54 years).
- Results showed that males take less than the recommended servings of fruits/day (in Bethlehem 2003).



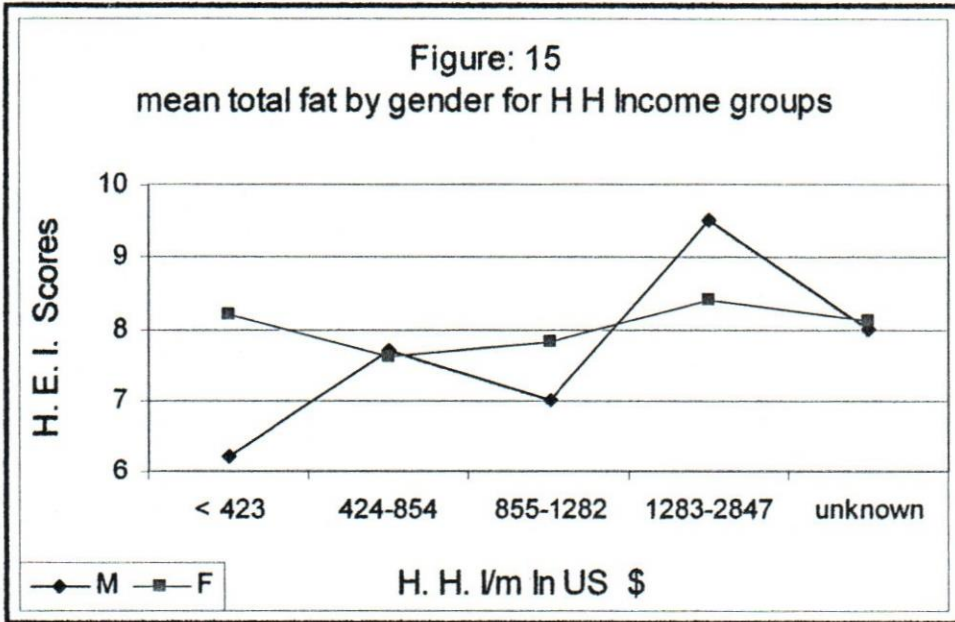
- The recommended meat servings were 2 – 3 servings/day.
- Male gender HEI scores were higher than those of females in all age groups, except in age group (25 – 34 years) where the score are the same (in Bethlehem 2003).



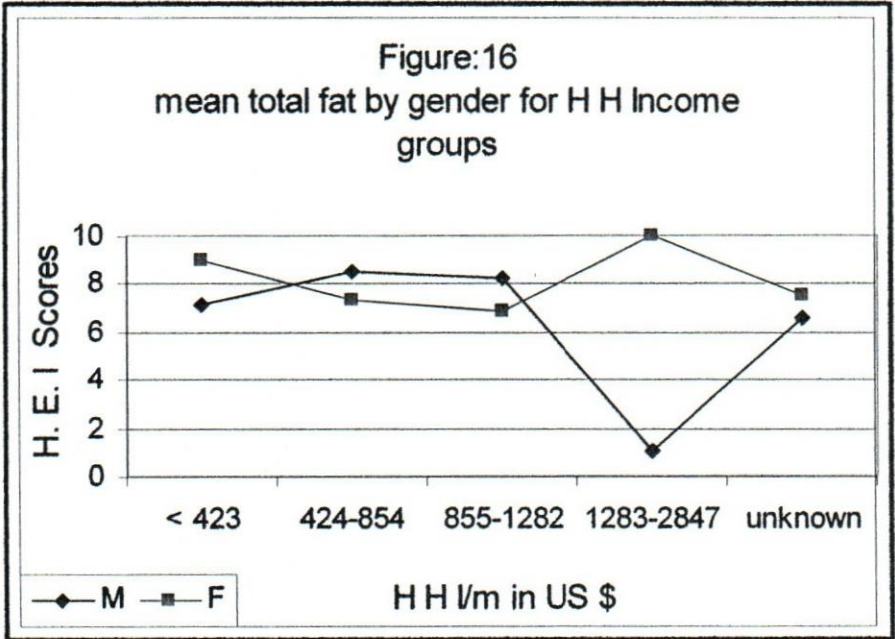
- The over all scores in female gender were higher than those for male in all age groups, except in age group (25 – 34 years).
- Age group (18 – 24 years) in male gender showed unsatisfactory HEI score (in Bethlehem 2003).



- Mean variety HEI were almost close to each other in both genders for all house – hold income groups, except I (1282 – 2847\$) house hold income group.
- House hold income group (1283 – 2847\$) clearly shows low score for both genders (in Bethlehem 2003).

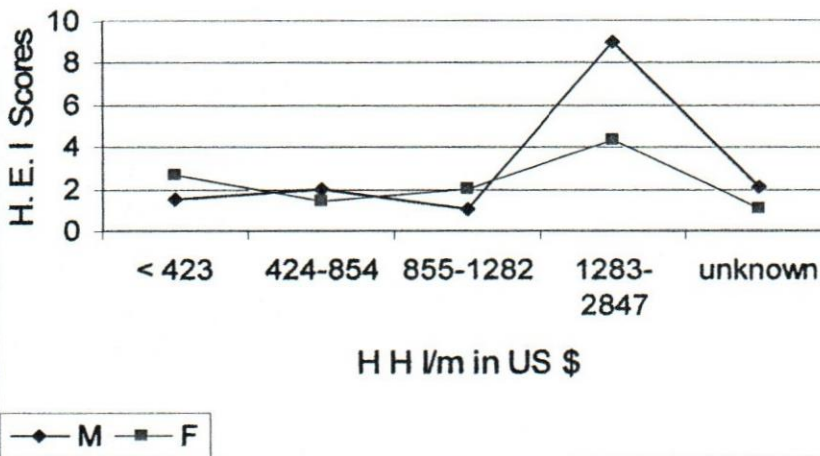


- Total fat intake is an important source of energy.
- Scores results in female gender had almost the same level of HEI scores in all House hold income groups.
- H E I scores in male gender is variable, the highest score is in H H income group (1283 – 2847\$). While the lowest score is in the H H Income group (< 423\$).

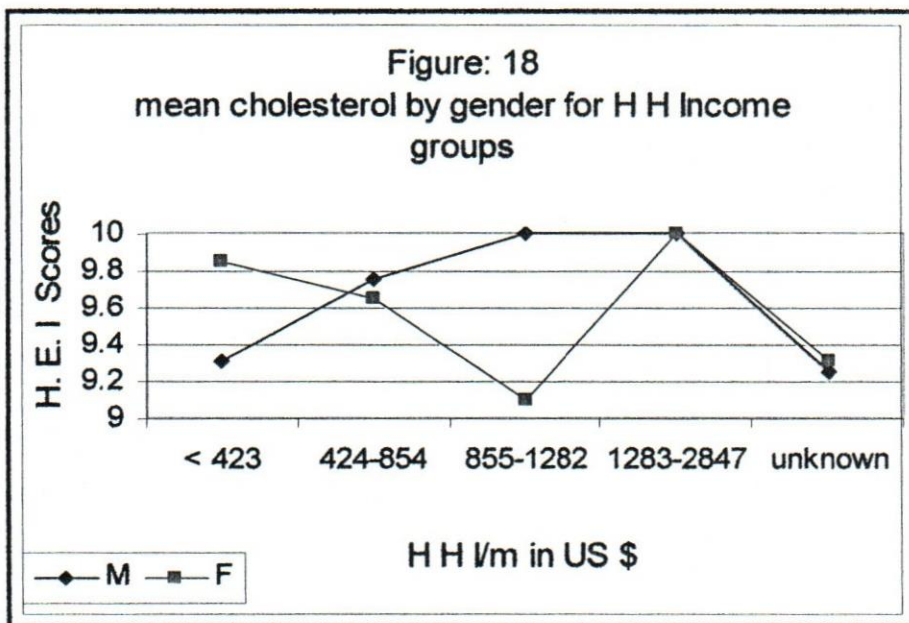


- Over all H E I scores for saturated fat were higher in female gender in most house hold income groups.
- The lowest score was recorded in male gender with (1282 – 2847\$) house hold income group.

