

Research

THE DIETARY PATTERNS AND FOOD HABITS OF KUWAIT HOUSEWIVES OF THREE EDUCATIONAL LEVELS

Dr. Aliya Al-Shawi
College of Education
Kuwait University

ABSTRACT

This study describes a qualitative survey of the dietary patterns and the food habits of 225 Kuwaiti housewives of different educational levels.

The following food consumption patterns were noted:

- 1. The food groups consumed with highest frequency by the entire group surveyed were Cereals and beverages, other than milk and milk products.**
- 2. The food groups consumed with lowest frequency by the entire group surveyed were eggs, fish, and legumes.**
- 3. The housewives with lowest educational level consumed significantly more of sugar and sweets than those with highest educational levels.**
- 4. The women with lowest educational level consumed significantly less meat and poultry than women with highest educational level.**

Trends observed in the daily dietary habits of housewives in Kuwait were increased daily consumption of breakfast, decreased daily consumption of dinner, and increased between meals snacking.

One of the most serious public health problems in developing countries is malnutrition. In Kuwait, an estimate of the number of persons suffering from nutritional disorders within the population is difficult to determine due to lack of data. However, results from work done by the Nutrition Department and child health Centers show evidence of undernutrition among infants and pre-school children. The indicators of undernutrition included low birth weights (6.74% of full term infants had birth weights below 2500 grams) and protein calorie malnutrition (1). Anemia among pregnant women also was reported (3).

The prevalence of obesity in the adult Kuwaiti population has been reported by the Nutrition Department and the Preventive Health Nutrition Unit. Results from surveys indicate that obesity occurred among the age group 18-60 years. For the age group 40-49 years' 34 percent of the men and 59 percent of the women were indexed as being obese (4). Other nutrition related health problems reported included hyperlipidemia, diabetes

mellitus, and hypertension.

In general, it appears that the majority of nutritional problems observed in the Kuwaiti population are related to family dietary habits rather than the undersupply of food. The impetus for undertaking the present qualitative study of dietary patterns and food habits of Kuwaiti housewives arose from a lack of accurate information on these areas with the Kuwaiti population.

The purpose of this study was to determine the effect of the rise in socio-economic conditions in Kuwait and the increased ability to purchase adequate food supplies on the dietary patterns and food habits of the Kuwaiti family and to determine any problems or defects which may be due to a lack of nutrition education.

Objectives:

This study was designed to investigate:

1. The dietary patterns of Kuwaiti housewives of different educational levels.
2. The general scope of food habits and attitudes toward food of Kuwaiti housewives.

Method:

The population studied included 225 housewives. The sample was oriented toward a high risk population for nutritional problems, i.e. women of child bearing age (25-50 years) who were raising children. See Table 1 for a distribution of the sample studied.

TABLE 1
The Age Levels, Number of Children and Kind of
Work of Kuwaiti Housewives
(N = 225)

Age in Years				No. of Children			Activities		
20-29	30-39	40-49	50 and Over	1-3	4-6	6 and more than 6	Student	Housewife	Working outside the Home
% 2.7	% 24.0	% 53.3	% 20.0	% 9.3	% 22.7	% 68	% 1.3	% 92.0	% 6.7

Females were chosen for the study population because in the Middle Eastern cultural context housewives are responsible for feeding the family. In their role as mothers, they have a vital influence in establishing dietary

patterns and food habits of their children.

Housewives who were chosen for this study were selected randomly from different geographical areas of Kuwait and belonged to three educational levels. Each is defined according to the number of years attending school. These levels are:

1. College graduates and students which were designated as group 1.
2. Intermediate and secondary school (grades 5-12) which were designated as group II.
3. No schooling or elementary school to the fourth grade which were designated a group III.

