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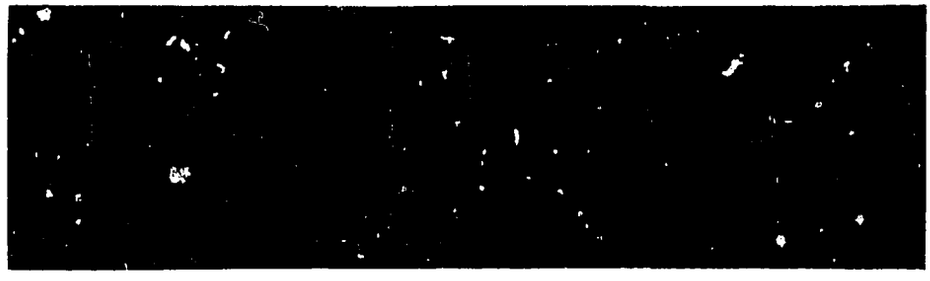
# PROJECT ON BELIEFS AND PRACTICES THAT AFFECT FOOD HABITS



CARE

PN-AAT 346
41084

# BELIEFS AND PRACTICES AFFECTING FOOD HABITS IN RURAL JORDAN

Merlyn Vemury

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## SUMMARY

In September 1978, CARE, with the cooperation of the Ministry of Labor/Department of Social Affairs in Jordan conducted a national food habits survey in rural areas. The survey is part of a larger study CARE is conducting, funded by an USAID grant, to get a better understanding of the cultural food beliefs and habits in several developing countries.

The sample of 507 respondents, consisting of mothers and community influentials were randomly selected to represent the rural households. Two in-depth questionnaires, one each for the mothers and community influentials were used as survey instruments. A large number of questions were devoted to obtaining information on the nutritionally at risk population groups i.e. infants and preschoolers, young women of child-bearing age, pregnant and lactating women. The observations made by the mothers regarding their food habits, in general substantiated the responses from the community influentials. However, there were some significant differences in the prevalence of food beliefs and practices and the reasons for following them. Some regional differences exist in the food consumption patterns of rural Jordanians, presumably the contributing factors being geography, climate, food production and ethnic variation. Listed below are some of the survey findings.

1. Socio-economic Characteristics

The mean age of mothers in the study is 32.9 years,

representing both younger and older age groups. Their literacy rate is very low (29.1%) compared with the rest of the population; most of them (88.2%) have had no exposure to outside nutrition/health education. Almost all mothers are housewives (91.5%), but a few help in agriculture besides doing housework. The sample represents West Bankers who fled to the East Bank during the 1967 war, Bedouins or Nomads and East Bankers all of whom are Arabs primarily following Muslim teachings. The average family size is 7.5, with a mean of two to three children under 7 years. The mother's mean age at first pregnancy is 17.9 years, with some becoming pregnant as early as 13 or 14 years. Over a third of the mothers (37.5%) had one or more preschool age child mortality in the family. Sanitation facilities are available to some extent. Latrines are present and are used in most of the households(83.2%). Drinking water is drawn from household taps (50.5%), covered tanks or wells (17.6%) or is delivered by truck (8.9%).

2. General Food Consumption Patterns

The rural Jordanian diet is primarily grain based containing wheat, rice and bulgur made from wheat. These are most frequently consumed in larger quantities than any other food group. They are probably the major sources of calories and proteins in the diet. Potatoes are very frequently consumed and are a good source of carbohydrates. The most common animal foods are goat/lamb/beef, followed by eggs and dairy products. Their frequency of consumption is less. Lentils, dry beans and chickpeas are consumed even less frequently. Other than tomatoes, onions and green peppers, the consumption of vegetables is a

regular basis is limited. Dry fruits such as dates/figs and raisins are more commonly consumed than fresh fruits. Olive oil is the predominant cooking oil. Coffee followed by tea is the common beverage. All foods are generally consumed by the household members, regardless of age or sex, with the exception of beverages such as coffee which may be restricted to adults only, in a few households. The quality and quantity of foods consumed may be influenced by age and sex. The chief reasons stated as influencing food choices are 1) its health giving qualities, 2) palatability. Availability and costs also influence consumption of foods.

3. Food Production, Purchasing and Cooking Practices

Approximately half the households grow or raise some food for home consumption. Others purchase all food, either on a daily basis or less frequent basis. The mother generally decides on the food purchases for the household, but it is the husband that does the marketing. Gas and kerosene are the major fuels used for cooking. Although most families cook one meal a day, they generally consume two or three meals per day suggesting perhaps food is cooked once and eaten at subsequent meals. Snacks are consumed in less than half the households. Almost none of the mothers boil water for drinking purposes because 1) it is not considered necessary or 2) it is not customary.

4. General Eating Practices, Food Preferences and Restrictions

Family members generally eat their meals together. Food is most often consumed from a common family pot though a few households use separate plates. The male head of the household is given preference

regarding choicest portions of the family meal. Other family members like the mother, mother-in-law and older boys in the family are given priority in some households. Preference is given to a pregnant or a lactating woman in less than a fourth of the households. Given the choice, most mothers rank foods of animal origin as the most preferred. Other preferred foods are vegetables and fruits. Besides pork and alcohol, few foods are restricted by religion. Fasting during Ramadan is observed by all adults including pregnant and lactating women. Two-thirds of the households exempt the sick and children under 13 years from fasting during this period.

5. Food Classifications Observed

Nearly half the mothers are aware of the 'strong' and 'weak' distinction in foods, the most predominant food classification of Jordan. 'Strong' foods are generally defined as making one healthy, strong and active. Examples of 'strong' foods are milk and milk products, chicken, fish, eggs. 'Weak' foods are defined as not energy-giving or causing illness or ill health. Some examples of 'weak' foods are bulgur/rice, and vegetables like cucumber, cabbage and eggplant. In general, 'strong' foods are regarded as beneficial and 'weak' foods may be regarded as harmful. However, this may differ depending on the physical condition of the person consuming it. Families observed 'strong' and 'weak' food distinctions at all times rather than when ill only.

6. Special Dietary Practices of Vulnerable Groups

Women of Child-bearing Age: Puberty, menstruation and subsequent menstrual cycles appear to influence foods consumed by women to some extent. Generally, more foods are considered especially beneficial than harmful during this time. Foods that are restricted are either acidic (eg. lemons, oranges), or hot or spicy (eg. coffee or peppers). They are believed to be 'strong' or 'weak', cause discomfort or sterility. Foods of animal origin such as milk/milk products, beef/chicken, and eggs along with some fruits, tomatoes, vegetables, bulgur/rice are regarded as beneficial. These food observations last for the duration of each menstrual cycle.

Pregnancy: Dietary regulations during pregnancy are geared to ensure that no harm befalls the growing fetus. These regulations are critical to the health and well-being of both the mother and the fetus especially if the mother is very young. Approximately half the mothers (44.1%) believe food consumption should be reduced during pregnancy. This has critical nutritional implications, since the normal diet is already limited in variety and probably quantity. Its seriousness is further exacerbated when the pregnant woman reduces her food intake even more. The mother learns about foods to eat or avoid during pregnancy by observing neighbors and friends or from her mother. As in most cultures, certain foods are regarded as being especially beneficial or especially harmful for pregnancy. Examples of beneficial foods are meat (lamb/goat/beef), milk and eggs because they are 'strong'. Hot spicy foods, potato and lemon are the most frequently mentioned as harmful

because they are either 'strong' or 'weak' or they cause illness.

Post-partum: Some mothers believe a woman should not be given food after childbirth for up to 24 hours. Few believe foods should be omitted up to 2 or 3 days. Reasons for withholding food is to give the mother time to rest and recuperate after delivery. As during pregnancy, more foods are considered beneficial than harmful after childbirth. The former are generally meats (beef/lamb/goat), milk and eggs. These are considered good especially the first 3 days and can last up to 60 days after childbirth. Harmful foods are primarily fats/sauces and can be avoided for up to 40 days.

Lactation: Diet regulations during lactation are particularly directed toward increased milk production. Although over half the mothers (56.9%) believe food intake should be increased at lactation, over a third (39.5%) still believe it should be normal despite the need to produce milk. A lactating mother's diet is affected by the illness of her nursing infant since she generally reduces her food intake so that it does not aggravate the infant's illness. A number of foods such as meat (beef/lamb/goat) milk, leban/lebanah, butter/olive oil/ghee, tomatoes, onions and rice water are considered good for lactation as opposed to others such as cucumber, radish and fruits which are believed harmful.

Infants and Preschoolers: Most mothers (79.8%) give sugar water, butter or herbs to the newborn at birth to clean out the infant's stomach, prepare it for the mother's milk, for strength or because it is customary. Nearly all mothers (96.6%) breastfeed their infant in rural Jordan.

However, almost one-fifth of the mothers (18.6%) do not believe the infant should be given the breast within the first 3 days after birth and most others believe it should be withheld for 1 to 2 days. This practice limits the colostrum consumed by the child. The average length of breastfeeding is 16.4 months. Breastfeeding is completely stopped by nearly half the mothers (48.0%) when they (i.e. the mothers) are ill. Over a fourth of the mothers (26.8%) believe it should be completely stopped when the infant is ill. Approximately half the mothers (52.0%) bottlefeed their infants in addition to breastfeeding at an average age of 4.2 months, primarily because the mother does not have sufficient milk or the child needs foods other than breastmilk. Milk is one of the foods given by bottle mostly in the processed rather than fresh form. Other supplementary solid foods introduced at 7.7 months of age are bread/rice/bulgur,eggs, vegetables like squash, tomatoes, cucumbers and fruits like apples and bananas. Weaning from the breast to an adult diet is both gradual ie. introducing other foods gradually in the infant's diet (46.7%) and abrupt (41.0%)i.e. suddenly terminating breastfeeding by applying bitter substances on the breast to discourage the infant, who is given other foods instead. The primary reason for weaning is a new pregnancy. The child is on an adult diet ie. a family diet around 16.8 months because it is believed the child can digest the food or chew the food consumed by the adult by this age. Foods such as milk, eggs, rice/bulgur, apples/bananas are considered especially good for children. Few foods are mentioned as harmful. The practice of purging children is prevalent in most households (78.6%). A child

may be purged at birth or when the child has fever, diarrhea, periodically over certain intervals of time. Purging children during stress conditions such as fever and diarrhea may have serious consequences.

The findings from the Food Habits Survey provide some insights into the cultural beliefs and practices of rural Jordanians, which can provide some direction to future programming in the area of nutrition and health.

# I. INTRODUCTION

In July 1978, a study was conducted under the joint sponsorship of CARE and the Ministry of Labor/Department of Social Affairs on beliefs and practices affecting food consumption of rural Jordanians. This study is one of several CARE is undertaking under a grant funded by the Office of Nutrition, Agency for International Development. The study focuses on the vulnerable groups of the rural population in the country. Tradition, association and deep-rooted beliefs are forceful determinants in food habits. These must be understood and considered in nutrition programs. The broad understanding gained by the findings of the study will assist in effective nutrition program planning and implementation to improve the nutritional conditions of the rural population.

## II. GENERAL COUNTRY BACKGROUND

The Hashemite Kingdom of Jordan extends over a territory of 37,700 square miles. The country is naturally divided into two regions: the East Bank and the West Bank. About 6% of the total land, known as the West Bank, remains under Israeli occupation (1).

The country has a characteristic rainy season from November to March and very dry weather for the rest of the year. Generally, it has hot and arid summers and cool variable winters. The annual rainfall may vary as follows: 15 to 25 inches in the Northern Highlands; 8 to 10 inches in the Jordan Valley; 3 to 8 inches in the Eastern Desert; 1 to 3 inches in the Southern Desert and 10 to 12 inches in the Southern Highlands. The amount of rainfall is extremely variable from year to year over much of the country and the timing fluctuates as well (2,3).

For administration purposes, the East Bank is designated into 5 governorates and further into sub-governorates, districts and sub-districts.

The estimated population of the East Bank is 2.8 or 2.9 million with 58% of them rural (3,4). With the most recent population growth rates estimated at an average of 4%, the population is expected to double in less than 20 years (4). The rural population consists of people living in settled villages and nomadic and semi-nomadic tent dwellings. The latter may also live in permanent houses during their

"house period" in settled villages.

Religion is one of the primary cultural influences in the country. Over 93.0% of the population adhere to Sunni Islam (1,5). The ethnic, cultural, ecological and social groups in Jordan are fragmented, mostly because of the uprooting endured by the people. Perhaps the most important force favoring the cohesiveness is the Arab-Islamic cultural tradition common to the overwhelming majority (1). The recent literacy estimates for the total population in the country is 70% (3). This is probably because more than 37% of the population is aged 15 to 44 years and almost all of them have had schooling. Infant mortality rate at 97 per 1000 is high (4).

Malnutrition has been identified as one of the problems in the country, particularly in the preschool age group. Although malnutrition is caused by a number of different factors, inadequate food consumption is the predominant cause of the existing malnutrition in Jordan, along with lack of variety in the diet in some regions (especially desert areas) and some poor food habits, particularly those of preschoolers, pregnant and nursing mothers. Many ecological and socio-cultural factors govern these food consumption and food habits. This study is undertaken to assess the existence and extent to which the relationships between ecology, society and culture influence food habits in rural Jordan.

## III. METHODOLOGY

The information of food habits study in the country was elicited from two different groups of respondents namely mothers of preschoolers and older women, and community influentials such as informal community leaders. The responses from the community influentials and teachers were compared with the mothers' responses to verify if significant differences exist between the two groups.

### a) SAMPLE SIZE

The sample consisting of 507 respondents from 40 communities participated in the survey. Approximately 10 mothers and 3 community influentials were interviewed in each community. The sample size was based on the following criteria: rural population size in the country, time, personnel requirements and budget constraints.

### b) SAMPLE SELECTION

The sample was drawn using the multi-stage stratified sampling technique described below. Table I presents the size and distribution of the sample surveyed.

Stage I: The country was divided into 5 naturally occuring topographical regions: 1) the eastern desert, 2) the northern highlands, 3) the Jordan rift valley, 4) the southern highlands, and 5) the southern desert. These regions give representation to the different terrain, climate and food production. The 40 communities surveyed in the country were proportionately divided between the regions according to their

TABLE I. SIZE AND DISTRIBUTION OF SAMPLE SITES IN THE FOOD HABITS STUDY

| | Region I[1] | Region II[2] | Region III[3] | Region IV[4] | Region V[5] | Total |
|---|---|---|---|---|---|---|
| % Rural population | 10 | 60 | 12 | 15 | 3 | 100 |
| No. of sub-governorates/districts | 1 | 3 | 2 | 1 | 2 | 9 |
| No. of sites | 4 | 21 | 6 | 6 | 3 | 40 |
| Total No. of respondents | 52 | 279 | 65 | 73 | 38 | 507 |
| Mothers | 40 | 217 | 50 | 56 | 30 | 393 |
| Community influentials | 12 | 62 | 15 | 17 | 8 | 114 |

[1]Region I = the Eastern Desert

[2]Region II = the Northern Highlands

[3]Region III = the Jordan Rift Valley

[4]Region IV = the Southern Highlands

[5]Region V = the Southern Desert

rural population.

Stage II: The subgovernorates and districts that fell in each region were listed and approximately 40% of these were selected. The number of communities to be surveyed were distributed among them according to rural population size in each of the selected subgovernorates or districts.

Stage III: A list of villages in each selected subgovernorate/district was obtained. Villages with a population of less than 5000 inhabitants were treated as one community, those with 5000 to 10,000 inhabitants were treated as 2, and between 10,000 and 15,000 were treated as 3 communities. From this list, extremely inaccessible areas were omitted and the remaining was used to draw a randomly required number of villages for the survey. Table II and Figure I lists the communities and shows the regions sampled in the survey. A second random list was drawn, in case it was necessary to substitute a village due to unforeseen circumstances in the field.