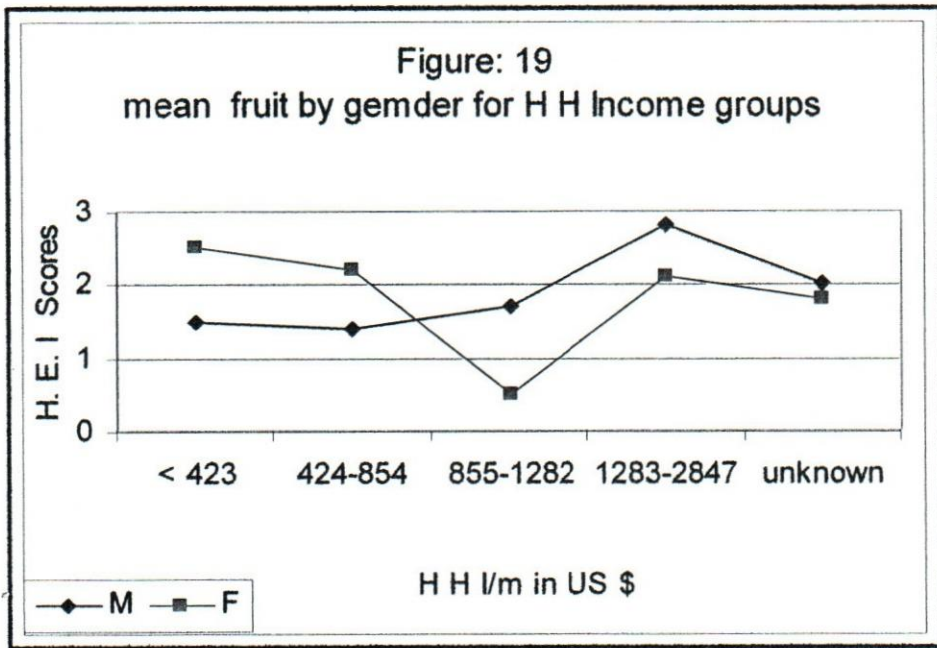
Figure: 17
 meansodium by gender for H H Income
 groups



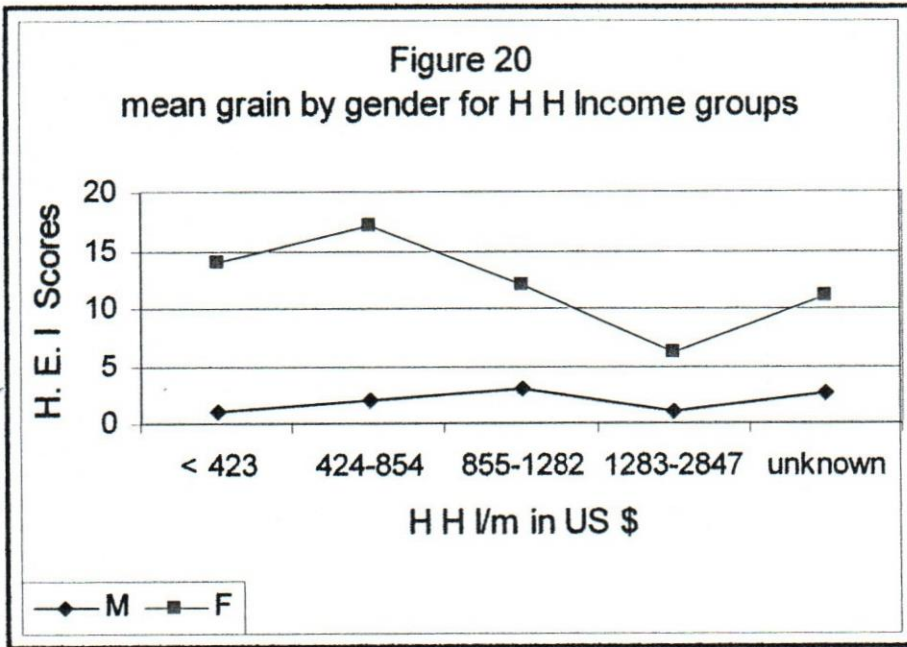
- The scores showed low mean sodium intake by both genders in all house hold income groups, with the exception of (1282 – 2847\$) house hold income groups for both genders, the scores were higher (in Bethlehem 2003).



- Mean cholesterol scores for both genders are high in all house hold income groups.
- The scores for female gender are higher at the extremes of the house hold income groups, and the reverse at the rest of house hold income groups.
- The highest scores for female gender is in the (1283 – 2847\$) house hold income group, while for male gender they are in the (855 – 1282\$) and (1283 – 2847\$) house hold income groups (in Bethlehem 2003).

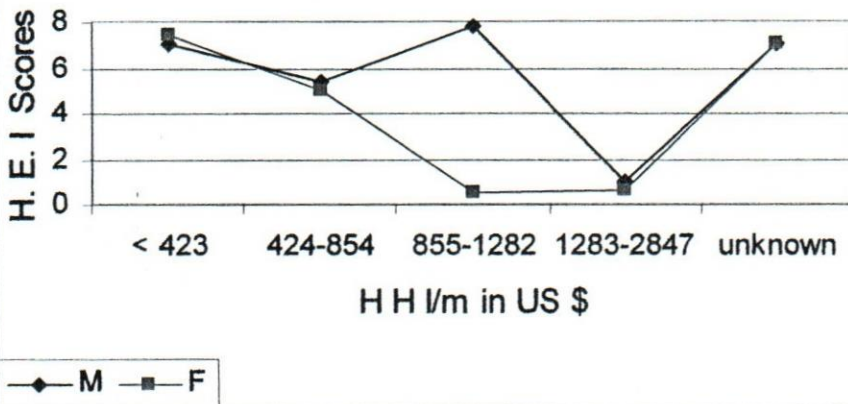


- Mean fruits H E I scores for both genders in all house hold income groups were very low, particularly in female gender with (855 – 1282\$) house – hold income group.
- The participants take much less fruits than daily recommended needs, which is 2 -4 servings/day (in Bethlehem 2003).