Each group consisted of 75 housewives. This number was suggested by Shakir (5) as sufficient for a balanced sample with comparable dietary patterns. The housewives were interviewed by trained interviewers using a questionnaire consisting of two parts. Part one obtained data on the foods and drinks consumed in the previous 24 hour period. Each woman was asked about that day's breakfast and the meals of the previous day excluding breakfast. Care was taken to ask about all foods and drinks consumed between meals. Since the Kuwaiti housewives are not familiar with measuring equipment or the techniques used to obtain accurate measures of food intake, or the concept of "standard" serving size of food items, no attempt was made to obtain information about the quantities of foods eaten in the belief that such information would be inaccurate. Part two of the questionnaire concerned family meal patterns, food habits, and attitudes towards foods.

A pilot study was done prior to the main study in order to test the methods to be used for reliability. The pilot study allowed the interviewers to practice using the questionnaire and to determine if any changes needed in the questions to obtain consistent data. No changes in the questionnaire were made as a result of the pilot study.

To test the validity of the questionnaire a panel of four experts in the fields of educational psychology medicine and nutrition were consulted.

Information concerning the dietary patterns was evaluated qualitatively by using mean food frequencies. This method counts the number of times specific foods are consumed within the 24 hour period. Foods were grouped into ten categories and the number of times each category was consumed was totaled. The data were averaged by dividing the number of cases into the total number of times the foods were mentioned in each category to give the mean frequency of mention of each food group. This method has been described by Nicholls (2), Wadsworth and Cameron (6).

A qualitative assessment of food habits results in trends, requiring a minimum of time and expense to gather data. This method lends itself for use with illiterate populations, and tends, to cause less alteration of food habits by subjects.

Statistical analysis of the data were done at the Kuwait University Computer Center using the Univac 1100 multiprocessing system. The t-test was used to determine if a significant difference between the mean consumption of each food category was related to level of education of the subjects.

To determine if the food habits of the Kuwaiti housewives were different prior to the oil era and to be able to recognize any noticeable changes in the food habits which occurred since that time, 25 women between the ages of 60-75 were interviewed. These subjects were used to give a picture of the dietary patterns of the Kuwaiti family prior to the discovery of oil in the region.

Results:

Food Consumption:

The findings related to the consumption of different kinds of foods eaten in a 24 hour period by 225 Kuwaiti housewives of different educational backgrounds are given in Tables 2, 3 and 4. The cereals group and beverages, other than milk were consumed with highest frequency by these women. Eggs, fish and legumes were consumed with the lowest frequency by the entire group of women surveyed. See Table 2.

TABLE 2
**Frequency of Mention of Ten Food Categories Consumed
by Kuwaiti Housewives in a 24 Hour Period**

Food Categories	Mean
Cereal and cereal products	2.95
Beverage	2.55
Milk and dairy products	2.21
Sugar and Sweets	2.04
Vegetables leafy and others	1.38
Meat and poultry	1.20
Fruits	0.89
Eggs	0.70
Fish	0.30
Legumes	0.21

Cereals mentioned most frequently were rice, bread, semolina parboiled wheat (bulgar) and macaroni. The highest frequency of consump-

tion among the various food categories eaten by these subjects were the cereals and cereal products. Cereals and breadstuffs are a common basic family food in Kuwaiti households.

Soft drinks, tea and coffee were the beverages most frequently mentioned as being consumed. These beverages were consumed with high frequency by these subjects, particularly between meals. This is an alarming trend because these beverages contribute no nutrient value to the diet other than calories.

Fresh whole milk, yogurt, lebna, (concentrated yogurt), cheese and cream were consumed by the housewives during the 24 hour period. This is a very good dietary practice because these foods contain calcium, riboflavin, vitamin A and are a good source of protein.

Sugar was consumed in the form honey, jams, chocolate, cakes, cookies, ice cream, Arabian sweets and sugar added to coffee and tea. The consumption of sweets was quite high in this population of women.

Spinach, cabbage, parsley, raddishes, eggplant, okra, summer squash, (like zucchini), tomato, cucumber and onion were commonly mentioned forms of vegetables consumed. Fresh fruits mentioned as being consumed frequently included apples, oranges, mandarins, bananas, watermelon, grapes and dates.

Eggs are readily available in food markets in Kuwait, however, these subjects reported consuming few eggs. This is unfortunate as eggs are a rich source of many nutrients, especially iron.