Stage IV: In each community, systematic sampling was followed to identify the 10 mothers. A random number from 1 to 9 was chosen as the first mother/household to interview. Each of the remaining 9 mothers were interviewed after an interval derived by dividing the number of households in the community of 10. Of the 10 mothers interviewed, 8 had children below 7 years of age, the remaining 2 were older mothers with no preschool age children.

c) SURVEY INSTRUMENT

The survey instrument consisted of two in-depth questionnaires,

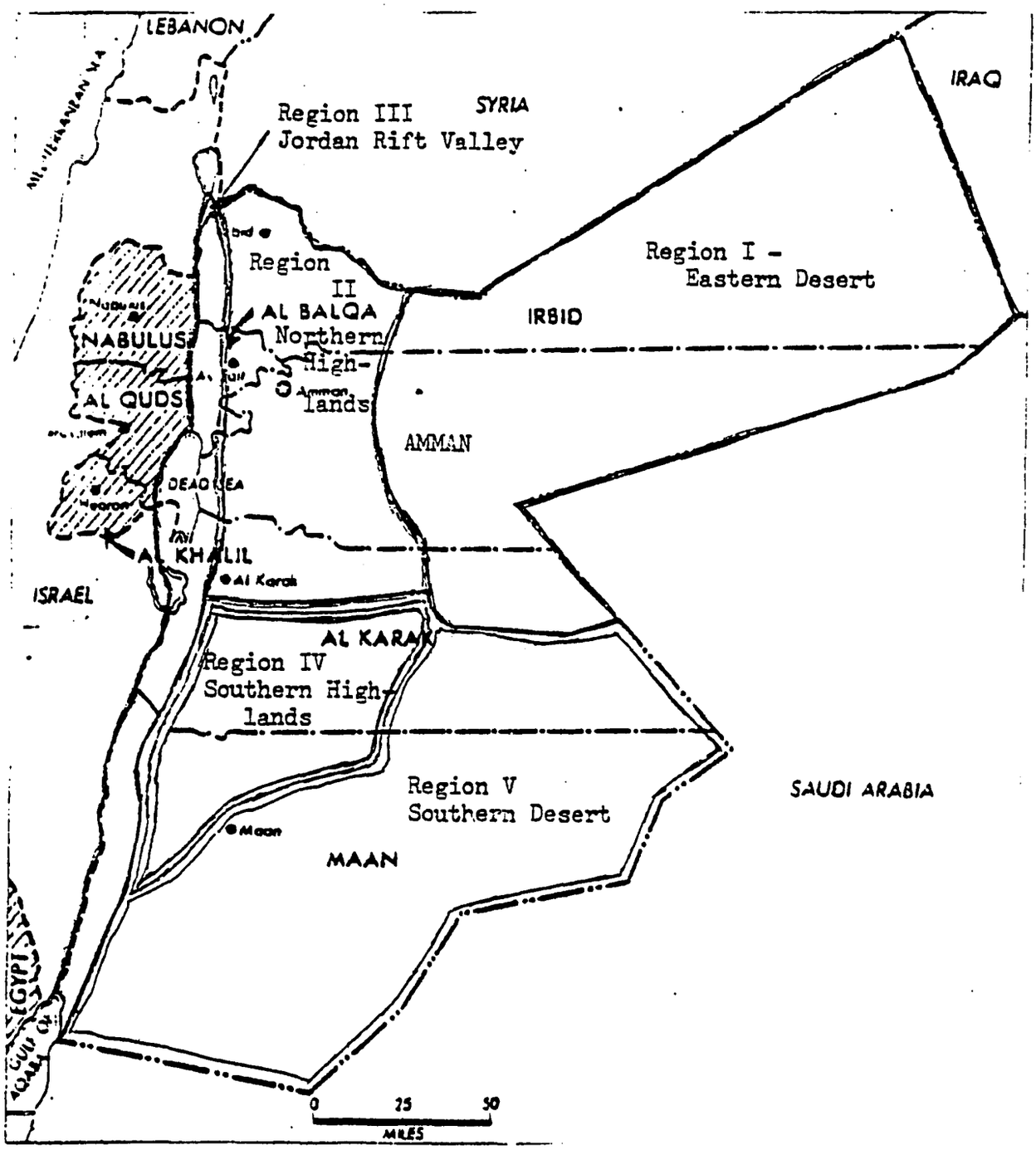
TABLE II. RURAL COMMUNITIES SAMPLED IN THE FOOD HABITS STUDY BY SUB-GOVERNORATE AND BY REGION

| REGION | SUB-GOVERNORATE | COMMUNITY |
|---|---|---|
| Region I | Mafraq | Aidun Bani Hassan |
| | | Khaldieh |
| | | Nadreh |
| | | Rehab Bani Hassan |
| Region II | Amman | Abu Alanda (West) |
| | | Abu Alanda (East) |
| | | Dhaibet El Daham |
| | | El Rama |
| | | Juwaideh |
| | | Mustabeh |
| | | Um El Sumak No'eimat |
| | | Um El Waleed |
| | Irbid | Beit Ras |
| | | Dokara |
| | | El Mukheibeh Tahta |
| | | El Nu'almeh |
| | | El Sarreeh |
| | | Kufr Ann |
| | | Saham |
| | | Sal |
| | | Shatana |
| | Ajloun | Afna |
| | | Anjara |
| | | Arjan |
| | | Ebbeen & Ebbeleen (East) |
| Region III | Kerak | Ghor Al Mazra'a |
| | | Ghor El Safi (West) |
| | Balqa | Deir Alla (West) |
| | | Deir Alla (Central) |
| | | Ghor Kebed |
| | | Mu'adi |

TABLE II. (continued)

| REGION | SUB-GOVERNORATE | COMMUNITY |
|---|---|---|
| Region IV | Tafila | Beir Ata'ta<br>Bseira<br>El Jurf<br>Gharandal<br>Namateh<br>Sinifha |
| Region V | Ma'an | Al Husseinieh<br>Jerba |
| | Aqaba | Qweira |

Figure I MAP OF JORDAN




Region I - Eastern Desert
Region II - Northern Highlands
Region III - Jordan Rift Valley
Region IV - Southern Highlands
Region V - Southern Desert

one for the mothers and the second for the community influentials. The questionnaires were translated into Arabic, pretested, revised to accommodate cultural factors and nutrition practices existing in Jordan, and precoded for subsequent data analysis. Detailed code guides and coding instructions were prepared to facilitate coding responses for subsequent computer analysis.

d) PERSONNEL

The survey was planned and organized by two CARE/Jordan International staff, the Nutrition Advisor from CARE/New York and CARE/Jordan National staff. The survey teams consisted of 15 members, including a supervisor, female investigators and drivers. The investigators were assigned to 3 teams, each with a designated team leader. They were responsible for interviewing the mothers and community influentials.

e) TRAINING

A 6-day training session was held for the investigators prior to field work. The training sessions included appropriate interviewing and information gathering techniques. A thorough explanation of selecting mothers at the village level was given. Complete familiarizing with the questionnaires and code guides was emphasized. A pre-testing/practice session was carried out as part of the training during which time individual experiences and problems were discussed, and information gathering standardized. The pretesting served to identify the strengths and weaknesses of the questionnaires as tools for data

collection and changes were made as necessary.

## IV. RESULTS AND DISCUSSION

The questionnaires were analyzed separately for the two groups of residents ie., the mothers, and community influentials. The mothers' responses were further analyzed by region to verify the existence and extent of regional differences in the rural areas of the country.

### a) SOCIO-ECONOMIC CHARACTERISTICS

Table III presents the socio-economic characteristics of the sampled groups.

Mothers: The mean age of mothers participating in the survey is 32.9 years, with the largest number falling between 20-39 years. This is probably due to the qualification made in sample selection that 8 out of 10 mothers have at least one child of pre-school age. The literacy rate among the mothers is low (29.1%), and comparatively much lower than the estimated literacy rate for the entire population (3). This may be due to the relatively high mobility of the Bedouins who comprise 39.8% of those interviewed. Mean number of years of schooling per mother is 2.3 years and that of the husband is 5.3 years. Most mothers (88.5%) had no exposure to outside nutrition/ health education. A need for trained nutrition workers to disseminate nutrition education information has been identified in an earlier study (6). Nearly all mothers are housewives (91.5%). The husbands have a wide range of occupations, the most common being military service (soldiers and veterans) and police (25.8%), farm workers (15.1%), and service workers (13.5%) such as drivers.

TABLE III. SOCIO ECONOMIC CHARACTERISTICS OF SAMPLED RESPONDENTS EXPRESSED IN MEANS AND PERCENTAGES[1]

| Characteristics of Respondents | Total Sample | | Mothers By Region | | | | |
|---|---|---|---|---|---|---|---|
| | Mothers | Community | I | II | III | IV | V |
| 1. Mean age of respondents | 32.90 ±11.48 | 38.49 ±15.63 | 32.13 ±12.24 | 33.38 ±10.76 | 32.53 ±12.67 | 28.22 ± 9.68 | 34.59 ±14.99 |
| 2. Age distribution | | | | | | | |
| a) <19 years | 8.9 | 2.6 | 7.5 | 4.6 | 8.0 | 21.4 | 20.7 |
| b) 20-29 years | 32.7 | 37.4 | 35.0 | 33.2 | 34.0 | 35.7 | 17.2 |
| c) 30-39 years | 32.1 | 18.3 | 32.5 | 36.4 | 28.0 | 21.4 | 27.6 |
| d) 40-49 years | 14.5 | 13.0 | 7.5 | 13.8 | 18.0 | 16.1 | 20.7 |
| e) 50-59 years | 7.4 | 13.0 | 15.0 | 8.8 | 4.0 | 1.8 | 3.4 |
| f) >60 years | 4.3 | 15.7 | 2.5 | 3.2 | 8.0 | 3.6 | 10.3 |
| 3. Sex (% male) | - | 63.5 | - | - | - | - | - |
| 4. Religion | | | | | | | |
| a) Muslim | 95.7 | - | 100.0 | 92.6 | 98.0 | 100.0 | 100.0 |
| b) Christian | 4.1 | | 0.0 | 7.4 | 0.0 | 0.0 | 0.0 |
| 5. Ethnic group | | | | | | | |
| a) Bedouin | 39.8 | - | 65.0 | 31.3 | 38.0 | 37.5 | 75.9 |
| b) West Banker | 4.6 | | 0.0 | 5.5 | 10.0 | 1.8 | 0.0 |

[1]All means are provided with standard deviations (±SD).

TABLE III. (continued)

| Characteristics of Respondents | Total Sample | | Mothers By Region | | | | |
|---|---|---|---|---|---|---|---|
| | Mothers | Community | I | II | III | IV | V |
| c) East Banker | 52.8 | | 35.0 | 61.8 | 46.0 | 55.4 | 17.2 |
| d) Other | 2.3 | | 0.0 | 1.4 | 2.0 | 5.4 | 6.9 |
| 6a) Type of respondent (mothers) | | | | | | | |
| a) Mother/child 7 +Nutr. Ed. | 10.0 | - | 2.5 | 8.5 | 20.0 | 12.5 | 10.5 |
| b) Mother/child 7 -Nutr. Ed. | 71.4 | | 82.5 | 72.8 | 66.0 | 66.1 | 65.5 |
| c) Older mother + Nutr. Ed. | 1.8 | | 0.0 | 2.7 | 0.0 | 0.0 | 3.4 |
| d) Older mother - Nutr. Ed. | 16.1 | | 15.0 | 16.1 | 12.0 | 21.4 | 13.8 |
| 6b) Type of respondent (community) | | | | | | | |
| a) Informal (non-political) | - | 24.3 | - | - | - | - | - |
| b) Teacher | | 40.0 | | | | | |
| c) Midwife | | 2.6 | | | | | |
| d) Health para professional | | 4.3 | | | | | |
| e) Local curer | | 0.9 | | | | | |
| f) Other | | 26.1 | | | | | |
| 7) Mean family size | 7.45 ±3.25 | | 7.18 ±2.84 | 7.82 ±3.24 | 6.98 ±3.05 | 6.27 ±2.92 | 8.03 ±4.14 |

TABLE III. (continued)

| Characteristics of Respondents | Total Sample | | Mothers By Region | | | | |
|---|---|---|---|---|---|---|---|
| | Mothers | Community | I | II | III | IV | V |
| 8. Mean distribution of family members | | | | | | | |
| a) Adults (> 14 years) | 3.60 ±2.14 | - | 3.60 ±2.15 | 3.70 ±2.28 | 3.21 ±1.53 | 3.07 ±1.72 | 3.90 ±2.48 |
| b) Children ( 7-13 years) | 1.56 ±1.61 | | 1.55 ±1.52 | 1.61 ±1.59 | 1.29 ±1.35 | 1.50 ±1.89 | 1.79 ±1.75 |
| c) Children (< 7 years) | 2.30 ±1.49 | | 2.05 ±1.32 | 2.46 ±1.50 | 2.29 ±1.66 | 1.82 ±1.20 | 2.39 ±1.45 |
| 9. Mean age of 1st pregnancy | 17.81 ± 3.47 | - | 17.54 ± 3.20 | 18.29 ± 3.70 | 17.92 ± 3.45 | 16.67 ± 2.63 | 17.31 ± 2.94 |
| 10. Mean number of pregnancies | 6.80 ±3.91 | - | 7.15 ±4.04 | 7.14 ±3.86 | 6.25 ±3.99 | 5.71 ±3.88 | 6.83 ±3.77 |
| 11. Mean number of miscarriages/ abortions | 0.78 ±1.47 | - | 1.00 ±2.67 | 0.91 ±1.43 | 0.60 ±0.87 | 0.32 ±0.72 | 0.64 ±1.06 |

TABLE III. (continued)

| Characteristics of Respondents | Total Sample | | Mothers By Region | | | | |
|---|---|---|---|---|---|---|---|
| | Mothers | Community | I | II | III | IV | V |
| 12. Mean number of still births | 0.32<br>±0.84 | - | 0.58<br>±1.39 | 0.23<br>±0.66 | 0.38<br>±0.87 | 0.31<br>±0.69 | 0.61<br>±1.07 |
| 13. Mean number of live births | 5.48<br>±3.17 | - | 5.33<br>±2.67 | 5.93<br>±3.15 | 4.56<br>±3.15 | 4.86<br>±3.42 | 5.11<br>±3.02 |
| 14A. Families with preschool child deaths | 37.50 | - | 47.50 | 35.50 | 38.00 | 41.10 | 34.50 |
| 14B. Mean number of preschool child deaths per family | 1.57<br>±0.55 | - | 1.53<br>±0.51 | 1.61<br>±0.53 | 1.57<br>±0.54 | 1.52<br>±0.57 | 1.43<br>±0.69 |
| 15. Mother's literacy rate | 29.10 | - | 22.50 | 35.90 | 18.00 | 25.00 | 13.80 |
| 16. Mean years of schooling | 2.25<br>±3.87 | 10.06<br>± 5.38 | 1.55<br>±3.03 | 2.84<br>±4.31 | 1.42<br>±3.15 | 1.96<br>±3.60 | 0.75<br>±1.88 |
| 17. Husband's mean years of schooling | 5.29<br>±5.60 | - | 5.00<br>±4.86 | 6.03<br>±5.03 | 2.36<br>±3.41 | 4.85<br>±4.56 | 6.00<br>±11.20 |

TABLE III. (continued)

| Characteristics of Respondents | Total Sample | | Mothers By Region | | | | |
|---|---|---|---|---|---|---|---|
| | Mothers | Community | I | II | III | IV | V |
| 18. Mean years of residence in the community | - | 24.40 ±21.94 | - | - | - | - | - |
| 19. Mother's occupation[2] | | | | | | | |
| a) Housewife | 91.5 | - | 100.0 | 95.5 | 80.0 | 80.4 | 89.6 |
| b) Professional | 1.8 | | 0.0 | 0.9 | 4.0 | 3.6 | 3.4 |
| c) Administrator | 1.3 | | 0.0 | 1.8 | 0.0 | 1.8 | 1.3 |
| d) Transport worker | 3.8 | | 0.0 | 0.9 | 10.0 | 12.5 | 3.4 |
| 20. Husband's occupation[2] | | | | | | | |
| a) Professional | 1.5 | - | 0.0 | 2.8 | 0.0 | 0.0 | 0.0 |
| b) Administrator | 1.0 | | 0.0 | 0.9 | 0.0 | 1.8 | 3.4 |
| c) Clerical | 4.6 | | 7.5 | 4.6 | 0.0 | 5.4 | 6.9 |
| d) Sales worker | 2.0 | | 0.0 | 2.8 | 0.0 | 3.6 | 0.0 |
| e) Farmer (owning land) | 3.6 | | 2.5 | 5.5 | 0.0 | 1.8 | 0.0 |
| f) Farmer (owning no land) - fulltime | 4.6 | | 2.5 | 6.0 | 6.0 | 1.8 | 0.0 |
| g) Farmworker - part time | 10.5 | | 10.0 | 5.1 | 32.0 | 14.3 | 6.9 |
| h) Non-skilled worker - full time | 1.5 | | 2.5 | 0.9 | 2.0 | 0.0 | 6.9 |

[2]Occupations mentioned by less than 1.0% of the sample were omitted.

TABLE III. (continued)

| Characteristics of Respondents | Total Sample | | Mothers By Region | | | | |
|---|---|---|---|---|---|---|---|
| | Mothers | Community | I | II | III | IV | V |
| i) Non-skilled worker - part time | 8.4 | | 10.0 | 4.1 | 12.0 | 14.3 | 20.7 |
| j) Vendor | 1.0 | | 0.0 | 1.8 | 0.0 | 0.0 | 0.0 |
| k) Transport workers | 3.3 | | 0.0 | 4.1 | 2.0 | 3.6 | 3.4 |
| l) Craftsmen | 2.0 | | 0.0 | 2.3 | 0.0 | 0.0 | 10.3 |
| m) Service workers | 13.5 | | 2.5 | 16.1 | 14.0 | 12.5 | 10.3 |
| n) Non-classified eg. military and others | 25.8 | | 37.5 | 29.0 | 8.0 | 30.4 | 6.9 |
| o) Principals and teachers | 4.1 | | 7.5 | 5.1 | 2.0 | 1.8 | 0.0 |
| p) Unemployed | 5.4 | | 12.5 | 1.8 | 12.0 | 5.4 | 10.4 |
| q) Not known | 6.1 | | 2.5 | 6.0 | 10.0 | 3.6 | 10.3 |
| 21. Average monthly income distribution - US $ | | | | | | | |
| a) 0-50 | 5.9 | - | 12.5 | 2.8 | 16.0 | 6.9 | 5.9 |
| b) 51-100 | 11.5 | | 15.0 | 7.8 | 18.0 | 20.7 | 11.5 |
| c) 101-150 | 28.3 | | 25.0 | 22.6 | 34.0 | 34.5 | 28.3 |
| d) 151-200 | 22.2 | | 20.0 | 26.3 | 20.0 | 17.2 | 22.2 |
| e) 201-250 | 8.4 | | 12.5 | 9.7 | 0.0 | 3.4 | 8.4 |
| f) 251-300 | 6.1 | | 2.5 | 8.8 | 2.0 | 6.9 | 6.1 |

TABLE III. (continued)

| Characteristics of Respondents | Total Sample | | Mothers By Region | | | | |
|---|---|---|---|---|---|---|---|
| | Mothers | Community | I | II | III | IV | V |
| g) 301-350 | 4.3 | | 2.5 | 6.9 | 0.0 | 3.4 | 4.3 |
| h) 351 + | 13.3 | | 10.0 | 13.2 | 10.0 | 6.9 | 13.3 |
| 22. Families with latrines | 83.2 | - | 90.0 | 91.2 | 62.0 | 73.2 | 69.0 |
| 23. Families using latrines | 83.2 | - | 90.0 | 91.2 | 62.0 | 73.2 | 69.0 |
| 24. Source of drinking water | | | | | | | |
| a) Household tap | 50.5 | - | 65.0 | 47.0 | 22.0 | 58.9 | 89.7 |
| b) Community tap | 3.8 | | 0.0 | 1.4 | 10.0 | 7.1 | 10.3 |
| c) Tank/well covered | 17.6 | | 15.0 | 24.9 | 4.0 | 12.5 | 0.0 |
| d) Irrigation ditch | 10.0 | | 0.0 | 2.3 | 38.0 | 1.8 | 1.8 |
| e) River/stream protected | 6.1 | | 0.0 | 6.9 | 2.0 | 14.3 | 0.0 |
| f) River/stream unprotected | 2.3 | | 0.0 | 2.8 | 0.0 | 5.4 | 0.0 |
| g) Delivered by truck | 8.9 | | 15.0 | 11.1 | 10.0 | 0.0 | 0.0 |
| 25. Type of cooking vessels | | | | | | | |
| a) Metal | 88.5 | - | 95.0 | 85.3 | 98.0 | 85.7 | 93.1 |
| b) Metal and clay | 9.9 | | 5.0 | 12.9 | 0.0 | 12.5 | 6.9 |

TABLE III. (continued)

| Characteristics of Respondents | Total Sample | | Mothers By Region | | | | |
|---|---|---|---|---|---|---|---|
| | Mothers | Community | I | II | III | IV | V |
| 26. Refrigerator present | | | | | | | |
| a) Yes | 16.3 | - | 10.0 | 22.6 | 8.0 | 5.4 | 13.8 |
| b) No | 83.4 | | 90.0 | 77.4 | 90.0 | 94.6 | 86.2 |

Islam is the principal religion followed by most families (95.7%), with a few following Christianity (4.1%). The sample has a good representation of East Bankers (52.8%), Bedouins or Nomads (39.8%) and some West Bankers (4.6%) who migrated to the East Bank. Most Bedouins are located in the Eastern and Southern Desert.