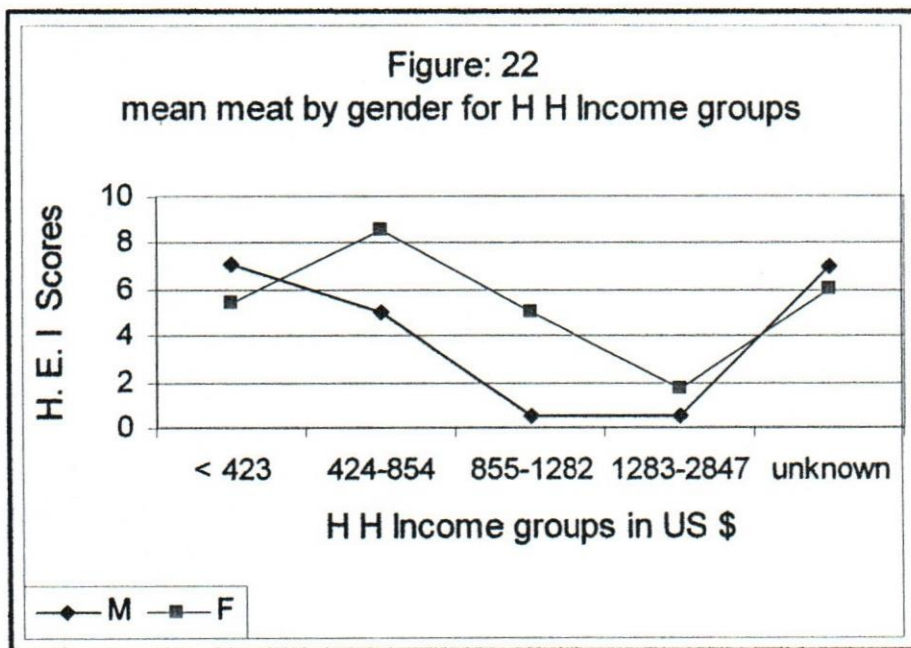


- Mean score for grain were higher in male gender than those of female in all house – hold income groups. And they are more than the daily recommended needs.
- The lowest scores for grain in both genders were in the (1282 – 2847\$) house – hold income group.
- Scores in female gender were extremely low in all houses – hold income groups. (in Bethlehem 2003).

Figure: 21
 mean vegetable by gender for H H Income
 groups

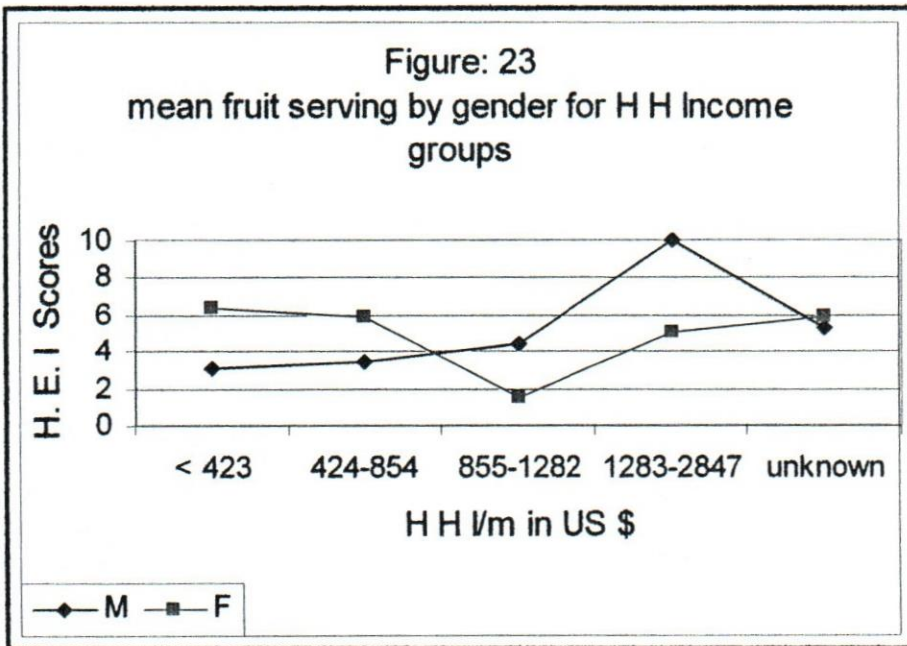


- The mean vegetable scores for both genders were almost the same in (< 423\$), (424 – 854\$), (1282 – 2847\$) and the unknown house – hold income groups.
- In female gender low scores recorded in the (855 – 1282\$) and (1283 – 2847\$) house hold income groups.
- In male gender the lowest score recorded was in the (1283 – 2847\$) house – hold income group. (In Bethlehem 2003)

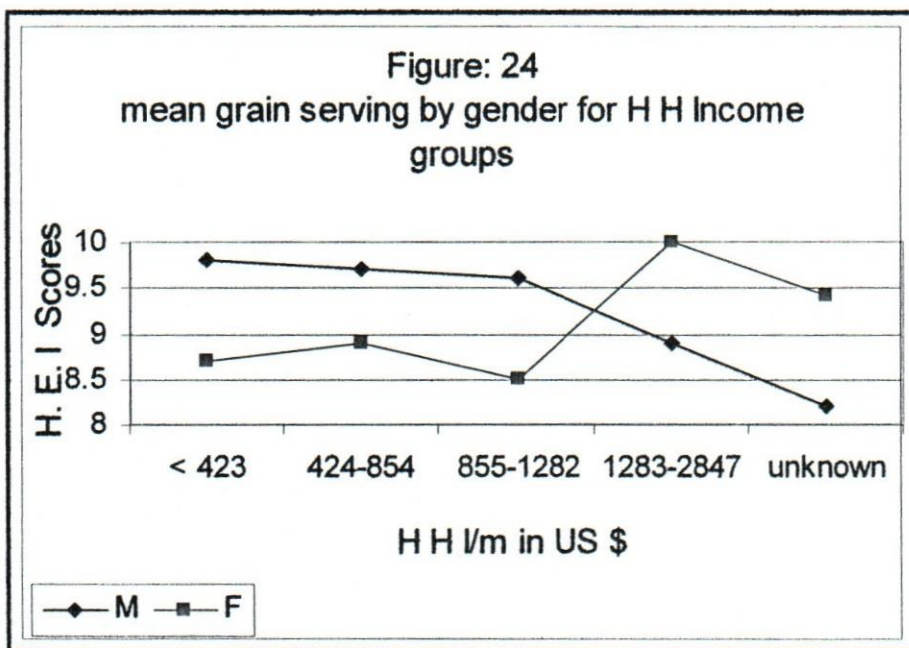


- mean meat scores at the extremes of the house – hold income groups were higher in female gender than those of males. While in the rest of the house – hold income groups, male gender has higher scores.
- The lowest scores recorded for both genders were in the (1282 – 2847\$) house – hold income group.