Due to the geographical location of Kuwait, fishing was the main trade prior to the discovery of oil. In past times, fish was the main source of protein in the diet. The kinds of fish available include zubaidi, Sboor, Nagrou, Hamoor and Shrimp. Fish are usually fried and served with rice and vegetables. The frequency of consumption of fish by this population, however, was not high.

Legumes were consumed at a very low level of daily intake. The common legumes consumed included broad beans, peas, chickpeas, lentils, and green grams.

When data were compared by level of education (See Table 3), women in Group 1 consumed more cereals, meat and poultry and less sugars and sweets than did women in group III (those with the lowest educational level). Women in Group II had intermediate values for most food items analyzed. Little differences were found between the groups in the frequency of consumption of eggs, fish and milk. Fish consumption was low for all three groups even though fish is abundant in Kuwait. Legumes were consumed with the lowest frequency by all groups.

TABLE 3

Frequency and Standard Deviation of the different Food Categories consumed by Kuwaiti Housewives in the three educational levels

	Group I		Group II		Group III	
	Mean	S.D.	Mean	S.D.	Mean	S.D.
Cereal, cereal product, Potatoes	3.01	1.46	2.91	1.40	2.95	1.08
Sugar and Sweets	1.07	1.05	1.07	1.16	2.95	1.08
Meat and Poultry	1.36	0.50	1.15	0.81	1.08	0.91
Fish	0.35	0.50	0.31	0.46	0.25	0.46
Eggs	0.71	0.58	0.72	0.60	0.68	0.64
Milk and Dairy Products	2.16	1.46	2.31	1.24	2.17	1.31
Legumes	0.21	0.47	0.19	0.42	0.24	0.54
Vegatables Leafy and Others	1.29	1.14	1.51	1.23	1.35	1.11
Fruit and Fruit Juices	1.00	0.94	0.87	0.85	0.80	0.86
Beverage	2.19	1.34	2.41	1.55	3.07	1.50

Results of the t-test analysis showed a significant difference in the mean frequency of consumption of sugar and sweets between Group III and Group II with the housewives with the lowest educational level consuming significantly more sugar and sweets than women in both Group II and Group I. In the meat and poultry foods, women in Group III consumed significantly less of these foods than the women with the highest educational level, (Group I). These data are presented in Table 4.

TABLE 4

Comparison of mean frequency of mention of the food consumed in 24 hours between the three educational levels of housewives.

Food Category Consumed	Comparison of Mean Frequency of Mention using "t" test		
	Difference between Group I & Group II	Difference between Group II & Group III	Difference between Group I & Group III
Cereal and cereal products	NS*	NS	NS
Sugar and Sweets	NS	Group III markedly higher than group II (P<.01)	Group III markedly higher than group I (P<.01)
Meat and Poultry	NS	NS	Group I higher than Group III (P<.05)
Fish	NS	NS	NS
Eggs	NS	NS	NS
Milk and Dairy Products	NS	NS	NS
Legumes	NS	NS	NS
Vegetables leafy and Others	NS	NS	NS
Fruits and Fruit Juices	NS	NS	NS
Beverages	NS	NS	NS

*NS "Not statistically significant".

Food Habits and Attitudes:

The results of the questionnaire related to food habits and attitudes indicate that there were differences in the food patterns of these women. Data showing the frequency of consumption of various meals and the attitudes towards consumption of the different meals are presented in Table 5 for the total population of housewives studied. Most of the subjects consumed their meals at home and few ate meals outside of the home. It was interesting to note the high percentage of women who believed that eating breakfast was important. Nutritionists recommend that breakfast be consumed on a daily basis and studies have shown that regular breakfast consumption is a habit that leads to longevity.