The mean family size is 7.5, with an average of two to three children below 7 years. The mean age of mothers at first pregnancy was 17.8 years, with some mothers pregnant as early as 13 or 14 years. Each mother had a mean total of 6.8 pregnancies. Of these, 5.5 were live births. A large number of mothers (37.5%) had at least one preschool child death in the family; these deaths average one to two per mother. The causes of these deaths are not well documented, but may be associated either directly or indirectly with malnutrition.

Sanitation facilities are available to some extent. A large percent of households have latrines (83.2%) and use them. Water for household drinking purposes is drawn from household taps (50.5%), covered tank/well (17.6%), irrigation ditch (10.0%) or delivered by truck (8.9%). Tap water was also found to be prevalent in homes in other studies (7). Earlier reports indicate chronic and severe water shortages. The country is reputed to have few significant sources of surface water and depends largely on ground water. Accordingly, water supply is insufficient for adequate sanitation, and per capita consumption is a low of thirteen quarts daily in the rural areas (1).

Community Respondents: These are established long term residents, living in the community for an average of 24.4 years. They include

males (63.5%) and females (34.8%) with an average age of 38.5 years The group of respondents include informal and formal community influentials, teachers and health para professionals.

b) FOOD CONSUMPTION

1) Cereal Grains: The major grains consumed by the sampled group are presented in Table IV. Wheat is the most common of these (80.6%), followed by rice (14.0%). Other reports indicate wheat is primarily used to make bread, which may provide close to 50% of the calories and is eaten with all meals (1). Wheat accounts for more than 73% of total area under field crops. It is cultivated mainly in the uplands, under dry farming conditions (1). Barley is the second largest grain cultivated in Jordan (1,6), but its consumption does not rank high among the sampled households. The second most frequently consumed grain is rice (70.2%), followed by bulgur (16.3%). Less bulgur is consumed in the Jordan Rift Valley and the southern Desert.

Grains are generally consumed all year round. The primary grain is consumed by most households (82.1%) on a daily basis. Secondary grains are consumed mostly once or twice per week.

2) Starchy Roots and Vegetables: Principal starchy roots and vegetables consumed are presented in Table V. Potato consumption is most frequent in all regions (91.1%), with squash (69.1%) and pumpkin (12.2%) most frequently mentioned as secondary. Squash consumption is reported especially in irrigated areas (1). Regional differences are marked in the consumption of the latter with less squash and more pumpkin consumed

TABLE IV. CONSUMPTION OF CEREAL GRAINS

| Cereal Grains | 1st Cereal | | | | | | | 2nd Cereal | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Total Sample | | Mothers By Region | | | | | Total Sample | | Mothers By Region | | | | |
| | Mothers | Community | Region I | Region II | Region III | Region IV | Region V | Mothers | Community | Region I | Region II | Region III | Region IV | Region V |
| Wheat | 80.6 | 83.5 | 85.5 | 78.8 | 80.0 | 83.9 | 86.2 | 1.0 | 0.0 | 0.0 | 0.5 | 2.0 | 3.6 | 0.0 |
| Barley | 1.0 | 0.0 | 0.0 | 0.9 | 2.0 | 0.0 | 3.4 | 1.3 | 0.9 | 0.0 | 0.5 | 4.0 | 1.8 | 3.4 |
| Corn/maize | 1.5 | 1.7 | 2.5 | 1.4 | 4.0 | 0.0 | 0.0 | 5.1 | 2.6 | 5.0 | 4.1 | 12.0 | 3.6 | 3.4 |
| Rice | 14.0 | 10.4 | 15.0 | 16.1 | 8.0 | 12.5 | 10.3 | 70.2 | 76.5 | 72.5 | 69.1 | 68.0 | 71.4 | 75.9 |
| Bulgur | 0.8 | 0.0 | 0.0 | 0.5 | 2.0 | 1.8 | 0.0 | 16.3 | 13.9 | 17.5 | 18.9 | 8.0 | 16.1 | 10.3 |
| Not known | 1.8 | 3.5 | 0.0 | 2.3 | 4.0 | 0.0 | 0.0 | 5.1 | 6.1 | 2.5 | 5.5 | 6.0 | 3.6 | 6.9 |
| Seasonal Variation | | | | | | | | | | | | | | |
| Seasonal | 3.6 | 0.9 | 0.0 | 5.1 | 2.0 | 1.8 | 3.4 | 3.6 | 0.9 | 10.0 | 2.3 | 2.0 | 5.4 | 3.4 |
| All year | 94.6 | 96.5 | 100.0 | 93.1 | 96.0 | 96.4 | 93.1 | 90.3 | 93.9 | 87.5 | 91.2 | 92.0 | 87.5 | 89.7 |
| Not known | 1.5 | 2.6 | 0.0 | 1.8 | 2.0 | 1.8 | 0.0 | 5.6 | 5.2 | 2.5 | 6.0 | 6.0 | 7.1 | 3.4 |

TABLE IV. (continued)

| Cereal Grains | 1st Cereal | | | | | | | 2nd Cereal | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Total Sample | | Mothers By Region | | | | | Total Sample | | Mothers By Region | | | | |
| | Mothers | Community | Region I | Region II | Region III | Region IV | Region V | Mothers | Community | Region I | Region II | Region III | Region IV | Region V |
| Frequency | | | | | | | | | | | | | | |
| Daily | 82.1 | 76.5 | 85.0 | 82.0 | 84.0 | 80.4 | 79.3 | 12.5 | 3.5 | 17.5 | 8.8 | 10.0 | 14.3 | 34.5 |
| 1-2/week | 6.4 | 9.6 | 7.5 | 4.1 | 10.0 | 8.9 | 10.3 | 40.8 | 0.9 | 57.5 | 37.3 | 50.0 | 37.5 | 34.5 |
| 3-4/week | 7.7 | 7.0 | 5.0 | 10.1 | 2.0 | 7.1 | 3.4 | 31.1 | 0.0 | 15.0 | 38.7 | 22.0 | 25.0 | 24.1 |
| < 4/month | 3.0 | 3.5 | 2.5 | 1.7 | 2.0 | 3.6 | 6.8 | 10.4 | 79.1 | 7.5 | 9.7 | 12.0 | 17.9 | 3.4 |
| Not known | 1.3 | 3.5 | 0.0 | 1.8 | 2.0 | 0.0 | 0.0 | 5.1 | 0.0 | 2.5 | 5.5 | 6.0 | 5.4 | 3.4 |
| Reason for this frequency | | | | | | | | | | | | | | |
| Inexpensive | 2.6 | 7.0 | 7.5 | 0.5 | 2.0 | 3.6 | 10.3 | 1.8 | 13.9 | 2.5 | 0.5 | 0.0 | 5.4 | 6.9 |
| Expensive | 1.0 | 0.0 | 2.5 | 0.5 | 2.0 | 1.8 | 0.0 | 2.0 | 49.6 | 5.0 | 0.9 | 4.0 | 1.8 | 3.4 |
| Easy to cook | 0.3 | 0.0 | 0.0 | 0.5 | 0.0 | 0.0 | 0.0 | 0.3 | 27.0 | 0.0 | 0.5 | 0.0 | 0.0 | 0.0 |

TABLE IV. (continued)

| Cereal Grains | 1st Cereal | | | | | | | 2nd Cereal | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Total Sample | | Mothers By Region | | | | | Total Sample | | Mothers By Region | | | | |
| | Mothers | Community | Region I | Region II | Region III | Region IV | Region V | Mothers | Community | Region I | Region II | Region III | Region IV | Region V |
| Dislike | 0.0 | 0.9 | 2.5 | 0.0 | 0.0 | 0.0 | 0.0 | 2.6 | 1.7 | 0.0 | 3.7 | 2.0 | 0.0 | 3.4 |
| Like | 24.0 | 6.1 | 7.5 | 22.1 | 28.0 | 33.9 | 34.5 | 38.5 | 0.0 | 30.0 | 35.5 | 54.0 | 44.6 | 34.5 |
| Good for you | 40.8 | 32.2 | 37.5 | 43.3 | 32.2 | 41.11 | 41.4 | 29.8 | 0.0 | 32.5 | 31.8 | 16.0 | 28.6 | 37.9 |
| Other | 24.2 | 44.3 | 37.5 | 23.5 | 32.0 | 16.1 | 13.8 | 14.0 | 0.0 | 20.0 | 13.4 | 16.0 | 12.5 | 10.3 |
| Not known | 6.9 | 9.6 | 5.0 | 9.7 | 4.0 | 3.6 | 0.0 | 11.0 | 6.1 | 10.0 | 13.8 | 8.0 | 7.1 | 3.4 |
| Who Consumes | | | | | | | | | | | | | | |
| Everyone | 96.2 | 96.5 | 100.0 | 95.9 | 94.0 | 98.2 | 93.1 | 92.9 | 93.0 | 97.5 | 92.2 | 94.0 | 92.9 | 89.7 |
| Not known | 1.8 | 2.6 | 0.0 | 2.3 | 4.0 | 0.0 | 0.0 | 5.1 | 6.1 | 2.5 | 6.0 | 6.0 | 3.6 | 3.4 |
| Reason for consumption | | | | | | | | | | | | | | |
| Strong food | 13.8 | 11.3 | 17.5 | 16.1 | 2.0 | 3.6 | 31.0 | 8.2 | 11.3 | 17.5 | 7.4 | 4.0 | 1.8 | 20.7 |

TABLE IV. (continued)

| Cereal Grains | 1st Cereal | | | | | | | 2nd Cereal | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Total Sample | | Mothers By Region | | | | | Total Sample | | Mothers By Region | | | | |
| | Mothers | Community | Region I | Region II | Region III | Region IV | Region V | Mothers | Community | Region I | Region II | Region III | Region IV | Region V |
| Like | 38.0 | 17.6 | 22.5 | 42.9 | 16.0 | 50.0 | 37.9 | 42.3 | 19.1 | 27.5 | 48.4 | 14.0 | 53.6 | 44.8 |
| Prevents worms | 1.5 | 4.3 | 0.0 | 1.8 | 0.0 | 3.6 | 0.0 | 1.3 | 3.5 | 0.0 | 1.4 | 0.0 | 3.6 | 0.0 |
| Other | 6.6 | 22.6 | 20.0 | 6.5 | 4.0 | 3.6 | 0.0 | 6.1 | 19.1 | 10.0 | 6.9 | 2.0 | 7.1 | 0.0 |
| Not known | 39.3 | 44.3 | 40.0 | 32.7 | 76.0 | 37.5 | 27.6 | 41.3 | 47.0 | 45.0 | 34.6 | 80.0 | 33.9 | 34.5 |

TABLE V. CONSUMPTION OF STARCHY ROOTS AND VEGETABLES

| Starchy Roots and Vegetables | 1st Starchy Root/Vegetable | | | | | | | 2nd Starchy Root/Vegetable | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Total Sample | | Mothers By Region | | | | | Total Sample | | Mothers By Region | | | | |
| | Mothers | Community | Region I | Region II | Region III | Region IV | Region V | Mothers | Community | Region I | Region II | Region III | Region IV | Region V |
| Potato | 91.1 | 92.2 | 97.5 | 88.5 | 94.0 | 91.1 | 96.6 | 4.8* | 2.6* | 0.0 | 6.5 | 2.0 | 5.4 | 3.4 |
| Pumpkin | 1.5 | 2.6 | 2.5 | 1.8 | 2.0 | 0.0 | 0.0 | 12.2 | 68.7 | 12.5 | 12.4 | 14.0 | 3.6 | 24.1 |
| Squash | 5.9 | 0.9 | 0.0 | 7.8 | 2.0 | 7.1 | 3.4 | 69.1 | 19.1 | 75.0 | 67.7 | 70.0 | 76.8 | 55.2 |
| Sweet potato | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.0 | 0.0 | 0.0 | 1.4 | 0.0 | 1.8 | 0.0 |
| Carrots/turnips | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 2.0 | 0.0 | 0.0 | 3.7 | 0.0 | 0.0 | 0.0 |
| Not known | 1.5 | 2.6 | 0.0 | 1.8 | 2.0 | 1.8 | 0.0 | 10.2 | 9.6 | 12.5 | 8.3 | 12.0 | 10.7 | 17.2 |
| Seasonal Variation | | | | | | | | | | | | | | |
| Seasonal | 16.1 | 9.6 | 17.5 | 16.1 | 26.0 | 10.7 | 6.9 | 51.0 | 62.6 | 65.0 | 52.1 | 64.0 | 33.9 | 34.5 |
| All year | 81.9 | 87.8 | 82.5 | 81.6 | 72.0 | 85.7 | 93.1 | 38.5 | 26.1 | 22.5 | 39.6 | 26.0 | 51.8 | 48.3 |
| Not known | 1.5 | 2.6 | 0.0 | 1.8 | 2.0 | 1.8 | 0.0 | 9.9 | 9.6 | 12.5 | 7.8 | 10.0 | 12.5 | 17.5 |

*Responses are significantly different between the mothers and community influentials ($P \leq 0.05$).