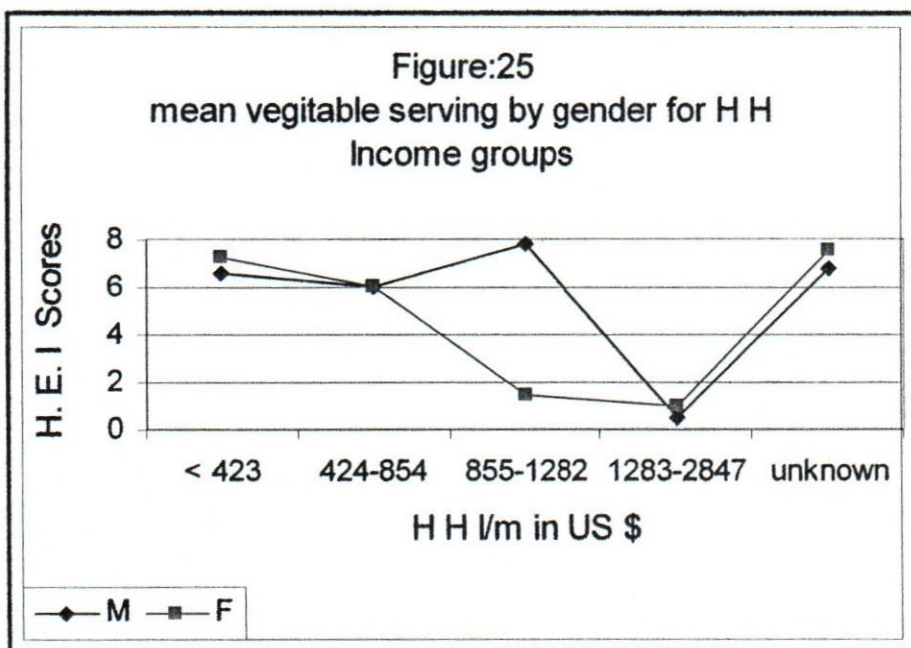
Figure: 23
 mean fruit serving by gender for H H Income groups



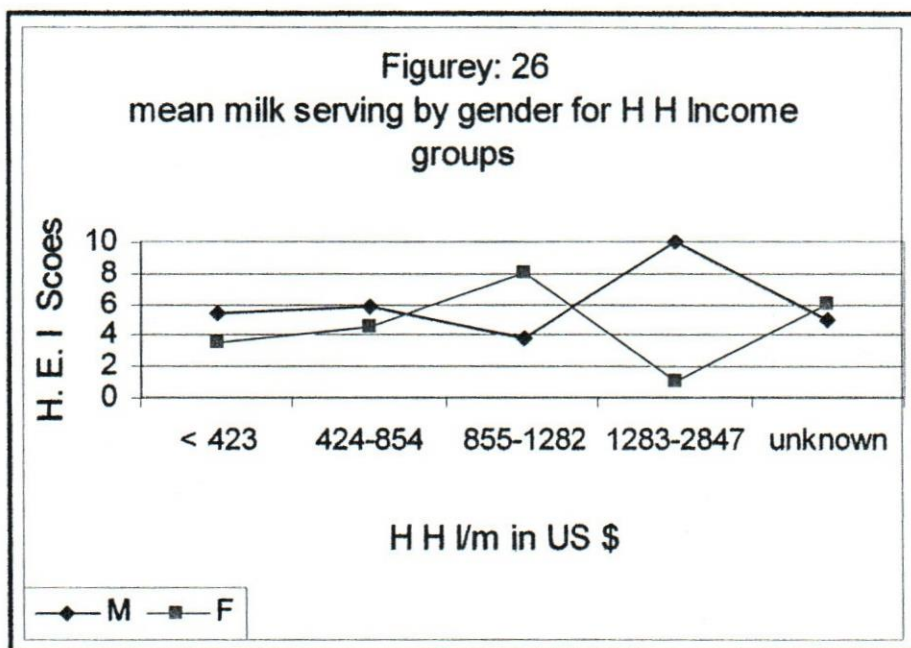
- The mean fruit serving score in the female gender were highest in (\leq 423\$) house – hold income group.
- At the extremes of the house – hold income groups, female gender has higher scores than male.
- The mean fruit serving score in male gender is highest in (1283 – 2847\$) house – hold income group. (In Bethlehem 2003)



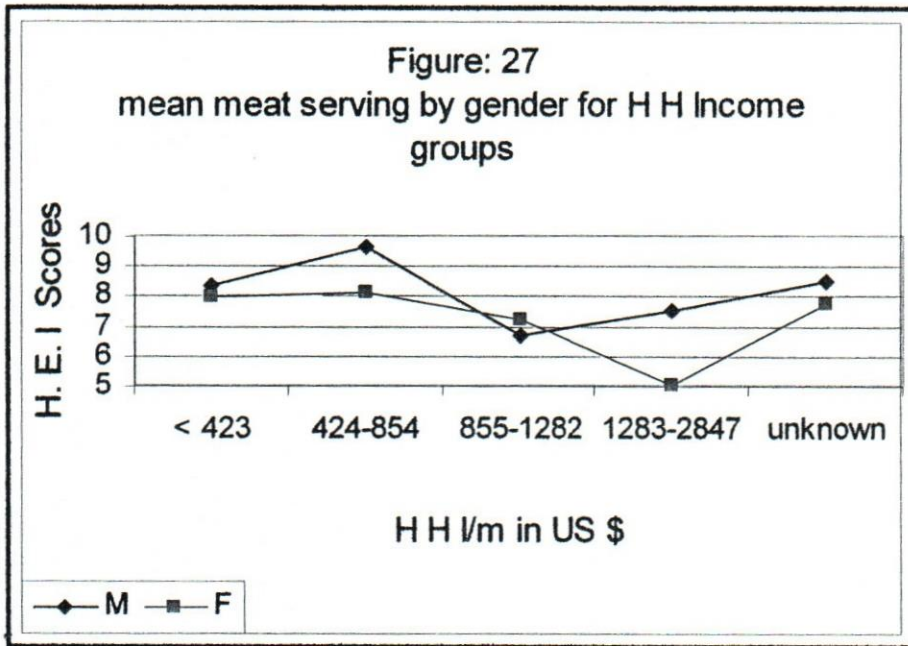
- The mean grain serving score are the best recorded in this study concerning the ten food component.
- H E I scores for both genders in all house – hold income groups were satisfactory. (In Bethlehem 2003)



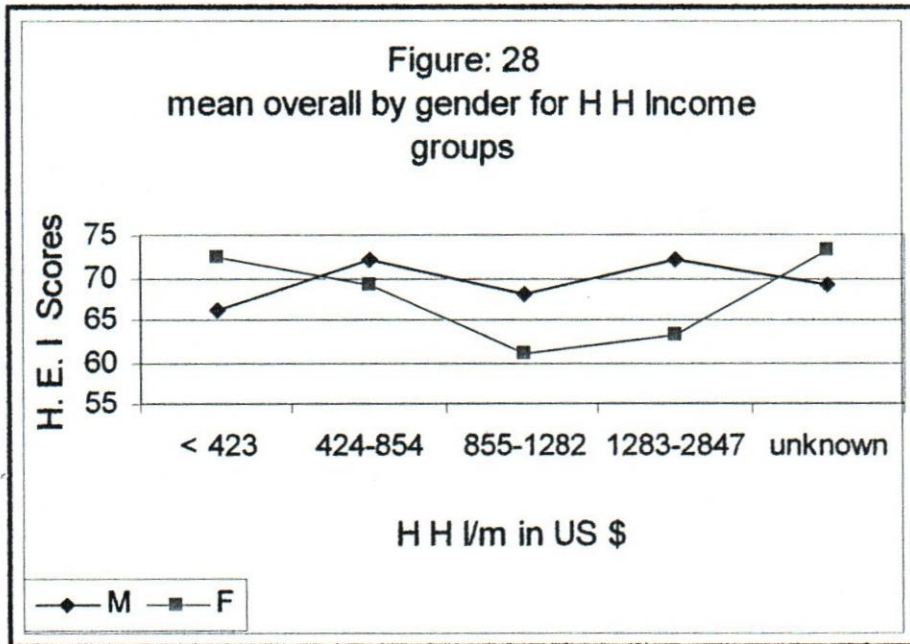
- Mean vegetable serving score are higher in female gender for all house – hold income groups except in (855 – 1282\$) house – hold income group.
- Highest and lowest mean vegetable serving scores in male gender were in (855- 1282\$) and (1283 – 2847\$) respectively. (In Bethlehem 2003)