TABLE 5
The Daily Dietary Habits of Kuwaiti Housewives

Habits and Beliefs	Breakfast %	Lunch %	Dinner %
Eat Daily	65.8	92.0	59.0
Eat Occasionally	32.4	8.0	38.7
Do not eat it	1.8	0.0	1.8
Eat at Home	82.7	98.7	96.0
Eat Outside Home	17.3	1.3	4.0
Belief is important	91.9	93.3	41.8
Belief is not important	8.9	6.7	58.2

TABLE 6
Summary of the percentages of the Kuwaiti Housewives' involvement in the managerial decisions and their contribution to family feeding

Family Meals	Group I %	Group II %	Group III %	All %
Planned by Husband	2.7	5.3	8.0	5.3
Planned by wife	49.3	56.0	64.0	56.4
Planned by husband and wife	40.0	36.0	25.0	33.8
Planned by servant	5.3	2.7	1.3	3.1
Prepared and served by housewife	49.3	53.3	61.3	54.7
Prepared and served by servant	10.7	12.0	4.0	8.9
Prepared and served by housewife and servant	36.0	24.0	30.7	30.2
Prepared and served by other family members	2.7	9.3	4.0	5.3
Bought ready prepared	8.0	9.3	2.7	6.7
Not bought ready prepared	20.2	38.7	41.3	33.3
Sometimes bought ready prepared	72.0	52.0	56.0	60.0

Data in table 6 give a summary of the percentages of Kuwaiti housewives interviewed who are involved in various managerial decisions related to family meals and their contributions to feeding of the family by

different educational levels.

On the basis of the information collected about the meal patterns of the Kuwaiti family before the economic boom breakfast foods consumed were broad beans, chickpeas, eggs, and homemade whole wheat bread. Some families used leftover foods from the previous evening meal for breakfast. Lunch was the least important meal of the day and usually consisted of dates and butter, or dates and yogurt with bread. Dried fish was occasionally eaten at lunch. The evening meal was the main meal of the day for the family and rice with fish or meat was the main dish. The use of fruit and vegetables was rare. If these foods were consumed, the common item used was fresh dates. Snacks were rarely consumed and if so, were usually dates and butter. Families never bought any ready-prepared meals. Sweets were occasionally purchased ready-made.

After the economic growth which resulted from the oil era occurred, the daily dietary habits changed. The current study shows some of these trends. See table 5. Housewives eating breakfast on a daily basis increased and the number eating dinner on a daily basis decreased. The latter is not a good trend considering the nutrients which are usually contained in foods eaten for an evening meal, particularly iron and protein. The importance of the evening meal must be emphasized in nutrition education programs for these women.

Another change in the daily dietary habits which occurred after the discovery of oil and the increase in money available was the increase in between-meal eating observed. Data from this study indicate that almost all of the housewives ate in-between meals, particularly at the evening time. The common snack foods mentioned as being eaten included soft drinks, tea, sweets, cakes, cookies and nuts. While some of these foods contain a few nutrients, generally these snacks contribute primarily calories with little other nutrient value to the diet.

Data from Table 7 related to housewives beliefs and attitudes towards foods indicate almost all of them had the right attitudes but they lacked enough nutritional knowledge in relation to foods and disease.

TABLE 7**Attitudes and Beliefs of the Kuwaiti Housewives towards foods**

Attitudes and Beliefs towards foods	Group I %	Group II %	Group III %	All %
Satisfy hunger	88.0	92.0	93.3	91.1
Good taste	10.7	6.7	5.3	7.6
Good health	97.3	98.7	100.0	98.7
Recover from diseases	2.7	1.3	0	1.3
Symbol of social status	65.3	54.7	49.3	56.4
Symbol of hospitality & generosity	18.7	38.7	41.3	32.9
A way to cope with boredom	25.3	30.7	24.0	26.7
A way to cope with psychological stresses (fear, anxiety, happiness, sadness)	36.0	40.0	42.7	49.6

Conclusion

The dietary patterns and the food habits of 225 Kuwaiti housewives of different educational levels were surveyed qualitatively. The food consumption patterns of the entire group showed that the food groups consumed with highest frequency were cereals and beverages other than milk, while the food groups consumed with lowest frequency were eggs, fish and legumes. The housewives with lowest educational level consumed significantly more of sugar and sweets than those with highest educational levels. Women with lowest educational level consumed significantly less meat and poultry than women with highest educational levels.