TABLE V. (continued)

| Starchy Roots and Vegetables | 1st Starchy Root/Vegetable | | | | | | | 2nd Starchy Root/Vegetable | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Total Sample | | Mothers By Region | | | | | Total Sample | | Mothers By Region | | | | |
| | Mothers | Community | Region I | Region II | Region III | Region IV | Region V | Mothers | Community | Region I | Region II | Region III | Region IV | Region V |
| Frequency | | | | | | | | | | | | | | |
| Daily | 36.5 | 40.0 | 32.5 | 35.0 | 36.0 | 42.9 | 41.4 | 10.2 | 9.6 | 0.0 | 12.4 | 14.0 | 8.9 | 3.4 |
| 1-2/week | 28.6 | 20.9 | 27.5 | 28.1 | 34.0 | 28.6 | 24.1 | 49.0 | 47.0 | 52.5 | 52.1 | 46.0 | 41.1 | 41.4 |
| 3-4/week | 27.6 | 33.9 | 37.5 | 31.8 | 18.0 | 17.9 | 17.2 | 15.6 | 19.1 | 27.5 | 14.7 | 12.0 | 12.5 | 17.2 |
| < 4/month | 5.7 | 2.6 | 2.5 | 3.3 | 10.0 | 7.2 | 15.5 | 15.3 | 13.9 | 7.5 | 12.9 | 18.0 | 26.8 | 17.2 |
| Not known | 1.8 | 2.6 | 0.0 | 1.8 | 2.0 | 1.8 | 3.4 | 9.9 | 10.4 | 12.5 | 7.8 | 10.0 | 10.7 | 20.7 |
| Reason for this frequency | * | * | | | | | | * | * | | | | | |
| Inexpensive | 4.3 | 9.6 | 2.5 | 2.8 | 8.0 | 8.9 | 3.4 | 3.1 | 12.2 | 7.5 | 1.4 | 10.0 | 1.8 | 0.0 |
| Expensive | 1.5 | 3.5 | 2.5 | 1.4 | 0.0 | 1.8 | 3.4 | 2.6 | 5.2 | 2.5 | 2.3 | 2.0 | 3.6 | 2.6 |

TABLE V. (continued)

| Starchy Roots and Vegetables | 1st Starchy Root/Vegetable | | | | | | | 2nd Starchy Root/Vegetable | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Total Sample | | Mothers By Region | | | | | Total Sample | | Mothers By Region | | | | |
| | Mothers | Community | Region I | Region II | Region III | Region IV | Region V | Mothers | Community | Region I | Region II | Region III | Region IV | Region V |
| Easy to cook | 0.8 | 0.0 | 0.0 | 1.4 | 0.0 | 0.0 | 0.0 | 1.0 | 0.0 | 0.0 | 1.4 | 2.0 | 0.0 | 0.0 |
| Dislike | 1.5 | 0.0 | 0.0 | 2.3 | 0.0 | 1.8 | 0.0 | 3.3 | 0.9 | 2.5 | 4.1 | 2.0 | 3.6 | 0.0 |
| Like | 42.3 | 12.2 | 45.0 | 39.6 | 50.0 | 46.4 | 37.9 | 36.0 | 8.7 | 30.0 | 34.6 | 46.0 | 33.9 | 41.4 |
| Good for you | 27.3 | 27.0 | 25.0 | 28.6 | 12.0 | 26.8 | 48.3 | 26.0 | 24.3 | 22.5 | 28.1 | 10.0 | 30.4 | 34.5 |
| Other | 13.8 | 39.1 | 12.5 | 12.9 | 26.0 | 10.6 | 6.9 | 12.0 | 33.0 | 12.5 | 12.0 | 18.0 | 10.7 | 3.4 |
| Not known | 8.4 | 8.7 | 12.5 | 11.1 | 4.0 | 3.6 | 0.0 | 15.8 | 15.7 | 22.5 | 16.1 | 10.0 | 14.3 | 17.2 |
| Who consumes | | | | | | | | | | | | | | |
| Everyone | 96.7 | 93.0 | 97.5 | 97.2 | 98.0 | 96.4 | 89.7 | 89.3 | 87.8 | 87.5 | 91.2 | 90.0 | 8[illegible] | 79.3 |
| Adults only | 0.8 | 0.9 | 0.0 | 0.5 | 0.0 | 0.0 | 6.9 | 0.8 | 1.7 | 0.0 | 0.9 | 0.0 | 0.0 | 3.4 |
| Not known | 2.3 | 4.3 | 2.5 | 1.8 | 2.0 | 3.6 | 3.4 | 9.7 | 0.0 | 12.5 | 7.8 | 10.0 | 10.7 | 17.2 |

TABLE V. (continued)

| Starchy Roots and Vegetables | 1st Starchy Root/Vegetable | | | | | | | 2nd Starchy Root/Vegetable | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Total Sample | | Mothers By Region | | | | | Total Sample | | Mothers By Region | | | | |
| | Mothers | Community | Region I | Region II | Region III | Region IV | Region V | Mothers | Community | Region I | Region II | Region III | Region IV | Region V |
| Reason for consumption | | | | | | | | | | | | | | |
| Strong food | 8.7 | 13.9 | 12.5 | 7.4 | 0.0 | 14.3 | 17.2 | 8.4 | 10.4 | 12.5 | 8.8 | 0.0 | 7.1 | 17.2 |
| Strength | 0.3 | 0.0 | 0.0 | 0.0 | 2.0 | 0.0 | 0.0 | 0.0 | 11.3 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Like food | 45.2 | 27.0 | 37.5 | 52.5 | 16.0 | 44.6 | 51.7 | 41.6 | 26.1 | 27.5 | 47.0 | 18.0 | 46.4 | 51.7 |
| Prevents worms | 0.5 | 1.7 | 0.0 | 0.5 | 0.0 | 1.8 | 0.0 | 1.5 | 1.7 | 2.5 | 1.8 | 0.0 | 1.8 | 0.0 |
| Other | 5.1 | 14.8 | 5.0 | 6.9 | 0.0 | 3.6 | 3.4 | 3.6 | 13.9 | 2.5 | 5.1 | 2.0 | 1.8 | 0.0 |
| Not known | 39.8 | 42.6 | 45.0 | 32.3 | 80.0 | 35.7 | 27.6 | 44.4 | 47.0 | 55.0 | 36.4 | 80.0 | 42.9 | 31.0 |

in the Southern Highlands. Primary starchy roots and vegetables are generally consumed all year (81.9%), however, seasonal influences begin to play a role in the consumption of secondary starchy roots and vegetables (51.0%). The largest number of families mentioned consumption of primary foods on a daily basis, where as secondary foods were consumed 1-2 times per week.

3) Animal Protein Foods: Table VI shows the most frequently consumed foods of animal origin. As can be seen, these fall largely in the category of goat/lamb/beef (40.1%), eggs (29.6%) and leban (semi-solid curdled milk) or dairy products (18.6%). Regional differences are marked in the consumption of these foods, with lamb/goat/beef most frequently consumed in the Jordan Rift Valley and least in the Northern Highlands. Regional differences are again seen in egg and leban consumption. The most frequently mentioned food of animal origin is chicken/bird (29.1%) and eggs (24.2%). Leban, fish, camel/horse are mentioned by less number of households. Other reports indicate meat consumption is limited. People generally show a marked preference for lamb, mutton and goat. Beef is scarce. Pork is prohibited by Muslim teachings. Camel meat may be consumed by Bedouins, but in small quantities (1). An earlier nutrition survey showed lamb to be the principal meat consumed, although some beef and chicken consumption were reported. Most milk is consumed as leban and lebaneh (a preparation in which part of the whey is removed). The report indicated that riboflavin deficiency existed in the country and that unless the whey is used, the loss of some riboflavin in the preparation of lebeneh may be significant (6). Seasonality

TABLE VI. CONSUMPTION OF ANIMAL PROTEIN FOODS

| Animal Protein | 1st Animal Protein | | | | | | | 2nd Animal Protein | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Total Sample | | Mothers By Region | | | | | Total Sample | | Mothers By Region | | | | |
| | Mothers | Community | Region I | Region II | Region III | Region IV | Region V | Mothers | Community | Region I | Region II | Region III | Region IV | Region V |
| Beef/lamb/goat | 40.1 | 47.0 | 42.5 | 31.8 | 62.0 | 48.2 | 44.8 | 7.9 | 0.9 | 7.5 | 8.8 | 8.0 | 5.4 | 6.9 |
| Camel/horse | 0.3 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 3.4 | 10.3 | 0.9 | 2.5 | 0.9 | 2.0 | 0.0 | 0.0 |
| Dairy products (leban) | 18.6 | 13.0 | 20.0 | 21.7 | 12.0 | 14.3 | 13.8 | 13.8 | 5.2 | 7.5 | 16.6 | 10.0 | 14.3 | 6.9 |
| Chicken/birds | 7.1 | 7.8 | 7.5 | 5.5 | 8.0 | 8.9 | 13.8 | 29.1 | 33.0 | 35.0 | 21.7 | 44.0 | 39.3 | 31.0 |
| Eggs | 29.6 | 21.7 | 25.0 | 35.5 | 16.0 | 26.8 | 20.7 | 24.2 | 27.8 | 25.0 | 27.2 | 14.0 | 19.6 | 27.6 |
| Fish | 1.3 | 0.0 | 0.0 | 1.8 | 0.0 | 1.8 | 0.0 | 12.0 | 20.9 | 12.5 | 11.5 | 14.0 | 14.3 | 6.9 |
| Others | 2.6 | 7.8 | 5.0 | 3.2 | 0.0 | 0.0 | 3.4 | 9.4 | 7.0 | 7.5 | 12.4 | 0.0 | 7.1 | 10.3 |
| Not known | 0.5 | 2.6 | 0.0 | 0.5 | 2.0 | 0.0 | 0.0 | 1.5 | 3.5 | 2.5 | 0.9 | 6.0 | 0.0 | 0.0 |
| Seasonal Variation | | | | | | | | | | | | | | |
| Seasonal | 3.8 | 4.3 | 0.0 | 5.5 | 2.0 | 3.6 | 0.0 | 5.1 | 10.4 | 2.5 | 6.0 | 6.0 | 1.8 | 6.9 |

TABLE VI. (continued)

| Animal Protein | 1st Animal Protein | | | | | | | 2nd Animal Protein | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Total Sample | | Mothers By Region | | | | | Total Sample | | Mothers By Region | | | | |
| | Mothers | Community | Region I | Region II | Region III | Region IV | Region V | Mothers | Community | Region I | Region II | Region III | Region IV | Region V |
| All year | 94.6 | 93.0 | 100.0 | 94.0 | 92.9 | 100.0 | 94.6 | 92.1 | 86.1 | 95.0 | 92.6 | 86.0 | 92.9 | 93.1 |
| Not known | 1.5 | 2.6 | 0.0 | 0.5 | 6.0 | 3.6 | 0.0 | 0.3 | 3.5 | 0.0 | 0.5 | 0.0 | 0.0 | 0.0 |
| Frequency | | | | | | | | | | | | | | |
| Daily | 52.6 | 41.7 | 45.0 | 67.7 | 22.0 | 32.1 | 41.4 | 34.4 | 32.2 | 25.0 | 42.4 | 14.0 | 25.0 | 41.4 |
| 1-2/week | 23.2 | 37.4 | 27.5 | 13.8 | 40.0 | 30.4 | 44.8 | 33.2 | 31.2 | 45.0 | 27.2 | 46.0 | 39.3 | 27.6 |
| 3-4/week | 10.7 | 5.2 | 12.5 | 9.2 | 10.0 | 17.9 | 6.9 | 17.9 | 13.9 | 10.0 | 20.3 | 20.3 | 12.5 | 17.2 |
| < 4/month | 12.6 | 12.2 | 15.0 | 7.9 | 26.0 | 19.7 | 6.9 | 12.6 | 18.3 | 17.5 | 8.8 | 14.0 | 21.4 | 13.7 |
| Not known | 1.0 | 3.5 | 0.0 | 1.4 | 2.0 | 0.0 | 0.0 | 2.0 | 4.3 | 2.5 | 1.4 | 6.0 | 1.8 | 0.0 |

TABLE VI. (continued)

| Animal Protein | 1st Animal Protein | | | | | | | 2nd Animal Protein | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Total Sample | | Mothers By Region | | | | | Total Sample | | Mothers By Region | | | | |
| | Mothers | Community | Region I | Region II | Region III | Region IV | Region V | Mothers | Community | Region I | Region II | Region III | Region IV | Region V |
| Reason for this frequency | | | | | | | | | | | | | | |
| Inexpensive | 3.1 | 2.6 | 2.5 | 2.3 | 6.0 | 5.4 | 0.0 | 5.4 | 10.4 | 12.5 | 2.8 | 12.0 | 7.1 | 0.0 |
| Expensive | 8.4 | 18.3 | 10.0 | 7.4 | 18.0 | 7.1 | 0.0 | 6.9 | 8.7 | 7.5 | 6.0 | 14.0 | 7.1 | 0.0 |
| Like | 25.5 | 7.0 | 17.5 | 25.8 | 18.0 | 33.9 | 31.0 | 23.5 | 10.4 | 17.5 | 23.0 | 14.0 | 32.1 | 34.5 |
| Good for you | 46.2 | 38.3 | 55.0 | 45.6 | 46.0 | 41.1 | 48.3 | 44.9 | 32.2 | 40.0 | 46.1 | 44.0 | 39.3 | 55.2 |
| Other | 10.2 | 28.7 | 5.0 | 10.1 | 8.0 | 10.7 | 20.7 | 10.5 | 30.4 | 10.0 | 12.0 | 6.0 | 8.9 | 10.3 |
| Not known | 6.4 | 5.2 | 10.0 | 8.3 | 4.0 | 1.8 | 0.0 | 7.9 | 7.8 | 12.5 | 8.8 | 10.0 | 3.6 | 0.0 |
| Who consumes | | | | | | | | | | | | | | |
| Everyone | 96.9 | 96.5 | 95.0 | 98.2 | 96.0 | 96.4 | 93.1 | 95.7 | 93.0 | 92.5 | 97.2 | 94.0 | 94.6 | 93.1 |
| Adults only | 2.3 | 0.0 | 5.0 | 1.4 | 0.0 | 3.6 | 6.9 | 2.3 | 2.6 | 5.0 | 2.8 | 0.0 | 1.8 | 6.9 |

TABLE VI. (continued)

| Animal Protein | 1st Animal Protein | | | | | | | 2nd Animal Protein | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Total Sample | | Mothers By Region | | | | | Total Sample | | Mothers By Region | | | | |
| | Mothers | Community | Region I | Region II | Region III | Region IV | Region V | Mothers | Community | Region I | Region II | Region III | Region IV | Region V |
| Not known | 0.5 | 3.5 | 0.0 | 0.5 | 2.0 | 0.0 | 0.0 | 1.8 | 4.3 | 2.5 | 0.9 | 6.0 | 1.8 | 0.0 |
| Reason for consumption | | | | | | | | | | | | | | |
| Strong food | 13.0 | 20.0 | 22.5 | 15.7 | 0.0 | 7.1 | 13.8 | 11.5 | 19.1 | 17.5 | 14.3 | 0.0 | 5.4 | 13.8 |
| Like | 44.9 | 26.1 | 40.0 | 47.5 | 22.0 | 51.8 | 58.6 | 44.4 | 30.4 | 32.5 | 47.5 | 22.0 | 53.6 | 58.6 |
| Prevents worms | 1.3 | 4.3 | 0.0 | 0.9 | 0.0 | 5.4 | 0.0 | 1.3 | 5.2 | 2.5 | 0.5 | 0.0 | 5.4 | 0.0 |
| Other | 2.6 | 9.6 | 2.5 | 3.7 | 0.0 | 1.8 | 0.0 | 3.8 | 7.0 | 10.0 | 4.6 | 0.0 | 1.8 | 0.0 |
| Not known | 37.2 | 40.0 | 35.0 | 31.3 | 76.0 | 32.1 | 27.6 | 38.5 | 38.3 | 37.5 | 32.3 | 78.0 | 33.9 | 27.6 |

does not affect the consumption of these foods. Approximately half the families (52.6%) consume at least some animal protein on a daily basis. Frequency of consumption is affected by their health/strength giving qualities, palatability and expensiveness.

4) Vegetable Protein Foods: Consumption of vegetable protein foods is presented in Table VII. Lentils are the most common of these (38.0%), followed by dry beans (33.9%) and chickpeas (17.1%). Lentils and chickpeas are dried for storage and cooked before eating. Lentil soup has been reported as one of the few hot meals served in village homes (1). The second most common vegetable foods are chickpeas (32.4%) and horsebeans (21.4%). Regional differences appear in the consumption of all these foods. The primary vegetable proteins are consumed by most of the families (76.5%) all year round, secondary vegetable proteins are consumed year round by only half the families. Seasonality, has an influence in consumption in almost one-fifth of the families. Both the primary and secondary vegetables are most likely to be eaten once or twice a week by all family members, because they are considered good for health.

5) Other Vegetables: Table VIII presents information on vegetable consumption in the diet. Tomatoes are most common (88.0%), followed by onions (9.4%), which are the chief secondary vegetables. It is reported that approximately one-third the land area cultivating vegetables is devoted to tomatoes (1). The fairly large quantity of tomato consumption is confirmed by earlier studies (6). Peppers (57.9%) and

TABLE VII. CONSUMPTION OF VEGETABLE PROTEIN FOODS

| Vegetable Proteins | 1st Vegetable Protein | | | | | | | 2nd Vegetable Protein | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Total Sample | | Mothers By Region | | | | | Total Sample | | Mothers By Region | | | | |
| | Mothers | Community | Region I | Region II | Region III | Region IV | Region V | Mothers | Community | Region I | Region II | Region III | Region IV | Region V |
| Dry beans | 33.9 | 35.7 | 37.5 | 33.6 | 28.0 | 35.7 | 37.9 | 8.4 | 7.8 | 7.5 | 8.8 | 10.0 | 5.4 | 10.3 |
| Chickpeas | 17.1 | 18.3 | 7.5 | 21.7 | 6.0 | 17.9 | 13.8 | 32.4 | 44.3 | 45.0 | 30.0 | 24.0 | 32.1 | 48.3 |
| Horse beans | 7.1 | 1.7 | 17.5 | 6.0 | 8.0 | 3.6 | 6.9 | 21.4 | 20.9 | 17.5 | 24.9 | 24.0 | 12.5 | 13.8 |
| Lentils | 38.0 | 36.5 | 27.5 | 35.5 | 54.0 | 39.3 | 41.4 | 17.9 | 9.6 | 10.0 | 19.0 | 14.0 | 25.0 | 6.9 |
| Not known | 3.8 | 7.8 | 10.0 | 3.2 | 4.0 | 3.6 | 0.0 | 19.4 | 17.4 | 20.0 | 16.6 | 26.0 | 23.2 | 20.7 |
| Seasonal Variation | | | | | | | | | | | | | | |
| Seasonal | 18.6 | 21.7 | 20.0 | 21.7 | 18.0 | 12.5 | 6.9 | 19.6 | 18.3 | 25.0 | 16.6 | 26.0 | 21.4 | 20.7 |
| All year | 76.5 | 70.4 | 70.0 | 74.7 | 76.0 | 80.4 | 93.1 | 58.4 | 64.3 | 55.0 | 66.4 | 42.0 | 50.0 | 48.3 |
| Not known | 4.6 | 7.8 | 10.0 | 3.7 | 4.0 | 7.1 | 0.0 | 21.7 | 17.4 | 20.0 | 17.1 | 32.0 | 26.8 | 31.0 |