- Mean milk serving scores were unsatisfactory in both genders for all house – hold income groups, except for male gender in the (1282 – 2847\$) house –hold income group.
- 70% of house – hold income groups for both genders had a mean milk servings scores of less than 6. (In Bethlehem 2003)



- Mean meat scores in male gender are higher than those of female gender in almost all house – hold income groups.
- 40% of house – hold income groups for both genders had scores ≥ 8 .
- Male gender in (424 – 854\$) house – hold income group has the highest score for both genders in all house – hold income groups.
- Female gender in (1283 – 2847\$) house – hold income group has the lowest score for both genders in all house – hold income groups. (In Bethlehem 2003)



- Mean over all H H I scores are highest in the extremes of the house – hold income groups, which also represents female gender.
- In the rest of house – hold income groups, male gender has higher over all H E I scores than female gender. (In Bethlehem 2003)

CHAPTER (VII)

Technical Issues

The following technical issues were considered critical to develop

a Healthy Eating Index:

- Determination of Portion Sizes.
- Allocation of "Mixtures" to participant Food Groups.
- Estimation of Food Group Serving Requirements by Age and Gender.
- Coding structure to compute the variety component of the HEI technical issues.
- Design Alternatives: What to Count
- Other component
- ☒ Determination of portion size.

Serving sizes used to compute the Index scores were intended to be as consistent as possible with those presented in the **Food Guide pyramid**.

Serving amounts for breads and grains were determined according to an "equivalent flour" approach. For example, the **Food Guide pyramid** designates a slice of bread as one serving. A typical slice of bread contains 70 grams of flour. The number of servings for any bread on the Index was calculated based on the number of grams of flour it contained divided by the number of grams of flour contained in a slice of bread (70gms). Similar approaches were applied to pastas and cereal grains.

The **Food Guide pyramid** counts each of the following quantities as a serving:

- 1/2 cup of most cooked vegetables
- 1 cup of most raw leafy vegetables
- 1/2 cup of most raw non-leafy chopped vegetables

Different vegetables have different densities, resulting in different gram/ weights per cup or half-cup measures. Different gram/serving size factors were used to calculate the index for most vegetables, based on the weight of a cup or half-cup of the relevant commodities. Fruits were treated similarly to vegetables. Gram/serving size factors were developed for each fruit based on the weights of the various fruit serving amounts.

For various kinds of milk and milk products were calculated based on the grams of nonfat milk solids contained in a food divided by the amount of grams of nonfat milk solids contained in 1 cup of milk. Serving sizes of meats are specified in the Food Guide pyramid in terms of 2-3 ounces of lean meat.

The index calculations assume a serving size of 2.5 ounces for meats. Serving size conversion factors for meats were based on the amount of fat-free meat commodity included in the database for various foods. Conversion factors for converting grams of nuts and peanut butter to serving sizes are developed according to those specified in the Food Guide pyramid. The gram conversion factors developed were based on the weight of these quantities.

☒ Allocation of Mixtures to Individual Food Groups.

In calculating the Index, it was necessary to assign the foods in "mixtures" to their constituent food groups in the appropriate amounts. Pizza, for instance, may make significant contributions to several different food groups, including grains, vegetables, milk, and meat.

The approach used was a straight-forward extension of the approach used to estimate serving sizes. Commodity compositions of foods were identified. Once identified, commodities were assigned to appropriate food groups, based on the gram/serving size factor calculated.

☒ Estimation of Food Group Serving Requirements by Age and Gender.

Prior to scoring the first five components of the Index, it was necessary to determine the recommended numbers of servings by food group for each of the individuals.

The food energy for some age/gender combinations were different from the three levels of energy intake presented in the Food Guide pyramid were used to estimate the required number of servings for age/gender combinations not addressed in the Food Guide pyramid .

Similarly, males 18 -64years of age have food energy slightly higher than the highest calorie level in the Food Guide pyramid, Simple extrapolation would result in larger numbers of servings than the maximum numbers shown. The text of the Food Guide pyramid provides no guidance regarding the adjustment of numbers of

servings or serving sizes to accommodate higher food energy levels, rather than exceeding recommended serving sizes, it was decided that food servings would be truncated at the maximums shown in the Food Guide pyramid. Preliminary analysis indicated that if serving sizes had been slightly increased, the results obtained from the Index would not have been significantly different.

☒ Coding Structure Used To Compute the Variety Component of the HEI **Technical Issues**

The food coding structure used to compute the healthy eating index was grouped together for the purposes of this study.

The following principles guided the coding decisions made:

- Only foods judged nutritionally similar were grouped together.
- Foods made with separate commodities were generally grouped separately.
- Foods differing only in fat content were generally grouped together.
- Each vegetable was given separate code, but different forms of the same vegetable were coded together.
- Different forms of the same meat were generally coded the same. Organ meats and ham were two exceptions.
- Each type of fish was given a separate code, but different forms of the same fish received the same code.
- Most forms of fluid milk had the same code. Pudding was coded separately from milk. Most cheese had the same code with the exception of cottage cheese.
- All white bread was given the same code. Sweet rolls and pasta received different codes. Whole wheat products were coded differently from products made with refined wheat flour.

- Ready – to – eat cereals made principally from the same grain received the same code; those made from different grains received different code.
- In an effort to facilitate coding, food mixtures were broken down to their constituent components. Only component foods present in substantial quantities were included in the variety calculations.
- Guide pyramid serving were not computed in the Index variety score. It is possible that variety scores for some individuals were slightly underestimated by this approach. Several servings in a food group consumed in less than 1/2 serving amounts throughout a day could exceed the 1/2 serving threshold when added together. The potential effects of this underestimation on the final results are believed to be extremely small.
- A second simplifying convention used was to assume that food mixtures containing two or more components from the same food group (e.g., mixed vegetables) could be reasonably allocated, equally, to two codes representing the components present in the highest proportions.

☒ Design Alternatives: What to Count

Foods often principally fall within one group but contain small amounts of other groups. Bread, for example, is mainly a grain but also contains small amounts of milk and egg products. An approach considered for this study was to exclude the "incidental" food group contributions from the computations.

1. Even relatively small amounts of incidental foods contribute to an individual's overall nutrient intake.

2. Suppressing the incidental foods would have often involved arbitrary judgments for establishing minimum size cutoffs.

It was decided that all contributions to various food groups would be counted in computing the Index with no minimum size cutoff values imposed. The following examples illustrate some of the implications of this approach

* The nutrition value from condiments, such as mayonnaise, was counted in computing the Index,

* The nutrition value of milk used in some sweets, such as milk chocolate bar, was counted in the milk group in computing the Index. If allocated to a single food group, the overall food would be assigned to the "Sweets" group and not counted in the Index.

* The fruit juice in a soft drink which contains at least 10 percent fruit juice was counted in computing the Index. The water and sugar contained in the soft drink were not counted

* The potato content of potato chips was counted in computing the Index. * The fat content was not counted in computing the vegetable and variety components of the Index but was counted in computing the fat component.