Some of the trends and changes observed in the daily dietary habits of the housewives after the economic growth which resulted from oil discovery, were increased eating breakfast on daily basis, decreased eating dinner on a daily basis, and increased eating between meals. These findings indicate the changes in the daily dietary patterns and the food habits of the Kuwaiti family have been affected by rise in the socio-economic conditions. They also indicate that there is a need for nutrition education to improve the existing eating habits and the consumption patterns.

References

1. Average Birth Weight of Kuwaiti Infants, 1977, Ministry of Public Health, Nutrition Department, Sabah Hospital, Kuwait.

2. Nicholls, L., *Tropical Nutrition and Dietetics*, 3rd edition, p. 334, 1951, Bailliere, Tindall and Cox, London.
3. *Nutritional status of Kuwaiti Pregnant Mothers 1967*, Ministry of Public Health, Nutrition Department, Sabah Hospital.
4. *Nutrition status Assessment of Adult (Kuwaitis) 1981*, Preventive Health, Nutrition Unit, Ministry of Public Health, Kuwait.
5. Shakir, A., and others, *The dietary pattern of children attending schools in the city of Baghdad, Iraq*, *Nutrition*, London XIXVII No. 5, 1973.
6. Wads, G.R., and Cameron, Margaret E. *Rapid Determination of Dietary Patterns*. *Nutrition*, London, XXII 1968.

دراسة الأنماط والعادات الغذائية لربات البيوت الكويتيات من ثلاثة مستويات تعليمية (بحث باللغة الانجليزية)

ملخص

على الرغم من ارتفاع مستوى الكويت الاجتماعي والاقتصادي وتوافر الاغذية بأنواع مختلفة ومن مصادر متعددة ، فان معظم مشكلات سوء التغذية فيها كما تشير الدراسات تعود الى العادات الغذائية .

وهذه دراسة ميدانية اجريت بطريقة التحليل النوعي لتقييم الغذاء اليومي والعادات الغذائية السائدة بين ربات البيوت الكويتيات . وتعطي نتائج دراسات التحليل النوعي لتقييم الغذاء اليومي مؤشرات عامة لمنحي العادات الغذائية السائدة . ويمكن استخدام هذه الطريقة للأمين وذوي المستويات التعليمية المنخفضة دون التأثير على عاداتهم الغذائية .

تتكون عينة البحث من ٢٢٥ ربة بيت كويتية تراوحت اعمارهن بين ٢٥ - ٥٠ سنة حيث تعتبر هذه المرحلة من عمر المرأة مرحلة غذائية خطيرة ، وتتكون هذه العينة العشوائية من ثلاث مستويات تعليمية (ابتدائي ، متوسط وثانوي ، جامعي فيما فوق) بهدف التعرف على الأنماط الغذائية لكل مستوى تعليمي ، وكذلك دراسة العادات الغذائية والاتجاهات السائدة نحو الطعام بصورة عامة .

وأظهرت نتائج هذه الدراسة المتعلقة بأنماط استهلاك الغذاء اليومي للعينة باجمعها بأن الحبوب ومنتجاتها والمشروبات الباردة والساخنة فيما عدا الحليب تستهلك باعلى نسبة تكرارية ، وتستهلك الاسماك والبيض والبقول بأقل نسبة تكرارية . وأن المجموعة الاقل في المستوى التعليمي كانت تستهلك السكريات والحلويات بدرجة أكثر من المجموعة الاعلى في المستوى التعليمي . كما ان المجموعة ذاتها كانت تستهلك اللحوم والدواجن بكمية أقل بكثير من المجموعة ذات المستوى التعليمي الاعلى .

ومن اهم العادات الغذائية التي لوحظت من هذه الدراسة زيادة نسبة تناول وجبة الفطور يوميا وانخفاض نسبة تناول وجبة العشاء يوميا وزيادة نسبة تناول الطعام بين الوجبات الرئيسية .