TABLE VII. (continued)

| Vegetable Proteins | 1st Vegetable Protein | | | | | | | 2nd Vegetable Protein | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Total Sample | | Mothers By Region | | | | | Total Sample | | Mothers By Region | | | | |
| | Mothers | Community | Region I | Region II | Region III | Region IV | Region V | Mothers | Community | Region I | Region II | Region III | Region IV | Region V |
| Frequency | | | | | | | | | | | | | | |
| Daily | 15.6 | 9.6 | 5.0 | 14.3 | 26.0 | 14.3 | 24.1 | 12.2 | 10.4 | 0.0 | 12.0 | 18.0 | 14.3 | 17.2 |
| 1-2/week | 49.0 | 44.3 | 62.5 | 49.8 | 42.0 | 48.2 | 37.9 | 41.6 | 47.0 | 52.5 | 44.7 | 34.0 | 35.7 | 27.6 |
| 3-4/week | 15.8 | 19.1 | 7.5 | 15.7 | 18.0 | 21.4 | 13.8 | 9.9 | 11.3 | 7.5 | 12.0 | 6.0 | 5.4 | 13.8 |
| <4/month | 15.1 | 18.3 | 12.5 | 17.1 | 8.0 | 10.7 | 24.0 | 15.0 | 13.1 | 20.0 | 14.3 | 10.0 | 17.9 | 17.2 |
| Not known | 4.6 | 8.7 | 1.3 | 3.2 | 6.0 | 5.4 | 0.0 | 21.2 | 18.3 | 20.0 | 17.1 | 32.0 | 26.8 | 24.1 |
| Reason for this frequency | | | | | | | | | | | | | | |
| Inexpensive | 5.1 | 4.3 | 2.5 | 2.8 | 10.0 | 12.5 | 3.4 | 1.3 | 0.0 | 0.0 | 0.9 | 2.0 | 3.6 | 0.0 |
| Expensive | 1.8 | 5.2 | 0.0 | 1.8 | 2.0 | 1.8 | 3.4 | 3.4 | 5.2 | 2.5 | 2.8 | 2.0 | 0.0 | 0.0 |
| Easy to cook | 1.0 | 0.9 | 2.5 | 0.9 | 0.0 | 1.8 | 0.0 | 0.5 | 0.9 | 2.5 | 0.0 | 0.0 | 1.8 | 0.0 |

TABLE VII. (continued)

| Vegetable Proteins | 1st Vegetable Protein | | | | | | | 2nd Vegetable Protein | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Total Sample | | Mothers By Region | | | | | Total Sample | | Mothers By Region | | | | |
| | Mothers | Community | Region I | Region II | Region III | Region IV | Region V | Mothers | Community | Region I | Region II | Region III | Region IV | Region V |
| Dislike | 2.0 | 2.6 | 0.0 | 2.8 | 2.0 | 1.8 | 0.0 | 2.6 | 0.9 | 0.0 | 3.2 | 4.0 | 1.8 | 0.0 |
| Like | 36.7 | 18.3 | 30.0 | 37.8 | 44.0 | 32.1 | 34.5 | 31.6 | 18.3 | 30.0 | 32.7 | 32.0 | 26.8 | 34.5 |
| Good for you | 30.9 | 29.6 | 32.5 | 30.9 | 20.0 | 32.1 | 44.8 | 24.2 | 29.6 | 25.0 | 24.4 | 14.0 | 26.8 | 34.5 |
| Other | 11.5 | 27.8 | 10.0 | 11.1 | 16.0 | 8.9 | 13.8 | 10.2 | 26.1 | 10.0 | 12.0 | 12.0 | 5.4 | 3.4 |
| Not known | 11.0 | 11.3 | 22.5 | 12.5 | 6.0 | 8.9 | 0.0 | 27.0 | 19.1 | 30.0 | 24.0 | 34.0 | 32.1 | 24.1 |
| Who consumes | | | | | | | | | | | | | | |
| Everyone | 91.3 | 87.0 | 87.5 | 94.0 | 96.0 | 82.1 | 86.2 | 76.5 | 80.9 | 80.0 | 81.1 | 68.0 | 69.1 | 65.5 |
| Adults only | 3.1 | 1.7 | 2.5 | 1.4 | 0.0 | 8.9 | 10.3 | 2.0 | 0.9 | 0.0 | 1.8 | 0.0 | 3.6 | 6.9 |
| Not known | 4.6 | 8.7 | 10.0 | 3.7 | 4.0 | 5.4 | 3.4 | 21.4 | 17.4 | 20.0 | 17.1 | 32.0 | 26.8 | 27.6 |

TABLE VII. (continued)

| Vegetable Proteins | 1st Vegetable Protein | | | | | | | 2nd Vegetable Protein | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Total Sample | | Mothers By Region | | | | | Total Sample | | Mothers By Region | | | | |
| | Mothers | Community | Region I | Region II | Region III | Region IV | Region V | Mothers | Community | Region I | Region II | Region III | Region IV | Region V |
| Reason for consumption | | | | | | | | | | | | | | |
| Strong food | 10.7 | 19.1 | 17.5 | 12.0 | 2.0 | 7.1 | 13.8 | 9.9 | 18.3 | 17.5 | 11.5 | 0.0 | 5.4 | 13.8 |
| Like | 42.3 | 28.7 | 25.0 | 47.9 | 20.0 | 48.2 | 51.7 | 33.9 | 20.9 | 27.5 | 40.6 | 4.0 | 33.9 | 44.8 |
| Prevents worms | 1.3 | 0.9 | 0.0 | 1.4 | 0.0 | 3.6 | 0.0 | 0.8 | 0.9 | 0.0 | 0.5 | 0.0 | 3.6 | 0.0 |
| Other | 4.6 | 10.4 | 10.0 | 4.6 | 2.0 | 3.6 | 3.4 | 2.8 | 7.0 | 0.0 | 4.1 | 4.0 | 0.0 | 0.0 |
| Not known | 40.1 | 40.9 | 47.5 | 33.2 | 74.0 | 35.7 | 31.0 | 52.6 | 53.0 | 55.0 | 43.3 | 92.0 | 57.1 | 41.4 |

TABLE VIII. CONSUMPTION OF OTHER VEGETABLES

| Other Vegetables | First Other Vegetable | | | | | | | Second Other Vegetable | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Total Sample | | Mothers By Region | | | | | Total Sample | | Mothers By Region | | | | |
| | Mothers | Community | Region I | Region II | Region III | Region IV | Region V | Mothers | Community | Region I | Region II | Region III | Region IV | Region V |
| Tomatoes | 88.0 | 87.8 | 87.5 | 88.9 | 90.0 | 83.9 | 86.2 | 9.7 | 7.0 | 10.0 | 10.6 | 4.0 | 8.9 | 13.8 |
| Onions/garlic | 9.4 | 7.8 | 12.5 | 10.1 | 4.0 | 7.1 | 13.8 | 82.4 | 86.1 | 80.0 | 83.9 | 86.0 | 78.6 | 75.9 |
| Peppers | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 2.6 | 1.7 | 2.5 | 2.8 | 4.0 | 1.8 | 0.0 |
| Not known | 1.5 | 4.3 | 0.0 | 0.9 | 4.0 | 3.6 | 0.0 | 3.6 | 4.3 | 5.0 | 1.8 | 6.0 | 5.4 | 6.9 |
| Seasonal Variation | | | | | | | | | | | | | | |
| Seasonal | 15.6 | 11.3 | 12.5 | 15.7 | 14.0 | 21.4 | 10.3 | 7.7 | 4.3 | 12.5 | 7.4 | 12.0 | 3.6 | 3.4 |
| All year | 82.7 | 84.3 | 87.5 | 83.4 | 82.0 | 73.2 | 89.7 | 88.0 | 91.3 | 80.0 | 90.8 | 82.0 | 87.5 | 89.7 |
| Not known | 1.8 | 4.3 | 0.0 | 0.9 | 4.0 | 5.4 | 0.0 | 4.1 | 4.3 | 5.0 | 1.8 | 6.0 | 8.9 | 6.9 |
| Frequency | | | | | | | | | | | | | | |
| Daily | 85.5 | 87.8 | 90.0 | 89.4 | 78.0 | 71.4 | 89.7 | 78.3 | 85.2 | 82.5 | 84.3 | 70.0 | 58.9 | 79.3 |
| 1-2/week | 5.9 | 2.6 | 2.5 | 3.2 | 6.0 | 16.1 | 10.3 | 8.7 | 2.6 | 10.0 | 5.5 | 20.0 | 14.3 | 0.0 |

TABLE VIII. (continued)

| Other Vegetables | 1st Other Vegetable | | | | | | | 2nd Other Vegetable | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Total Sample | | Mothers By Region | | | | | Total Sample | | Mothers By Region | | | | |
| | Mothers | Community | Region I | Region II | Region III | Region IV | Region V | Mothers | Community | Region I | Region II | Region III | Region IV | Region V |
| 3-4/week | 5.9 | 2.6 | 5.0 | 5.5 | 8.0 | 8.9 | 0.0 | 8.2 | 6.1 | 0.0 | 8.3 | 2.0 | 19.6 | 6.9 |
| < 4/month | 1.1 | 2.7 | 0.0 | 0.9 | 4.0 | 0.0 | 0.0 | 0.6 | 1.8 | 0.0 | 0.0 | 2.0 | 0.0 | 6.8 |
| Not known | 1.8 | 4.3 | 2.5 | 0.9 | 4.0 | 3.6 | 0.0 | 4.1 | 4.3 | 7.5 | 1.8 | 6.0 | 7.1 | 6.9 |
| Reason for this frequency | | | | | | | | | | | | | | |
| Inexpensive | 4.8 | 11.3 | 0.0 | 4.1 | 8.0 | 10.7 | 0.0 | 2.3 | 6.1 | 2.5 | 0.9 | 4.0 | 7.1 | 0.0 |
| Expensive | 0.8 | 1.7 | 0.0 | 0.9 | 0.0 | 1.8 | 0.0 | 0.3 | 1.7 | 0.0 | 0.5 | 0.0 | 0.0 | 0.0 |
| Easy to cook | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.3 | 29.6 | 0.0 | 0.0 | 2.0 | 0.0 | 0.0 |
| Like | 31.1 | 17.4 | 27.5 | 35.0 | 24.0 | 30.4 | 20.7 | 37.8 | 29.6 | 32.5 | 35.5 | 52.0 | 39.3 | 34.5 |
| Good for you | 34.9 | 33.9 | 37.5 | 33.2 | 26.0 | 35.7 | 58.6 | 31.1 | 26.1 | 27.5 | 32.7 | 20.0 | 32.1 | 41.4 |

TABLE VIII. (continued)

| Other Vegetables | 1st Other Vegetable | | | | | | | 2nd Other Vegetable | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Total Sample | | Mothers By Region | | | | | Total Sample | | Mothers By Region | | | | |
| | Mothers | Community | Region I | Region II | Region III | Region IV | Region V | Mothers | Community | Region I | Region II | Region III | Region IV | Region V |
| Other | 20.9 | 27.8 | 25.0 | 18.9 | 36.0 | 12.5 | 20.7 | 17.9 | 27.8 | 20.0 | 20.3 | 16.0 | 8.9 | 17.2 |
| Not known | 7.1 | 7.8 | 10.0 | 7.4 | 6.0 | 8.9 | 0.0 | 10.2 | 8.7 | 17.5 | 9.7 | 6.0 | 12.5 | 6.9 |
| Who Consumes | | | | | | | | | | | | | | |
| Everyone | 96.4 | 93.9 | 97.5 | 98.6 | 96.0 | 91.1 | 89.7 | 91.1 | 92.2 | 92.5 | 94.5 | 90.0 | 80.4 | 86.2 |
| Adults only | 1.3 | 0.9 | 0.0 | 0.5 | 0.0 | 3.6 | 6.9 | 4.8 | 2.6 | 2.5 | 3.7 | 4.0 | 10.7 | 6.9 |
| Not known | 2.0 | 5.2 | 2.5 | 0.9 | 4.0 | 3.6 | 3.4 | 3.8 | 5.2 | 5.0 | 1.8 | 6.0 | 7.1 | 6.9 |
| Reason for Consumption | | | | | | | | | | | | | | |
| Strong food | 10.5 | 16.5 | 10.0 | 12.9 | 0.0 | 8.9 | 13.8 | 7.4 | 13.6 | 7.5 | 8.3 | 0.0 | 7.1 | 13.8 |
| Like | 42.1 | 29.6 | 27.5 | 49.3 | 20.0 | 41.1 | 48.3 | 40.3 | 27.8 | 22.5 | 44.2 | 20.0 | 50.0 | 51.7 |

TABLE VIII. (continued)

| Other Vegetables | 1st Other Vegetables | | | | | | | 2nd Other Vegetables | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Total Sample | | Mothers By Region | | | | | Total Sample | | Mothers By Region | | | | |
| | Mothers | Community | Region I | Region II | Region III | Region IV | Region V | Mothers | Community | Region I | Region II | Region III | Region IV | Region V |
| Prevents worms | 1.5 | 0.9 | 5.0 | 0.9 | 0.0 | 3.6 | 0.0 | 1.3 | 0.0 | 5.0 | 0.9 | 0.0 | 1.8 | 0.0 |
| Other | 5.1 | 8.7 | 10.0 | 4.6 | 2.0 | 5.4 | 6.9 | 31.0 | 18.3 | 15.0 | 12.9 | 6.0 | 7.1 | 3.4 |
| Not known | 38.8 | 43.5 | 47.5 | 30.4 | 76.0 | 35.7 | 31.0 | 31.0 | 40.0 | 47.5 | 31.3 | 74.0 | 32.1 | 31.0 |

green leafy vegetables (15.6%) are mentioned as the third most frequently consumed, with few mentioning marrow and Jew's mallow. Consumption of first and second vegetables are primarily all year round. However, almost a third of the families are affected by seasonality in the consumption of other vegetables. Most family members eat vegetables with the exception of adults only eating such vegetables as pepper and green leafy vegetables (such as spinach and grape leaves) in some families (11.7%). The earlier nutrition survey in Jordan indicated a relatively small consumption of green leafy and yellow vegetables in the diet (6). However, in irrigated regions, consumption of beans, okra and eggplant also have been reported (1).

6) Fruits: Fruit consumption data is presented in Table IX. Dates (57.4%) and peaches/apricots/grapes (29.6%) are the most frequently consumed. Dates are reported to be part of the subsistence diet of Nomads (1). The second most common fruits are figs/raisins (33.2%) and citrus fruits (32.9%). Seasonality affects fruit consumption in most families. Approximately half the families consume some fruits on a daily basis, with the larger percent of the remaining families consuming fruit 1 to 2 times per week.

7) Fats and Oil: Fats and oil consumption are shown in Table X. The primary oil is olive (66.8%) followed by imported oil, probably soy or peanut oil (18.6%). The secondary fat most frequently used is butter/ghee/samin ie., clarified butter (47.4%). It is reported to be kept in jars and used throughout the year. It is eaten with bread or used for frying (1). Fats and oil are generally consumed on

TABLE IX. CONSUMPTION OF FRUITS

| Fruit | 1st Fruit | | | | | | | 2nd Fruit | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Total Sample | | Mothers By Region | | | | | Total Sample | | Mothers By Region | | | | |
| | Mothers | Community | Region I | Region II | Region III | Region IV | Region V | Mothers | Community | Region I | Region II | Region III | Region IV | Region V |
| Dates | 57.4 | 53.9 | 65.0 | 55.3 | 76.0 | 42.9 | 58.6 | 7.4 | 1.7 | 5.0 | 7.8 | 4.0 | 5.4 | 17.2 |
| Figs/raisins | 3.6 | 7.0 | 2.5 | 4.1 | 4.0 | 1.8 | 3.4 | 33.2 | 47.0 | 37.5 | 40.1 | 10.0 | 23.2 | 34.5 |
| Citrus fruits | 6.4 | 3.5 | 0.0 | 6.5 | 4.0 | 14.3 | 3.4 | 32.9 | 32.2 | 35.0 | 30.4 | 48.0 | 28.6 | 31.0 |
| Peaches, apricots, grapes | 29.6 | 31.3 | 27.5 | 32.3 | 10.0 | 37.5 | 31.0 | 11.2 | 7.0 | 15.0 | 11.5 | 2.0 | 17.9 | 6.9 |
| Melons/watermelons | 0.3 | 0.9 | 0.0 | 0.5 | 0.0 | 0.0 | 0.0 | 3.1 | 0.9 | 0.0 | 3.7 | 6.0 | 1.8 | 0.0 |
| Apples | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 2.6 | 2.6 | 0.0 | 1.4 | 4.0 | 7.1 | 3.4 |
| Not known | 2.6 | 3.5 | 5.0 | 0.9 | 6.0 | 3.6 | 3.4 | 8.9 | 8.7 | 7.5 | 4.6 | 24.0 | 14.3 | 6.9 |
| Seasonal Variation | | | | | | | | | | | | | | |
| Seasonal | 81.1 | 81.7 | 77.5 | 84.3 | 82.0 | 78.6 | 65.5 | 77.3 | 83.5 | 82.5 | 83.4 | 66.0 | 69.6 | 58.6 |

TABLE IX. (continued)

| Fruit | 1st Fruit | | | | | | | 2nd Fruit | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Total Sample | | Mothers By Region | | | | | Total Sample | | Mothers By Region | | | | |
| | Mothers | Community | Region I | Region II | Region III | Region IV | Region V | Mothers | Community | Region I | Region II | Region III | Region IV | Region V |
| All year | 15.8 | 13.9 | 17.5 | 14.7 | 12.0 | 17.9 | 24.1 | 12.5 | 7.0 | 10.0 | 12.0 | 8.0 | 12.5 | 27.6 |
| Not known | 3.1 | 4.3 | 5.0 | 0.9 | 6.0 | 3.6 | 10.3 | 10.2 | 9.6 | 7.5 | 4.6 | 26.0 | 17.9 | 13.8 |
| Frequency | | | | | | | | | | | | | | |
| Daily | 58.4 | 57.4 | 70.0 | 68.2 | 34.0 | 42.9 | 41.4 | 43.1 | 52.2 | 50.0 | 54.8 | 20.0 | 21.5 | 27.6 |
| 1-2/week | 21.7 | 18.3 | 15.0 | 16.1 | 26.0 | 41.1 | 27.6 | 26.0 | 20.0 | 22.5 | 24.0 | 22.0 | 37.5 | 31.0 |
| 3-4/week | 9.7 | 9.3 | 2.5 | 12.0 | 10.0 | 5.4 | 10.3 | 11.2 | 7.0 | 12.5 | 12.0 | 6.0 | 8.9 | 17.2 |
| < 4/month | 6.2 | 9.6 | 7.5 | 2.3 | 20.0 | 5.4 | 10.3 | 8.7 | 10.5 | 7.5 | 4.1 | 22.0 | 14.3 | 10.3 |
| Not known | 4.1 | 5.2 | 5.0 | 1.4 | 10.0 | 5.4 | 10.3 | 11.0 | 10.4 | 7.5 | 5.1 | 30.0 | 17.5 | 13.8 |
| Reason for this frequency | | | | | | | | | | | | | | |
| Inexpensive | 3.6 | 6.1 | 5.0 | 3.2 | 2.0 | 7.1 | 0.0 | 11.8 | 6.1 | 0.0 | 1.8 | 2.0 | 3.6 | 0.0 |