HEALTHY DIET

The long-term effects of a poor diet can lead to disastrous Conditions, like coronary artery disease, diabetes, high blood pressure, vascular disease, gout, bowel disorders like hemorrhoids and Divertricular disease, and the many problems associated with obesity can often be directly related to diet. Even some types of cancer, for instance breast and bowel cancer, have been connected to dietary factors. (Reference No 2)

With a few exceptions the same dietary principles apply to us all, whether we are in good health or have illnesses like diabetes, high blood pressure or obesity. It is best to regard healthy eating as a different.

To have healthy food it is of extreme importance to be selective, rather than just having a meal that fill up your stomach. And when we talk about keeping well, we also have to include things, such as regular exercise, loosing excess weight, not smoking and minimizing stress.

In general terms

- ✓ Plant foods should form the main part of our diet, for instance fruit, vegetables, complex carbohydrates like cereals and potatoes, and dietary fiber.
- ✓ An adequate intake of water is also essential.
- ✓ Meat and dairy foods are fine as long as they are mainly low in fat content.
- ✓ Full-cream dairy products are recommended for growing children.
- ✓ Fresh fish is very suitable, provided it is not cooked in fat or heavily salted.

- ✓ The amount of carbohydrates and protein we require depends largely on factors like age, weight and level of physical activity. (reference NO

On the other side:

- ✓ It is better to reduce the amount of fat in our diet, especially fatty meats and full-cream dairy products. These solid or semi-solid saturated animal fats are of greater concern than the amount of cholesterol in foods. If a small amount of fat for cooking is required it is better to use a monounsaturated fat like olive oil or a polyunsaturated preparation. The term saturated refers to the chemical structure of the fatty acids that comprise the various fats.
- ✓ The amount of salt we use should also be restricted. Unfortunately, fat and salt are a big component of many takeaway foods and snacks and seem to have special appeal with young people.
- ✓ The intake of refined carbohydrates such as sugar should be kept to a minimum. Although it is high in calories and provides energy, sugar has little nutrient content of its own.
- ✓ Complex carbohydrates like cereals, potatoes and whole meal are more suitable because they are digested and absorbed more slowly.

Recent research suggests that the dietary fat content should be kept to 30% or lower, This is important to keep our blood cholesterol level at an acceptable level and thereby reduce the risk of vascular and coronary artery disease.

Recommendations:

- * The need to improve the dietary nutrients depending on the recommended number of food servings per day.

- * Nutrition education messages and increase awareness must be tailored to the currently prevailing consumption patterns.

- * Assess and monitor the dietary statuses of the people using H.E.I measure should be repeated at least every two years to improve dietary pattern

Appendix (I)

Determination of Serving Definitions of the Food Guide Pyramid:

For each of the five major food groups, serving definitions used to compute the Index scores were intended to be as consistent as possible with the concepts and definitions described in the Food Guide Pyramid. Serving definitions reflect consistency with the underlying rationale in terms of nutrient contributions from each of the five major food groups and the Pyramid concept of defining servings in common household measures and easily recognizable units. The servings calculated in this report were based on the pyramid Servings database Agricultural Research Service (USD, 1998). A few newly reported food items were coded accordingly.

Grains Group (Bread, Cereal, Rice, and pasta).

While the basic pyramid serving definitions were used for most foods in this group, when needed, the grain or complex carbohydrate content of a food provided the basis for the serving definition for some grain – based foods. This was the case for snack-type grain products, grain-based desserts, certain quick breads and miscellaneous grains.

For other products such as some quick breads, pancakes, a combination of the two methods was used. For yeast breads, some quick breads, rice pasta, and breakfast cereals, the basic pyramid definition was used.

A serving was defined as a slice of bread, with the weight of 1 regular slice of commercial white bread (70 grams) used as a standard of comparison for decisions about serving.

When standard serving sizes were not described in the Pyramid, CNPP based a serving on the grain content of the food. Because 1 slice of commercial white bread contains 17 grams of flour, one standard grain if serving was defined as the

grams of a grain product containing 17 grams of flour. For products containing grain ingredients other than flour and products containing more than one grain ingredient, servings were calculated by summing grain servings from each grain ingredient.

Thus, grain servings for a given food were defined on a grain-equivalent basis.

Vegetables Group

Definitions of vegetable servings were based on those in the Food Guide

Pyramid, which defines a serving as:

- 1 cup of raw leafy vegetables or
- 1/2 cup of other vegetables, cooked or chopped raw or
- 3/4th of a cup of vegetable juice.

Often, the food coding database provided several different weights for the various forms in which a vegetable is available for consumption. For vegetables not specified in terms of preparation form, the following general order of priority was used to select a serving weight for a given vegetable: mashed, chopped, sliced, cubed, diced, pieces, and whole. In general, this had the effect of counting as serving the densest form of the vegetable for which a weight was available. For dehydrated vegetables (other than dried beans and peas), a serving size of 1/4 cup was assigned; for tomato paste, 1/4 cup was used; and for dried beans and peas, the weight needed to yield 1/2 cup cooked was assigned. For potatoes – packed, boiled, roasted, mashed, and fried – one serving was defined as 1/2 cup; for potato chips, one serving was the amount of dried potato chips one serving was defined as 1 ounce;

Fruits Group

- Definitions of fruit servings were based on those in the food guide pyramid, which defines a serving as a whole fruit such as a medium apple, banana, or orange; 1/2 grapefruit; a melon wedge; 3/4 cup fruit juice; 1/2 cup chopped, cooked, or canned fruit; or 1/4 cup dried fruit.

- For raw fruits, one serving was defined as a whole fruit when the weight of one fruit was equal to or greater than the weight of 1/2 cup raw fruit.
 - For large fruits, such as melons and pineapple, one serving was defined as 1/2 cup raw fruit.
 - For fruit juices, reconstituted juices, and juices containing less than 10 percent sugar by weight, a serving was defined as 3/4 cup.
 - For juice concentrates: One serving was defined as 1.5 ounces, which is the amount needed to prepare 3/4 cup of reconstituted juice.
 - Other sweetened fruit juices, juice drinks, were handled as mixtures, and servings were determined based on their fruit ingredients.
-
- Servings from all fruits, whether eaten plain or consumed as an ingredient of any food, were counted toward servings of the fruits group.
 - Fruit mixtures were separated into ingredients before serving weights were assigned only when a serving weight consistent with Pyramid guidance could not be determined for the food as consumed.

Milk Group (Milk, Yogurt, and Cheese)

- For milk and yogurt, the serving definition used was taken directly from the pyramid, which defines a serving as 1 cup of fluid milk or yogurt.
- For cheeses (includes cottage cheese and cream cheese), serving definitions were based on the pyramid's underlying criterion for a milk serving, which is that it should provide about the same amount of calcium as 1 cup of skim milk (i.e., 302 mg).
- The most frequently used serving definition for natural or processed cheese is 1.5 to 2 ounces, while that for dry cheese and reduced-fat or nonfat: cheese is 1 ounce.

- For cottage cheese, servings sizes were defined in terms of the number of cups needed to provide 302 mg of calcium, and fat-free cream cheese was assigned a serving size based on its calcium content. Other types of cream cheese were counted toward the tip of the pyramid.
- Flavored milks, other than those made with whole, low fat, or skim milk, & were handled as mixtures, and serving definitions were based on their milk ingredients.
- For dry milk, a serving was defined as the amount needed to yield 1 cup reconstituted or diluted.
- Frozen yogurt, ice cream, and other frozen dairy desserts were considered as mixtures, and servings were assigned based on their milk ingredients.
- Most foods containing milk products were separated into ingredients, and the number of servings from the milk group was determined based on the amount of milk or cheese the servings contained

Meat Group (Meat, Poultry, Fish, Dry Beans, Eggs, and Nuts).

- For the meat group, the pyramid recommends eating two to three servings each day of meat or meat alternates; this is equivalent to 5 to 7 ounces of cooked lean meat, poultry, or fish.
- To compute the HEI, CNPP used 2.5 ounces of lean meat as the definition for a serving of the meat, poultry, or fish group.
- Cooked lean meat is defined as meat, poultry, or fish that contains 9.35 grams or less fat per 100 grams or at least 90.65 grams that is not fat per 100 grams.
- For meat alternates, the Pyramid specifies amounts equivalent to 1 ounce of cooked lean meat as follows:
 - 1/2 cup of cooked dry beans or peas or
 - 1 egg, 2 tablespoons of peanut butter or
 - 1/3 cup of nuts or
 - 1/4 cup of seeds, and
- The same serving unit, ounces of cooked lean meat equivalents, was used for all foods that count toward the meat group. This measure standardizes the definition of a serving unit across the different types of foods that count toward the meat group and presents the data in the unit of measure in which the recommendation for the meat group is specified.
- Dry beans and peas were first assigned to the meat group when the meat serving recommendations for meat was not met, after which they were added to the vegetables group.

Estimation of Food Group Serving Requirements

By Age and Gender:

To score food group consumption, CNPP determined the recommended number of servings by food group for each person who participated in the 1999-2000 NHANES.

The Food Guide pyramid contains recommended number of servings of food groups for many age/gender categories, and these recommendations were used. Most age/gender groups had Recommended Energy Allowances (REA) that were different from the three levels of energy intakes (1600, 2200, 2800 kilocalories) presented in the Food Guide Pyramid.

Interpolations were used to estimate the required number of food group serving for each of these age/gender groups. Food servings specified in the Food's guide Pyramid for three food energy levels were used as a basis for interpolating comparable food servings at other energy levels for each food group.

Similarly, males 18 to 64 years old have REA slightly higher than the highest calorie level in the Food Guide pyramid. Simple extrapolation would result in a greater number of servings than the maximums.

Because the Food Guide Pyramid does not specify food group servings for diets beyond 2,800 kilocalories, CNPP truncated the food group servings at the maximum numbers indicated by the Food Guide Pyramid.

Appendix (II):

أنا الطالب جمال إبراهيم الوهادنه / من جامعة القدس .

برنامج الماجستير / الصحة العامة:

اجري استبيان بمحافظة بيت لحم حول التغذية لفئة عمرية محددة (18_ 64) وسنقدر جدا اشتراككم في هذا

الاستبيان.

أحب أن أسألكم عن وضع التغذية عندكم وسوف تساعد هذه المعلومات في توجيهكم لوضع الوضع غذائي أفضل. وسيستغرق الاستبيان بين 25-45 دقيقة لإتمامه.

وأخيرا لا يسعني إلا أن أشكرك أية معلومات تتقدم تبقى سرا ولن تكشف عنها لأي شخص آخر لتعاونك في الإجابة على الأسئلة المطروحة، للتمكن من إتمام الدراسة في الوقت المناسب.

مع الاحترام
جمال الوهادنه

لستمارة حول الوضع الغذائي

للنساء والرجال (18-64 عاما)

محافظة بيت لحم

رقم الاستبانة: □□□□

□ قرية □ مخيم □ - مكان السكن مدينة:

□□□ - رقم المبنى:

□□□ - رقم الأسرة في العينة:

□□ - رقم منطقة العد:

رقم الهاتف: _____.

اسم التجمع السكاني: _____.

اسم الباحث: _____.

تقرير المقابلة:

تاريخ إجراء المقابلة: ___/___/___ . يوم إجراء المقابلة: 1 2 3 4 5 6 7

ساعة بدء المقابلة: ___ : ___ ساعة انتهاء المقابلة: ___ : ___

التاريخ	جدول الزيارات
___/___/___	الزيارة الأولى
___/___/___	الزيارة الثانية

توقيع الباحث: _____ التاريخ: ___/___/___

توقيع المبحوث: _____ التاريخ: ___/___/___

القسم الأول:

مقابلة العائلات وسجل الفحص

بيانات أفراد الأسرة	
من هو الشخص المبحوث	هل (الاسم) ذكر أم أنثى؟
1- رب الأسرة.	
2- زوج/ زوجة.	
3- ابن/ بنت.	
4- أب/ أم.	
5- أخ/ أخت.	
ما هو تاريخ ميلاد (الاسم) باليوم والشهر والسنة؟	
للباحثة : سجلي ذلك من خلال وثائق رسمية إن أمكن.	

يوم شهر سنة	1- ذكر .	6- جد/جدة.
	2- أنثى .	7- حفيد/حفيدة. 8- زوجة ابن/زوج بنت. 9- أقرباء آخرون. 10- آخرون.

القسم الثاني:

الوضع الاقتصادي الاجتماعي للعائلة

- عدد الأشخاص الحاليين في البيت _____
- عدد الغرف (بدون المطبخ والحمامات) _____
- لا لاجئ نعم

الدخل:

الدخل الحالي في الشهر

1. اقل من 300 دينار	2. 300-600 دينار	3. 601-900 دينار
4. 901-1200 دينار	5. 1201-1800 دينار	6. اكثر من 1300 دينار .
7. لا يعمل.	8. لا اعرف.	

التعليم:

- 2-5 رب العائلة ربة العائلة

1. أمي	2. ابتدائي	3. ثانوي.
4. دبلوم	5. بكالوريوس.	6. دراسات عليا.
7. غير ذلك.		

المهنة:

- مهنة الأب: _____
- مهنة الأم: _____

القسم الثالث

استدكار الطعام للشخص المبحوث :

للباحث اقرأ : بالأسئلة التالية سأطلب منك تفاصيل عن كل ما أكلته وشربته في الأمس

<p>بطاقة رقم 1: أين أكلت؟</p> <p>1. في المنزل (طعام حضر في المنزل)</p> <p>2. في المنزل (طعام جاهز / تم شراؤه)</p> <p>3. في مكان العمل (طعام جاهز/تم شراؤه)</p> <p>4. في مكان العمل (طعام حضر في المنزل).</p> <p>5. في مكان العمل (كفتيريا أو صالة الطعام)</p> <p>6. في المطعم.</p> <p>7. غي ذلك، حدد _____</p>	<p>8_ بأي ساعة بدأت تأكل / تشرب أل _____؟ (اذكر اسم الصنف)</p>	<p>7- ماذا أكلت من الساعة 4:00 من صباح الأمس ، يوم _____ وحتى الساعة 4:00 من صباح اليوم ، يوم _____؟</p> <p>اذكر كل شيء أكلته وشربته سواء في البيت أو في خارج البيت، خلال الوجبات أو بين الوجبات بما في ذلك التسالي والساكر ، الشاي والقهوة، مشروبات خفيفة أو روحية. أقرأ إذا لزم الأمر : أثبتت الدراسات السابقة انه في الساعة 4:00 صباحا يمكن التفريق بين يوم (24 ساعة) ولغاية اليوم التالي (24 ساعة) .</p> <p>للباحث: اكتب كل صنف طعام في سطر منفصل، وعندما يفرغ المبحوث من سرد التفاصيل انتقل للسؤال رقم 8 .</p>	
			ا
			ب
			ج
			د
			هـ
			و
			ز
			ح
			ط
<p>ماذا كانت الوجبة؟</p>			ي
<p>1. فطور.</p>			ك
<p>2. وجبة صباحية خفيفة.</p>			ل
<p>3. فطور + غداء.</p>			م
<p>4. غداء.</p>			ن
<p>5. وجبة خفيفة (بعد الظهر).</p>			ص
<p>6. غداء + عشاء.</p>			ع
<p>7. عشاء.</p>			ف
<p>8. وجبة مسائية خفيفة.</p>			س
<p>9. غير ذلك، حدد _____</p>			ق
			ر
			ش
			ت
			ا
			ب
			ج
			د