TABLE IX. (continued)

| Fruit | 1st Fruit | | | | | | | 2nd Fruit | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Total Sample | | Mothers By Region | | | | | Total Sample | | Mothers By Region | | | | |
| | Mothers | Community | Region I | Region II | Region III | Region IV | Region V | Mothers | Community | Region I | Region II | Region III | Region IV | Region V |
| Expensive | 3.3 | 5.2 | 2.5 | 2.8 | 8.0 | 1.8 | 3.4 | 3.8 | 7.8 | 5.0 | 2.3 | 10.0 | 3.6 | 3.4 |
| Like food | 37.0 | 23.5 | 37.5 | 35.5 | 46.0 | 35.7 | 34.5 | 38.3 | 20.9 | 32.5 | 39.6 | 48.0 | 32.1 | 31.0 |
| Good for health | 35.7 | 35.1 | 40.0 | 36.9 | 24.0 | 35.7 | 41.4 | 32.4 | 34.8 | 37.5 | 35.9 | 8.0 | 33.9 | 37.9 |
| Other | 10.5 | 21.7 | 2.5 | 13.4 | 8.0 | 7.1 | 10.3 | 8.7 | 18.3 | 10.0 | 9.7 | 4.0 | 5.4 | 13.8 |
| Not known | 9.9 | 7.0 | 12.5 | 8.3 | 12.0 | 12.5 | 10.3 | 15.1 | 12.2 | 15.0 | 10.6 | 28.0 | 21.4 | 13.8 |
| Who Consumes | | | | | | | | | | | | | | |
| Everyone | 94.4 | 94.8 | 92.5 | 99.1 | 92.0 | 85.7 | 82.8 | 88.5 | 88.7 | 90.0 | 95.4 | 74.0 | 76.8 | 82.8 |
| Adults only | 1.0 | 0.0 | 0.0 | 0.0 | 0.0 | 5.4 | 3.4 | 0.8 | 0.0 | 0.0 | 0.0 | 0.0 | 3.6 | 3.4 |
| Not known | 3.6 | 5.2 | 5.0 | 0.9 | 8.0 | 5.4 | 10.3 | 9.9 | 10.4 | 7.5 | 4.6 | 26.0 | 16.1 | 13.8 |

TABLE IX. (continued)

| Fruit | 1st Fruit | | | | | | | 2nd Fruit | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Total Sample | | Mothers By Region | | | | | Total Sample | | Mothers By Region | | | | |
| | Mothers | Community | Region I | Region II | Region III | Region IV | Region V | Mothers | Community | Region I | Region II | Region III | Region IV | Region V |
| Reason for Consumption | | | | | | | | | | | | | | |
| Strong food | 12.0 | 19.2 | 17.5 | 14.7 | 2.0 | 5.4 | 13.8 | 12.0 | 19.1 | 20.0 | 15.7 | 0.0 | 1.8 | 13.8 |
| Strength | 0.8 | 0.0 | 0.0 | 1.4 | 0.0 | 0.0 | 0.0 | 1.5 | 0.0 | 0.0 | 2.3 | 2.0 | 0.0 | 0.0 |
| Like | 43.9 | 33.3 | 40.0 | 47.0 | 18.0 | 55.4 | 48.3 | 39.5 | 30.4 | 35.0 | 43.8 | 8.0 | 48.2 | 51.7 |
| Prevents worms | 2.3 | 0.0 | 0.0 | 1.8 | 2.0 | 5.4 | 3.4 | 1.3 | 0.0 | 0.0 | 0.9 | 0.0 | 5.4 | 0.0 |
| Other | 1.5 | 5.2 | 0.0 | 2.3 | 0.0 | 1.8 | 0.0 | 1.8 | 2.6 | 0.0 | 2.8 | 0.0 | 1.8 | 0.0 |
| Not known | 39.3 | 41.7 | 42.5 | 32.3 | 78.0 | 32.1 | 34.5 | 43.1 | 47.8 | 45.0 | 34.1 | 88.0 | 41.1 | 34.5 |

TABLE X. CONSUMPTION OF FATS AND OIL

| Fats & Oils | 1st Fat or Oil | | | | | | | 2nd Fat or Oil | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Total Sample | | Mothers By Region | | | | | Total Sample | | Mothers By Region | | | | |
| | Mothers | Community | Region I | Region II | Region III | Region IV | Region V | Mothers | Community | Region I | Region II | Region III | Region IV | Region V |
| Olive oil | 66.8 | 56.5 | 85.0 | 65.0 | 70.0 | 62.5 | 58.6 | 4.1 | 5.2 | 2.5 | 6.0 | 0.0 | 3.6 | 0.0 |
| Sheep tallow | 1.0 | 1.7 | 0.0 | 0.9 | 0.0 | 1.8 | 3.4 | 5.6 | 7.8 | 5.0 | 2.8 | 10.0 | 12.5 | 6.9 |
| Imported oil | 18.6 | 20.9 | 2.5 | 20.3 | 18.0 | 21.4 | 24.1 | 32.1 | 38.3 | 32.5 | 32.3 | 30.0 | 30.4 | 37.9 |
| Butter/ghee | 12.8 | 16.5 | 12.5 | 12.9 | 10.0 | 14.3 | 13.8 | 47.4 | 35.7 | 40.0 | 52.1 | 44.0 | 41.1 | 41.4 |
| Sesame oil | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.3 | 1.7 | 10.0 | 0.0 | 0.0 | 0.0 | 3.4 |
| Not known | 0.8 | 4.3 | 0.0 | 0.9 | 2.0 | 0.0 | 0.0 | 9.2 | 11.3 | 7.5 | 6.9 | 16.0 | 12.5 | 10.3 |
| Seasonal Variation | | | | | | | | | | | | | | |
| Seasonal | 3.1 | 2.6 | 0.0 | 3.7 | 4.0 | 0.0 | 6.9 | 5.6 | 4.3 | 7.5 | 5.1 | 6.0 | 5.4 | 6.9 |
| All year | 95.9 | 93.0 | 100.0 | 94.9 | 94.0 | 100.0 | 93.1 | 84.7 | 87.0 | 85.0 | 88.0 | 78.0 | 80.4 | 79.3 |
| Not known | 0.8 | 4.3 | 0.0 | 0.9 | 2.0 | 0.0 | 0.0 | 9.7 | 8.7 | 7.5 | 6.9 | 16.0 | 14.3 | 13.8 |

TABLE X. (continued)

| Fats & Oils | 1st Fat or Oil | | | | | | | 2nd Fat or Oil | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Total Sample | | Mothers By Sample | | | | | Total Sample | | Mothers By Sample | | | | |
| | Mothers | Community | Region I | Region II | Region III | Region IV | Region V | Mothers | Community | Region I | Region II | Region III | Region IV | Region V |
| Frequency | | | | | | | | | | | | | | |
| Daily | 88.8 | 81.0 | 92.5 | 89.4 | 82.0 | 89.3 | 89.7 | 69.9 | 76.5 | 70.0 | 77.0 | 48.0 | 62.5 | 69.0 |
| 1-2/week | 5.9 | 5.2 | 2.5 | 6.0 | 12.0 | 3.6 | 3.4 | 11.0 | 7.8 | 10.0 | 7.4 | 28.0 | 10.7 | 10.3 |
| 3-4/week | 2.0 | 1.7 | 5.0 | 2.3 | 0.0 | 0.0 | 3.4 | 6.9 | 4.3 | 10.0 | 6.9 | 6.0 | 7.1 | 3.4 |
| < 4/month | 1.4 | 0.0 | 0.0 | 1.0 | 4.0 | 7.2 | 3.4 | 2.4 | 0.9 | 2.5 | 1.4 | 2.0 | 5.4 | 3.4 |
| Not known | 1.0 | 6.1 | 0.0 | 1.4 | 2.0 | 0.0 | 0.0 | 9.9 | 10.4 | 7.5 | 7.4 | 16.0 | 14.3 | 13.8 |
| Reason for this frequency | | | | | | | | | | | | | | |
| Inexpensive | 2.8 | 5.2 | 2.5 | 2.3 | 8.0 | 1.8 | 0.0 | 6.6 | 14.8 | 10.0 | 5.5 | 16.0 | 3.6 | 0.0 |
| Expensive | 0.8 | 4.3 | 0.0 | 0.5 | 0.0 | 3.6 | 0.0 | 1.5 | 1.7 | 0.0 | 0.9 | 2.0 | 5.4 | 0.0 |

TABLE X. (continued)

| Fats & Oils | 1st Fat or Oil | | | | | | | 2nd Fat or Oil | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Total Sample | | Mothers By Region | | | | | Total Sample | | Mothers By Region | | | | |
| | Mothers | Community | Region I | Region II | Region III | Region IV | Region V | Mothers | Community | Region I | Region II | Region III | Region IV | Region V |
| Easy to cook | 2.3 | 4.3 | 2.5 | 1.4 | 6.0 | 3.6 | 0.0 | 4.6 | 2.6 | 5.0 | 3.2 | 12.0 | 5.4 | 0.0 |
| Like food | 25.0 | 12.2 | 27.5 | 20.7 | 36.0 | 30.4 | 24.1 | 17.6 | 6.1 | 5.0 | 15.2 | 26.0 | 25.0 | 24.1 |
| Good for you | 39.0 | 26.1 | 40.0 | 41.5 | 30.0 | 37.5 | 37.9 | 28.8 | 23.5 | 40.0 | 31.3 | 18.0 | 21.4 | 27.6 |
| Other | 20.4 | 37.4 | 17.5 | 24.0 | 8.0 | 14.3 | 31.0 | 23.7 | 35.7 | 22.5 | 28.6 | 8.0 | 14.3 | 34.5 |
| Not known | 9.2 | 10.4 | 10.0 | 9.7 | 10.0 | 7.1 | 6.9 | 16.3 | 15.7 | 17.5 | 14.7 | 18.0 | 21.4 | 13.8 |
| Who Consumes | | | | | | | | | | | | | | |
| Everyone | 96.2 | 93.9 | 100.0 | 95.9 | 98.0 | 96.4 | 89.7 | 86.7 | 87.8 | 92.5 | 88.9 | 84.0 | 80.4 | 79.3 |
| Adults only | 0.8 | 0.9 | 0.0 | 0.5 | 0.0 | 3.6 | 0.0 | 2.6 | 1.7 | 0.0 | 2.8 | 0.0 | 3.6 | 6.9 |
| Not known | 2.0 | 5.2 | 0.0 | 2.3 | 2.0 | 1.8 | 3.4 | 10.7 | 10.4 | 7.5 | 8.3 | 16.0 | 16.1 | 13.8 |

TABLE X. (continued)

| Fats & Oils | 1st Fat or Oil | | | | | | | 2nd Fat or Oil | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Total Sample | | Mothers By Region | | | | | Total Sample | | Mothers By Region | | | | |
| | Mothers | Community | Region I | Region II | Region III | Region IV | Region V | Mothers | Community | Region I | Region II | Region III | Region IV | Region V |
| Reason for Consumption | | | | | | | | | | | | | | |
| Strong food | 9.9 | 16.5 | 15.0 | 12.4 | 0.0 | 3.6 | 13.8 | 7.4 | 14.8 | 12.5 | 7.8 | 0.0 | 5.4 | 13.8 |
| Like food | 34.2 | 20.0 | 27.5 | 36.9 | 12.0 | 42.9 | 44.8 | 31.9 | 16.5 | 25.0 | 35.5 | 8.0 | 37.5 | 44.8 |
| Prevents worms | 2.0 | 1.7 | 2.5 | 2.3 | 0.0 | 3.6 | 0.0 | 1.5 | 0.0 | 5.0 | 1.5 | 2.0 | 3.6 | 0.0 |
| Other | 13.0 | 16.5 | 15.0 | 13.8 | 8.0 | 14.3 | 10.3 | 14.3 | 23.5 | 12.5 | 17.1 | 6.0 | 12.5 | 13.8 |
| Not known | 40.1 | 45.2 | 40.0 | 34.1 | 76.0 | 35.7 | 31.0 | 44.4 | 45.2 | 45.0 | 39.2 | 80.0 | 41.1 | 27.6 |

a daily basis all year round.

8) Beverages: Table XI presents beverages consumed in the diet. Coffee is by far the most popular primary beverage (66.6%), followed by tea (30.1%). Very strong coffee and heavily sugared teas are common (7). Tea is the second most frequently consumed (65.8%), milk (41.6%) and carbonated beverages (34.9%) are listed as third beverages. Camel's milk has been reported to be basic to the diet of Nomads (1). Beverages are drunk all year round. The first and second beverages are consumed almost on a daily basis. In very few exceptions, are they restricted to adults only.

The most common foods are generally consumed by all family members in the household regardless of age or sex, with the exception of the primary beverages such as coffee or tea, which may be restricted to adults only in some households. It is very likely, however, there may be differences in the quantity and quality of foods consumed that are age and sex dependent. The reasons given for the current consumption patterns are generally that the diet is good for health and palatable.

Overall, the rural Jordanian diet is primarily wheat, rice and bulgur. Potatoes, squash and pumpkins are important additional sources of carbohydrates in the diet. Beef/goat/lamb when available and affordable are the usual animal protein foods consumed. Lentils, dry beans and chick peas are good vegetable protein sources but are consumed usually once or twice a week. Fresh vegetables and fruits are limited in variety and suggest possible vitamin and mineral inadequacies in

TABLE XI. CONSUMPTION OF BEVERAGES

| Beverages | 1st Beverage | | | | | | | 2nd Beverage | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Total Sample | | Mothers By Region | | | | | Total Sample | | Mothers By Region | | | | |
| | Moth-ers | Commu-nity | Region I | Region II | Region III | Region IV | Region V | Moth-ers | Commu-nity | Region I | Region II | Region III | Region IV | Region V |
| Coffee | 66.6 | 76.5 | 75.0 | 65.9 | 70.0 | 55.4 | 75.9 | 14.8 | 11.3 | 17.5 | 14.7 | 8.0 | 17.9 | 14.8 |
| Tea | 30.1 | 20.9 | 22.5 | 30.9 | 24.0 | 41.1 | 24.1 | 65.8 | 74.8 | 72.5 | 64.1 | 72.0 | 58.9 | 72.4 |
| Carbonated | 0.5 | 0.0 | 0.0 | 0.5 | 0.0 | 1.8 | 0.0 | 5.6 | 4.3 | 0.0 | 5.5 | 0.0 | 16.1 | 3.4 |
| Milk | 1.3 | 0.0 | 0.0 | 1.4 | 4.0 | 0.0 | 0.0 | 9.2 | 5.2 | 5.0 | 11.5 | 10.1 | 3.6 | 6.9 |
| Not known | 1.5 | 2.6 | 2.5 | 1.4 | 2.0 | 1.8 | 0.0 | 4.3 | 4.3 | 5.0 | 3.7 | 10.0 | 3.6 | 0.0 |
| Seasonal Variation | | | | | | | | | | | | | | |
| Seasonal | 2.8 | 0.9 | 0.0 | 3.7 | 2.0 | 1.8 | 3.4 | 5.4 | 4.3 | 0.0 | 5.5 | 10.0 | 3.6 | 6.9 |
| All year | 95.7 | 95.7 | 97.5 | 94.9 | 96.0 | 96.4 | 96.6 | 90.1 | 91.3 | 95.0 | 90.8 | 80.0 | 91.1 | 93.1 |
| Not known | 1.5 | 3.5 | 2.5 | 1.4 | 2.0 | 1.8 | 0.0 | 4.6 | 4.3 | 5.0 | 3.7 | 10.0 | 5.4 | 0.0 |

TABLE XI. (continued)

| Beverages | 1st Beverage | | | | | | | 2nd Beverage | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Total Sample | | Mothers By Region | | | | | Total Sample | | Mothers By Region | | | | |
| | Mothers | Community | Region I | Region II | Region III | Region IV | Region V | Mothers | Community | Region I | Region II | Region III | Region IV | Region V |
| Frequency | | | | | | | | | | | | | | |
| Daily | 91.1 | 88.7 | 90.0 | 91.7 | 90.0 | 91.1 | 89.7 | 84.2 | 87.0 | 87.5 | 86.6 | 82.0 | 71.4 | 89.7 |
| 1-2/week | 3.1 | 3.5 | 0.0 | 3.2 | 2.0 | 3.6 | 6.9 | 6.1 | 4.3 | 0.0 | 4.6 | 8.0 | 14.3 | 6.9 |
| 3-4/week | 2.8 | 0.9 | 2.5 | 2.8 | 6.0 | 0.0 | 3.4 | 4.3 | 1.7 | 5.0 | 4.6 | 0.0 | 7.1 | 3.4 |
| Not known | 2.3 | 5.2 | 5.0 | 2.3 | 2.0 | 1.8 | 0.0 | 5.1 | 6.1 | 7.5 | 4.1 | 10.0 | 5.4 | 0.0 |
| Reason for this frequency | | | | | | | | | | | | | | |
| Expensive | 1.0 | 1.7 | 0.0 | 1.4 | 2.0 | 0.0 | 0.0 | 1.5 | 0.0 | 0.0 | 1.8 | 0.0 | 3.6 | 0.0 |
| Like beverage | 38.8 | 28.7 | 22.5 | 32.3 | 44.0 | 53.6 | 72.4 | 42.3 | 33.0 | 35.0 | 39.2 | 42.0 | 46.4 | 69.0 |
| Good for health | 13.0 | 9.6 | 12.5 | 14.7 | 8.0 | 12.5 | 10.3 | 16.6 | 14.8 | 17.5 | 20.3 | 10.0 | 10.7 | 10.3 |

TABLE XI. (continued)

| Beverages | 1st Beverage | | | | | | | 2nd Beverage | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Total Sample | | Mothers By Region | | | | | Total Sample | | Mothers By Region | | | | |
| | Mothers | Community | Region I | Region II | Region III | Region IV | Region V | Mothers | Community | Region I | Region II | Region III | Region IV | Region V |
| Other | 38.5 | 50.4 | 50.0 | 41.9 | 40.0 | 28.6 | 13.8 | 28.1 | 43.5 | 30.0 | 27.6 | 36.0 | 26.8 | 17.2 |
| Not known | 8.2 | 5.2 | 15.0 | 8.8 | 6.0 | 5.4 | 3.4 | 10.7 | 7.0 | 17.5 | 10.1 | 10.0 | 12.5 | 3.4 |
| Who Consumes | | | | | | | | | | | | | | |
| Everyone | 62.2 | 60.9 | 52.5 | 63.6 | 58.0 | 67.9 | 62.1 | 84.9 | 85.2 | 87.5 | 87.6 | 80.0 | 76.8 | 86.2 |
| Adults only | 34.9 | 33.9 | 45.0 | 33.6 | 36.0 | 30.4 | 37.9 | 8.4 | 7.8 | 7.5 | 6.9 | 6.0 | 16.1 | 10.3 |
| Children | 0.3 | 0.0 | 0.0 | 0.0 | 2.0 | 0.0 | 0.0 | 1.8 | 1.7 | 0.0 | 1.8 | 4.0 | 1.8 | 0.0 |
| Not known | 1.3 | 3.5 | 2.5 | 1.4 | 2.0 | 0.0 | 0.0 | 4.6 | 5.2 | 5.0 | 3.7 | 10.0 | 5.4 | 0.0 |
| Reason for Consumption | | | | | | | | | | | | | | |
| Strong food | 6.6 | 7.0 | 7.5 | 7.4 | 2.0 | 7.1 | 6.9 | 7.1 | 8.7 | 7.5 | 8.3 | 6.0 | 3.6 | 6.9 |

TABLE XI. (continued)

| Beverages | 1st Beverage | | | | | | | 2nd Beverage | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Total Sample | | Mothers By Region | | | | | Total Sample | | Mothers By Region | | | | |
| | Mothers | Community | Region I | Region II | Region III | Region IV | Region V | Mothers | Community | Region I | Region II | Region III | Region IV | Region V |
| Like | 45.2 | 43.5 | 25.0 | 50.2 | 26.0 | 51.8 | 55.2 | 46.2 | 40.0 | 30.0 | 51.6 | 22.0 | 51.8 | 58.0 |
| Prevents worms | 0.3 | 1.7 | 0.0 | 0.0 | 0.0 | 1.8 | 0.0 | 0.8 | 2.6 | 0.0 | 0.9 | 0.0 | 1.8 | 0.0 |
| Other | 19.9 | 26.1 | 35.0 | 18.9 | 24.0 | 12.5 | 13.8 | 7.1 | 7.8 | 17.5 | 6.5 | 2.0 | 7.1 | 6.9 |
| Not known | 27.6 | 20.0 | 32.5 | 23.0 | 48.0 | 25.0 | 24.1 | 38.3 | 40.9 | 45.0 | 32.3 | 70.0 | 33.9 | 27.0 |

the diet. Earlier reports have indicated that deficiency and malnutrition especially among infants and small children peaks from September to November due to season (6). Villagers may subsist on bread, leben, olives and olive oil, cheese, onions and seasonal fruits. Bedouins have little varied diet, subsisting primarily on camel's milk and dried dates, supplemented with boiled wheat or rice (1).

c) FOOD PRODUCTION, PURCHASING, COOKING AND STORAGE PRACTICES

Table XII presents data on food production, purchasing, cooking and storage practices of the mothers participating in the survey.

1) Food Production and Purchasing: Approximately half the households (56.1%) grow or raise at least some food for home consumption. Animal foods produced include poultry (24.7%), goats (9.7%), and milk in a few cases (4.3%). Foods grown for home use are vegetables (16.8%), staple grains (8.9%) and roots and tubers (6.1%). Only one-fifth of the households grow or raise 75% of their food consumption. Regional differences appear in the food production pattern, with most households producing at least some food in the Jordan Rift Valley, especially poultry and vegetables. Goats and roots and tubers are raised particularly in the Southern Desert.

Other foods for home consumption are purchased by half the households on a daily basis or less frequently (eg. once a week) by others particularly in the Jordan Rift Valley, the Eastern and Southern Desert regions. As expected, refrigerator facilities are extremely limited in rural areas, thereby making frequent purchases of perishable foods a

TABLE XII. FOOD PRODUCTION, PURCHASING, COOKING AND STORAGE PRACTICES EXPRESSED IN PERCENTAGES

| | Total Sample | | Mothers By Region | | | | |
|---|---|---|---|---|---|---|---|
| | Mothers | Community | I | II | III | IV | V |
| 1. Food raised for household use* | | | | | | | |
| a) Yes | 56.1 | 63.5 | 50.0 | 53.0 | 76.0 | 48.2 | 69.0 |
| b) No | 43.4 | 9.6 | 50.0 | 46.5 | 22.0 | 51.8 | 31.0 |
| c) Not known | 0.5 | 24.3 | 0.0 | 0.5 | 2.0 | 0.0 | 0.0 |
| 2. Types of food raised: animal foods* | | | | | | | |
| a) Milk | 4.3 | 7.0 | 0.0 | 1.4 | 10.0 | 10.7 | 10.3 |
| b) Poultry | 24.7 | 36.5 | 17.5 | 23.5 | 38.0 | 23.2 | 24.1 |
| c) Eggs | 2.3 | 2.6 | 2.5 | 0.9 | 6.0 | 3.6 | 3.4 |
| d) Beef | 1.3 | 4.3 | 0.0 | 1.8 | 2.0 | 0.0 | 0.0 |
| e) Goat | 9.7 | 25.2 | 10.0 | 10.1 | 4.0 | 7.1 | 20.7 |
| f) Mutton/lamb | 0.8 | 3.5 | 0.0 | 0.9 | 2.0 | 0.0 | 0.0 |
| g) Other, not including pork | 0.3 | 0.0 | 0.0 | 0.5 | 0.0 | 0.0 | 0.0 |
| h) Not known | 56.6 | 20.0 | 70.0 | 60.8 | 38.0 | 55.4 | 41.4 |
| 3. Types of food raised: vegetables* | | | | | | | |
| a) Staples | 8.9 | 30.4 | 20.0 | 9.7 | 0.0 | 7.1 | 6.9 |
| b) Roots and tubers | 6.1 | 8.7 | 2.5 | 6.9 | 4.0 | 3.6 | 13.8 |
| c) Vegetable proteins | 1.8 | 14.8 | 0.0 | 0.9 | 8.0 | 0.0 | 3.4 |

*Responses are significantly different between mothers and community influentials ($P \leq 0.05$).

TABLE XII. (continued)

| | Total Sample | | Mothers By Region | | | | |
|---|---|---|---|---|---|---|---|
| | Mothers | Community | I | II | III | IV | V |
| d) Other vegetables | 16.8 | 20.0 | 22.5 | 15.7 | 28.0 | 8.9 | 13.8 |
| e) Condiments/flavorings | 0.8 | 0.0 | 0.0 | 0.9 | 0.0 | 1.8 | 0.0 |
| f) Other | 3.6 | 4.3 | 2.5 | 2.8 | 6.0 | 0.0 | 13.8 |
| g) Not known | 61.7 | 21.7 | 52.5 | 62.7 | 54.0 | 78.6 | 48.3 |
| 4. Proportion of food consumed that is grown/raised at home* | | | | | | | |
| a) Almost all (75-100%) | 19.9 | 20.0 | 12.5 | 20.7 | 26.0 | 16.1 | 20.7 |
| b) More than half (50-75%) | 10.5 | 29.6 | 7.5 | 10.6 | 14.0 | 8.9 | 10.3 |
| c) Less than half (25-50%) | 9.2 | 18.3 | 12.5 | 5.5 | 16.0 | 7.1 | 24.1 |
| d) Less than a fourth (0-25%) | 16.8 | 20.9 | 17.5 | 16.6 | 20.0 | 16.1 | 13.8 |
| e) Not known | 43.6 | 11.3 | 50.0 | 46.5 | 24.0 | 51.8 | 31.0 |
| 5. Frequency of marketing* | | | | | | | |
| a) Daily | 52.0 | 47.8 | 47.5 | 54.5 | 46.0 | 55.4 | 41.4 |
| b) 3-4 times/week | 19.6 | 25.2 | 17.5 | 19.8 | 20.0 | 16.1 | 27.6 |
| c) Once a week | 20.4 | 20.0 | 25.0 | 19.4 | 26.0 | 16.1 | 20.7 |
| d) Other | 6.6 | 3.5 | 10.0 | 4.1 | 6.0 | 12.5 | 10.3 |
| e) Not known | 1.3 | 3.5 | 0.0 | 1.8 | 2.0 | 0.0 | 0.0 |

TABLE XII. (continued)

| | Total Sample | | Mothers By Region | | | | |
|---|---|---|---|---|---|---|---|
| | Mothers | Community | I | II | III | IV | V |
| 6. Decision maker for food buying | | | | | | | |
| a) Respondent (mother) | 65.1 | 68.7 | 70.0 | 67.3 | 60.0 | 64.3 | 51.7 |
| b) Husband | 23.2 | 24.3 | 15.0 | 21.2 | 22.0 | 30.4 | 37.9 |
| c) Mother-in-law | 3.1 | 0.0 | 2.5 | 3.2 | 2.0 | 3.6 | 3.4 |
| d) Other woman | 1.8 | 0.0 | 2.5 | 1.4 | 4.0 | 0.0 | 3.4 |
| e) Older child | 2.6 | 0.9 | 2.5 | 3.2 | 2.0 | 1.8 | 0.0 |
| f) Other | 3.8 | 3.5 | 7.5 | 3.7 | 6.0 | 0.0 | 3.4 |
| 7. Major fuel used for cooking | | | | | | | |
| a) Wood | 1.8 | 2.6 | 2.5 | 0.0 | 6.0 | 1.8 | 6.9 |
| b) Kerosene | 29.6 | 17.4 | 37.5 | 22.1 | 44.0 | 39.3 | 31.0 |
| c) Gas | 41.3 | 23.5 | 35.0 | 57.1 | 16.0 | 21.4 | 13.8 |
| d) Wood and kerosene | 9.7 | 13.9 | 7.5 | 0.9 | 24.0 | 25.0 | 24.1 |
| e) Kerosene and gas | 15.8 | 36.5 | 17.5 | 18.0 | 6.0 | 12.5 | 20.7 |
| 8. Method of cooking used most often* | | | | | | | |
| a) Boiling | 48.0 | 65.2 | 35.0 | 49.8 | 48.0 | 44.6 | 58.6 |
| b) Steaming | 5.1 | 0.0 | 2.5 | 5.5 | 0.0 | 7.1 | 10.3 |
| c) Frying | 36.0 | 22.6 | 52.5 | 32.7 | 38.0 | 41.1 | 24.1 |
| d) Grilling | 2.0 | 0.9 | 2.5 | 3.2 | 0.0 | 0.0 | 0.0 |

TABLE XII. (continued)

| | Total Sample | | Mothers By Region | | | | |
|---|---|---|---|---|---|---|---|
| | Mothers | Community | I | II | III | IV | V |
| e) Baking | 3.3 | 0.0 | 2.5 | 3.2 | 4.0 | 3.6 | 3.4 |
| f) Broiling | 2.6 | 0.0 | 2.5 | 1.4 | 6.0 | 3.6 | 3.4 |
| g) Broiling and frying | 2.6 | 8.7 | 0.0 | 4.1 | 2.0 | 0.0 | 0.0 |
| 9. Number of times food cooked per day | | | | | | | |
| a) Once daily | 63.8 | 60.9 | 57.5 | 67.7 | 44.0 | 69.6 | 65.5 |
| b) Twice daily | 25.8 | 26.1 | 42.5 | 24.9 | 26.0 | 23.2 | 13.8 |
| c) Three times daily | 8.4 | 10.4 | 0.0 | 5.1 | 26.0 | 7.1 | 17.2 |
| 10. Seasonal variations in number of times food is cooked per day | | | | | | | |
| a) Yes | 17.3 | 23.5 | 25.0 | 15.2 | 12.0 | 21.4 | 24.1 |
| b) No | 81.1 | 72.2 | 75.0 | 83.9 | 82.0 | 76.8 | 75.9 |
| c) Not known | 1.5 | 4.2 | 0.0 | 0.9 | 6.0 | 1.8 | 0.0 |
| 11. Occurrence of seasonal variations, according to season | | | | | | | |
| a) Hot season | 5.4 | 10.4 | 17.5 | 4.1 | 4.0 | 3.6 | 3.4 |

TABLE XII. (continued)

| | Total Sample | | Mothers By Region | | | | |
|---|---|---|---|---|---|---|---|
| | Mothers | Community | I | II | III | IV | V |
| b) Cold season | 0.3 | 1.7 | 0.0 | 0.5 | 0.0 | 0.0 | 0.0 |
| c) Wet/rainy season | 14.0 | 12.2 | 15.0 | 13.4 | 10.0 | 16.1 | 20.7 |
| 12. Preparation of bread at home | | | | | | | |
| a) Yes - all of it | 88.0 | 84.3 | 97.5 | 82.5 | 96.0 | 91.1 | 96.6 |
| b) Yes - some of it | 2.8 | 12.2 | 2.5 | 3.7 | 2.0 | 1.8 | 0.0 |
| c) No | 8.7 | 0.9 | 0.0 | 13.4 | 0.0 | 7.1 | 3.4 |
| 13. Main ingredients used | | | | | | | |
| a) Wheat | 69.4 | 63.5 | 70.0 | 64.5 | 64.0 | 83.9 | 86.2 |
| b) Wheat and barley | 0.8 | 0.0 | 0.0 | 0.0 | 4.0 | 1.8 | 0.0 |
| c) Other, not including barley | 20.9 | 32.2 | 27.5 | 22.1 | 30.0 | 8.9 | 10.3 |
| d) Not known | 8.7 | 4.2 | 0.0 | 13.4 | 2.0 | 5.4 | 3.4 |
| 14. Water boiled before drinking | | | | | | | |
| a) Yes | 1.3 | 1.7 | 0.0 | 1.8 | 0.0 | 1.8 | 0.0 |
| b) No | 94.1 | 93.0 | 100.0 | 91.7 | 96.0 | 94.6 | 100.0 |
| c) Sometimes | 3.6 | 0.0 | 0.0 | 6.0 | 2.0 | 0.0 | 0.0 |
| d) Not known | 1.0 | 5.2 | 0.0 | 0.5 | 2.0 | 3.6 | 0.0 |

TABLE XII. (continued)

| | Total Sample | | Mothers By Region | | | | |
|---|---|---|---|---|---|---|---|
| | Mothers | Community | I | II | III | IV | V |
| 15. Reason | | | | | | | |
| a) Not necessary | 55.4 | 64.3 | 55.0 | 56.2 | 52.0 | 55.4 | 55.2 |
| b) Takes time | 1.8 | 1.7 | 0.0 | 1.3 | 0.0 | 3.6 | 0.0 |
| c) Takes fuel | 0.6 | 0.0 | 0.0 | 0.5 | 0.0 | 1.8 | 0.0 |
| d) Not custom | 5.1 | 11.3 | 7.5 | 4.6 | 10.0 | 1.8 | 3.4 |
| e) Kills germs/purifies water | 3.6 | 8.7 | 0.0 | 4.1 | 10.0 | 0.0 | 0.0 |
| f) Other | 2.8 | 0.0 | 5.0 | 4.1 | 0.0 | 0.0 | 0.0 |
| g) Not known | 29.8 | 13.9 | 32.5 | 28.1 | 26.0 | 32.1 | 41.4 |
| 16. Food prepared by* | | | | | | | |
| a) Mother | 87.2 | 94.8 | 85.0 | 88.0 | 82.0 | 92.9 | 82.8 |
| b) Mother's mother | 0.8 | 0.0 | 2.5 | 0.5 | 0.0 | 0.0 | 3.4 |
| c) Mother-in-law | 1.3 | 1.7 | 0.0 | 1.4 | 2.0 | 1.8 | 0.0 |
| d) Older child | 4.3 | 0.0 | 7.5 | 3.7 | 8.0 | 3.6 | 0.0 |
| e) Other woman | 4.3 | 0.0 | 2.5 | 3.7 | 6.0 | 4.8 | 13.8 |
| f) Other than above | 1.8 | 0.0 | 2.5 | 2.8 | 0.0 | 0.0 | 0.0 |
| g) Not known | 0.3 | 2.6 | 0.0 | 0.0 | 2.0 | 0.0 | 0.0 |
| 17. Number of meals eaten by adults and children above 7 years | | | | | | | |
| a) Two meals | 10.5 | 6.1 | 10.0 | 10.6 | 12.0 | 7.1 | 13.8 |