للباحث أقرأ: هناك بعض المأكولات أو المشروبات ينسى البعض أنهم قد تناولوها . حاول أن تتذكر إذا ما كنت قد نسيته تذكر أي من التالية: مشروبات ساخنة، مشروبات باردة (بما في ذلك الماء) مشروبات روحية ، حلويات، تسالي حلوة ومالحة، فاكهة، خضار، خبز .

للباحث أقرأ: ألان ساسالك تفاصيل أخرى عن المأكولات والمشروبات التي ذكرتها لي. سوف أسأل أين أكلت؟ وإذا كان هذا المأكول أو المشروب جزءا من وجبة. إذا ما تذكرت شيئا آخر إضافي أخبرني. وعندما أسالك عن الكمية التي أكلتها أو شربتها، يمكنك الاستعانة بأمثلة سأذكرها لك بأدوات في بيتك أو بمعلومات مكتوبة على عبوات الغذاء أو الشراب.

لائحة وصف الغذاء:

للباحث: انسخ من "القائمة السريعة" حرف المأكول أو المشروب إلى عمود رقم 1، الساعة إلى عمود رقم 2، اسم الصنف إلى العمود رقم (5). اشر بعلامة () في القائمة السريعة في العمود بجانب المأكول أو المشروب الذي نسخته، ثم انتقل لتعبئة الأعمدة 3-4 (مع اظهارك بطاقة رقم 2). اكمل لتعبئة عمود رقم 6 و7 حسب الأسئلة المذكورة في دليل الغذاء والكميات.

حرف المأكول / المشروب	الساعة	مكان الأكل / الشرب	اسم الوجبة	اسم المأكول / المشروب	11. وصف الصنف	12. كم كانت الكمية التي أكلتها/ شربتها؟
1	2	3	45	5	6	7
					1	
					2	
					3	
					4	
					5	
					6	
					7	
					8	
					9	
					10	
					11	
					12	
					13	
					14	
					15	
					16	
					17	
					18	
					19	
					20	
					21	
					22	
					23	
					24	

القسم الرابع:

- a) هل كمية الطعام أو الشراب التي تناولتها بالأمس، مثل الكمية التي تتناولها بشكل عام؟
1. نعم مثلها،
2. لا، في الأمس أكلت اقل من المعتاد.
3. لا، في الأمس أكلت اكثر من المعتاد.
4. لا يعرف
- ما هو السبب الأساسي الذي لاجله كانت كمية ما أكلته بالأمس تختلف عن المعتاد؟(b)
1. الحمية.
2. إجازة، رحلة، سفر.

3. قلة وقت.
4. مناسبة دينية.
5. مناسبة عائلية أو اجتماعية.
6. توتر أو ملل.
7. مرض، وعكة.
8. صوم.
9. غير ذلك.

10

رمز المحافظة	المحافظة
01	جنين
05	طوباس
10	طولكرم
15	نابلس
20	قلقيلية
25	سلفيت
30	رام الله
35	أريحا
40	القدس
45	بيت لحم
50	الخليل
55	شمال غزة
60	غزة
65	دير البلح
70	خان يونس
75	رفح

الخلاصة (ABSTRACT).

المقياس للغذاء (H.E.I) عند الفئة المستهدفة.

للتحقق من نوعية القيمة الغذائية وجودتها , فهناك مقياس للغذاء الصحي والذي يعتمد على احتساب عشرة عناصر أساسية من الغذاء وهي الخمسة عناصر الأساسية للغذاء الحبوب , الخضروات , الفواكه , الحليب ومشتقاته , واللحوم بأصنافها).

مضافا إليها الأربعة عناصر المغذية (الصوديوم , الكوليسترول , الدهون المشبعة , الدهون الكاملة , والغذاء المشكل من عدة أنواع.

ولكل عنصر من هذه العناصر العشرة له علامة لتحديد الكمية التي تم أكلها (وهي من صفر إلى عشرة).

حيث يحتسب مجموع استهلاك المواد الغذائية العشرة أصناف من مئة علامة (كل صنف عشرة علامات) وعليه يتم تقييم طبيعة الغذاء للشخص من الناحية الغذائية الصحية.

تم البدء في هذه الرسالة في بداية سنة ٢٠٠٣.

وتحديدا الشهور الثلاثة الأولى من تلك السنة . وكانت الفئة العمرية المستهدفة هي (١٨-٦٤) سنة.

وخلال تلك الفترة تم اختيار العينة بطريقة عشوائية وكانت العينة عبارة عن ٢٥٠ شخصا ذكورا وإناثا.

حيث كانت نسبة الأستجابة للدراسة ٩٦ % من العدد المذكور.

النتائج النهائية كانت على النحو التالي:-

١. ٧٩% من المشاركين كان غذائهم يحتاج إلى تحسين بالتنوع.
٢. ١٤% من المشاركين كان غذائهم صحي.
٣. ٧% من المشاركين كان غذائهم غير صحي.

النتائج المعتمدة على بعض الخصائص كانت على النحو التالي:-

- الجنس: أظهرت النتائج بأن الإناث من الفئة المستهدفة كانت لها نتيجة أفضل من الذكور.
- الدخل الشهري: أظهرت النتائج بأن ذوي الدخل العالي بشكل عام كانت نتائج غذائهم الصحي أفضل من ذوي الدخل المحدود.
- التعليم: أظهرت النتائج بالدراسة بأن الفئة ذات التحصيل العالمي العالي كانت نتائجها أفضل من الفئة الأقل في التحصيل العلمي.
- العمر: كما وكانت النتائج تشير إلى أن الفئة العمرية (٥٥-٦٤) سنة كان لها النتيجة الأفضل في الدراسة من حيث الغذاء الصحي.

وعندها كان لنا توصيات لتحسين الوضع الغذائي من خلال زيادة الوعي لمعرفة نوعية الغذاء الصحي اللازم كتنوعه وليس ككمية , وذلك لتقليل من الإصابة ببعض الأمراض المزمنة والتي لها علاقة بنوعية الغذاء.

كما ونوصي بأن يكون هنالك مقاييس ومعايير للغذاء الصحي بفلسطين ليكون واضحا , ويصل إلى جميع فئات المجتمع لتجنب المبالغة في استهلاك بعد المواد الغذائية التي تزيد من إمكانية حدوث بعض الأمراض المزمنة مثل السكري... ضغط الدم... وغيرها.

واتباع الطرق السليمة في تناول المواد الغذائية الصحية قدر الإمكان.

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