TABLE XII. (continued)

| | Total Sample | | Mothers By Region | | | | |
|---|---|---|---|---|---|---|---|
| | Mothers | Community | I | II | III | IV | V |
| b) Three meals | 84.4 | 89.6 | 90.0 | 84.3 | 76.3 | 89.3 | 82.8 |
| c) Four meals | 3.6 | 0.9 | 0.0 | 3.7 | 6.0 | 3.6 | 3.4 |
| d) Not known | 0.5 | 3.5 | 0.0 | 0.5 | 2.0 | 0.0 | 0.0 |
| 18. Number of meals eaten per day by children under 7 years | | | | | | | |
| a) One meal | 1.3 | 1.7 | 0.0 | 0.9 | 2.0 | 3.6 | 0.0 |
| b) Two meals | 8.2 | 0.0 | 5.0 | 8.8 | 2.0 | 8.9 | 17.2 |
| c) Three meals | 66.1 | 79.1 | 72.5 | 66.8 | 66.0 | 67.9 | 48.3 |
| d) Four meals | 7.1 | 8.7 | 2.5 | 6.0 | 14.0 | 7.1 | 10.3 |
| e) Not known | 13.5 | 6.1 | 20.0 | 12.4 | 14.0 | 8.9 | 20.7 |
| 19. Consumption of snacks by mother and/or children under 7 years | | | | | | | |
| a) Yes | 46.2 | 69.6 | 47.5 | 51.6 | 46.0 | 30.4 | 34.5 |
| b) No | 49.2 | 21.7 | 50.0 | 46.1 | 48.0 | 55.4 | 62.1 |
| c) Not known | 3.6 | 6.1 | 2.5 | 2.3 | 6.0 | 7.1 | 3.4 |
| 20. Number of snacks consumed by adults | | | | | | | |
| a) One | 14.0 | 16.5 | 2.5 | 12.9 | 28.0 | 17.9 | 6.9 |

TABLE XII. (continued)

| | Total Sample | | Mothers By Region | | | | |
|---|---|---|---|---|---|---|---|
| | Mothers | Community | I | II | III | IV | V |
| b) Two | 16.8 | 24.3 | 15.0 | 18.4 | 10.0 | 16.1 | 20.7 |
| c) Three | 7.4 | 15.7 | 10.0 | 9.7 | 0.0 | 5.4 | 3.4 |
| d) Not known | 56.1 | 36.5 | 55.0 | 55.8 | 56.0 | 53.6 | 65.5 |
| 21. Number of snacks consumed by children under 7 years | | | | | | | |
| a) One | 12.8 | 14.8 | 7.5 | 13.4 | 18.0 | 14.3 | 3.4 |
| b) Two | 20.7 | 26.1 | 20.0 | 23.0 | 12.0 | 17.9 | 24.1 |
| c) Three | 8.7 | 22.6 | 12.5 | 8.8 | 10.0 | 3.6 | 10.3 |
| d) Four | 1.8 | 7.0 | 0.0 | 1.8 | 4.0 | 1.8 | 0.0 |
| e) Not known | 52.6 | 29.6 | 50.0 | 50.2 | 56.0 | 57.1 | 58.6 |
| 22. Storage of uncooked dry food (e.g. staples)* | 63.0 | 87.0 | 65.0 | 70.5 | 64.0 | 46.4 | 34.5 |
| 23. How stored | | | | | | | |
| a) Boxes/tins | 8.9 | 6.7 | 2.5 | 12.0 | 4.0 | 7.1 | 6.9 |
| b) Sack | 37.8 | 63.5 | 47.5 | 39.2 | 44.0 | 30.4 | 17.2 |
| c) Shelf over stove | 2.6 | 5.2 | 0.0 | 3.7 | 2.0 | 1.8 | 0.0 |
| d) Other | 9.4 | 3.5 | 7.5 | 10.6 | 14.0 | 1.8 | 10.3 |
| e) Not known | 39.3 | 15.7 | 37.5 | 33.2 | 36.0 | 53.6 | 65.5 |

TABLE XII. (continued)

| | Total Sample | | Mothers By Region | | | | |
|---|---|---|---|---|---|---|---|
| | Mothers | Community | I | II | III | IV | V |
| 24. Storage of uncooked perishables (e.g. vegetables) | 21.4 | 32.2 | 27.5 | 24.4 | 24.0 | 10.7 | 6.9 |
| 25. How stored | | | | | | | |
| a) Icebox/refrigerator | 6.9 | 5.2 | 2.5 | 11.5 | 0.0 | 0.0 | 3.4 |
| b) Meshed cupboard | 2.0 | 1.7 | 2.5 | 0.9 | 2.0 | 7.1 | 0.0 |
| c) Woven basket | 1.3 | 5.2 | 2.5 | 1.4 | 2.0 | 0.0 | 0.0 |
| d) Kept in pot/basket/plates | 2.3 | 4.3 | 0.0 | 0.5 | 14.0 | 1.8 | 0.0 |
| e) Other, not including above | 6.4 | 2.6 | 17.5 | 6.5 | 6.0 | 1.8 | 0.0 |
| f) Not known | 79.8 | 75.7 | 75.0 | 77.9 | 74.0 | 89.3 | 93.1 |
| 26. Storage of cooked food (e.g. leftovers) | 15.3 | 24.3 | 10.0 | 21.2 | 8.0 | 3.6 | 13.8 |
| 27. How stored | | | | | | | |
| a) Icebox/refrigerator | 9.9 | 12.2 | 5.0 | 14.3 | 4.0 | 0.0 | 13.8 |
| b) Meshed cupboard | 2.3 | 7.0 | 0.0 | 3.2 | 4.0 | 0.0 | 0.0 |
| c) Other, not including vessels in containers of water, cooking vessels, or pottery | 1.8 | 0.0 | 2.5 | 2.3 | 0.0 | 1.8 | 0.0 |
| d) Not known | 84.9 | 78.3 | 90.0 | 79.3 | 92.0 | 96.4 | 86.2 |

TABLE XII. (continued)

| | Total Sample | | Mothers By Region | | | | |
|---|---|---|---|---|---|---|---|
| | Mothers | Community | I | II | III | IV | V |
| 28. Storage of preserved food (e.g. salted food) | 18.6 | 13.0 | 15.0 | 23.5 | 6.0 | 14.3 | 17.2 |
| 29. How stored | | | | | | | |
| a) Icebox/refrigerator | 7.7 | 3.5 | 2.5 | 11.5 | 2.0 | 0.0 | 10.3 |
| b) Cupboards | 4.8 | 3.5 | 7.5 | 5.5 | 0.0 | 3.6 | 6.9 |
| c) Tins/cans | 1.3 | 2.6 | 0.0 | 0.9 | 0.0 | 5.4 | 0.0 |
| d) Bottles | 2.8 | 0.0 | 5.0 | 3.2 | 2.0 | 1.8 | 0.0 |
| e) Not known | 82.1 | 87.0 | 85.0 | 77.0 | 96.0 | 87.5 | 82.8 |
| 30. Foods prepared at home* | | | | | | | |
| a) Leban/lebaneh | 21.2 | 20.0 | 25.0 | 27.2 | 10.0 | 8.9 | 13.8 |
| b) Okra | 2.6 | 0.0 | 5.0 | 0.9 | 0.0 | 7.1 | 6.9 |
| c) Jew's mallow | 10.7 | 0.0 | 12.5 | 12.9 | 8.0 | 7.1 | 3.4 |
| d) Pickles | 8.2 | 8.7 | 12.5 | 10.1 | 2.0 | 5.4 | 3.4 |
| e) Olives | 11.5 | 7.8 | 12.5 | 12.9 | 12.0 | 8.9 | 3.4 |
| f) Jamed | 5.1 | 10.4 | 2.5 | 0.9 | 20.0 | 8.9 | 6.9 |
| g) Not known | 37.6 | 20.9 | 27.5 | 32.3 | 40.0 | 50.0 | 58.6 |

necessity. The need for this frequent purchase has been confirmed elsewhere (6). The mother is the general decision maker regarding food purchases (65.1%) for the household though the husband makes the decisions in almost one-fourth of the families (23.2%), particularly in the Southern Desert. However, the husband usually does the marketing since he works outside the home and the market is generally several kilometers away from the home.

2) Cooking Practices: The major fuel used for cooking is gas (41.3%), followed by kerosene (29.6%). A small gasoline pressure stove, the Premus is used for this purpose (6). Gasoline and kerosene are also reported as the most frequent fuels used for cooking in other studies (7). Some families use both gas and kerosene (15.8%) or brush and Kerosene (9.7%). Regional differences appear in the use of fuel, with less kerosene and more gas being used in the Northern Highlands. Brush is used in the Jordan Rift Valley, Southern Highlands and Southern Desert by some families. The time required to prepare a meal is reported to range from one to three hours (6). The majority of households (63.8%) cook one meal per day especially in the Northern and Southern Highlands and Southern Desert. Most of the remaining households cook two meals per day (25.8%) particularly in the Eastern Desert. Over one-fourth of the families cook three meals in the Jordan Rift Valley. Most families do not vary their frequency of cooking seasonally (81.8%), except in approximately one-fifth of the households (17.3%), frequency of cooking may change during the rainy season.

Bread has an especially high value in Jordan as in other Arab countries (8). Almost all families (88.0%) prepare flat bread at home, using wheat as the basic ingredient. It is eaten with most meals but its consumption is some what less prevalent in the Northern Highlands. Boiling (48.0%) and frying (26.0%) are the most often used methods of cooking with differences appearing between regions

Generally, none of the families boil water for drinking purposes (94.1%), because it is not considered necessary or customary. In most families (87.2%), the mother prepares the family meal. In some exceptions, an older child (4.3%) or other women in the household (4.3%) may prepare the meal. In most households (84.4%), adults and children under 7 years generally eat 3 meals per day with some households (10.5%) eating only 2 meals per day. The latter is true especially in the Southern Desert among children less than 7 years. Earlier reports confirmed this pattern. In families reporting consumption of 2 meals, the meal most often omitted was breakfast (6). Snack consumption (once or twice) takes place in slightly less than half the households, and even fewer households in the Southern Highlands and Southern Desert. Snacks are defined as any foods consumed other than at meal times.

3) Food Storage: Storage of uncooked dry goods such as grains is common in two thirds of the households (63.0%). Sacks and box/tin is generally used for this purpose. Uncooked perishables such as vegetables are kept infrequently, being stored in approximately a fifth of the households (21.4%). Cooked food such as left overs are stored in

a few homes (15.3%), where ice box facilities are available. The same is true of preserved food. Foods that are prepared and preserved for home use are leben/lebeneh (leben from which whey is partially removed), olives, pickles and raisins.

d) GENERAL EATING PRACTICES, FOOD PREFERENCES AND RESTRICTIONS

Table XIII presents information on general eating practices and restrictions observed by the families.

1) Eating Practices: In most households (90.8%), family members generally eat meals together with few exceptions (5.1%). In approximately a third of the households (30.9%), a meal or more likely a snack, may be eaten outside 5 to 7 times per week, by the husband or other males in the household. When families eat together, they usually do so from a common family pot (75.8%) and less often from separate plates (14.0%). This is a common trend in rural areas in Arab countries.(9). This practice may have some negative nutritional implication for the females or younger children, who may compete less successfully for food within the family.

The head of the household ie. the husband, usually receives the choicest portions of the family meal because he is the wage earner or head of the family or because it is a customary practice. The mother is given priority in some cases, as are young children and older boys in the family. Reasons for these preferences are that the children are still in the growing stage, or because it is customary. Pregnant and lactating women are given priority in approximately a fourth of the households particularly in the Southern Highlands.

TABLE XIII. GENERAL EATING PRACTICES, FOOD PREFERENCES AND RESTRICTIONS EXPRESSED IN PERCENTAGES

| | Total Sample | | Mothers By Region | | | | |
|---|---|---|---|---|---|---|---|
| | Mothers | Community | I | II | III | IV | V |
| 1. Family eats together | | | | | | | |
| a) Yes | 90.8 | 94.8 | 97.5 | 91.2 | 82.0 | 89.3 | 96.6 |
| b) No | 5.1 | 0.9 | 2.5 | 4.1 | 12.0 | 5.4 | 3.4 |
| c) Sometimes | 3.3 | 1.7 | 0.0 | 4.1 | 4.0 | 3.6 | 0.0 |
| 2. Meals eaten outside home | | | | | | | |
| a) Yes | 30.9 | 39.1 | 20.0 | 37.8 | 20.0 | 26.8 | 20.7 |
| b) No | 68.4 | 55.7 | 80.0 | 61.8 | 78.0 | 71.4 | 79.3 |
| 3. If yes, family members consuming meals outside* | | | | | | | |
| a) Husband/father | 22.7 | 8.7 | 15.0 | 27.6 | 16.0 | 23.2 | 6.9 |
| b) Other males | 6.6 | 6.1 | 2.5 | 7.8 | 6.0 | 3.6 | 10.3 |
| c) Not known | 69.1 | 61.7 | 80.0 | 62.7 | 78.0 | 73.2 | 79.3 |
| 4. What meals | | | | | | | |
| a) Breakfast | 1.0 | 1.7 | 0.0 | 1.4 | 0.0 | 1.8 | 0.0 |
| b) Lunch | 5.6 | 7.8 | 0.0 | 8.3 | 4.0 | 3.6 | 0.0 |
| c) Supper | 1.0 | 0.0 | 0.0 | 0.9 | 2.0 | 1.8 | 0.0 |
| d) Other | 21.7 | 27.0 | 20.0 | 24.9 | 14.0 | 17.9 | 20.7 |
| e) Not known | 69.6 | 60.9 | 80.0 | 63.1 | 78.0 | 75.0 | 79.3 |

*Responses are significantly different between mothers and community influentials ($P \leq 0.05$).

TABLE XIII. (continued)

| | Total Sample | | Mothers By Region | | | | |
|---|---|---|---|---|---|---|---|
| | Mothers | Community | I | II | III | IV | V |
| 5. How often | | | | | | | |
| a) Once/week | 0.5 | 1.7 | 0.0 | 0.9 | 0.0 | 0.0 | 0.0 |
| b) Twice/week | 2.0 | 2.6 | 0.0 | 2.8 | 2.0 | 1.8 | 0.0 |
| c) 3 times/week | 0.8 | 0.9 | 0.0 | 2.3 | 2.0 | 3.6 | 0.0 |
| d) 4 times/week | 0.8 | 2.6 | 0.0 | 1.4 | 0.0 | 0.0 | 0.0 |
| e) 5 times/week | 8.9 | 5.2 | 12.5 | 9.7 | 4.0 | 8.9 | 6.9 |
| f) 6 times/week | 7.4 | 13.0 | 2.5 | 9.2 | 6.0 | 7.1 | 3.4 |
| g) 7 times/week | 7.1 | 9.6 | 2.5 | 8.8 | 8.0 | 3.6 | 6.9 |
| h) Other | 1.5 | 1.7 | 2.5 | 1.8 | 0.0 | 1.8 | 0.0 |
| i) Not known | 69.6 | 62.6 | 80.0 | 63.1 | 78.0 | 75.0 | 79.3 |
| 6. Manner in which meals are consumed | | | | | | | |
| a) From common pot | 75.8 | 76.5 | 87.5 | 70.5 | 86.0 | 78.6 | 75.9 |
| b) Separate plates/bowl | 14.0 | 6.1 | 5.0 | 15.7 | 10.0 | 16.1 | 17.2 |
| c) Both | 8.9 | 13.0 | 7.5 | 12.9 | 0.0 | 5.4 | 3.4 |
| 7. Person receiving best portion (first preference) | | | | | | | |
| a) Husband | 27.0 | 25.2 | 22.5 | 28.1 | 22.0 | 32.0 | 24.1 |
| b) Wife | 13.0 | 7.0 | 10.0 | 12.9 | 16.0 | 8.9 | 20.7 |

TABLE XIII. (continued)

| | Total Sample | | Mothers By Region | | | | |
|---|---|---|---|---|---|---|---|
| | Mothers | Community | I | II | III | IV | V |
| c) Older boys | 5.4 | 0.9 | 10.0 | 4.6 | 6.0 | 3.6 | 6.9 |
| d) Children under 7 | 8.9 | 13.0 | 2.5 | 10.1 | 10.0 | 12.5 | 0.0 |
| e) Other | 3.6 | 2.6 | 2.5 | 2.8 | 10.0 | 1.8 | 3.4 |
| f) Not known | 42.9 | 49.6 | 47.5 | 41.9 | 44.0 | 37.5 | 51.7 |
| 8. Reasons | | | | | | | |
| a) Wage earner | 8.7 | 10.4 | 5.0 | 8.8 | 8.0 | 12.5 | 6.9 |
| b) Family head | 5.4 | 5.2 | 0.0 | 7.4 | 0.0 | 1.8 | 13.8 |
| c) Elder person | 4.3 | 1.7 | 7.5 | 3.2 | 2.0 | 3.6 | 13.8 |
| d) Important to family | 5.6 | 2.6 | 10.0 | 4.6 | 12.0 | 3.6 | 0.0 |
| e) Growing stage | 10.2 | 9.6 | 7.5 | 10.1 | 10.0 | 17.9 | 0.0 |
| f) Custom | 6.1 | 3.5 | 12.5 | 4.6 | 12.0 | 3.6 | 3.4 |
| g) Other | 16.1 | 12.2 | 10.0 | 19.4 | 10.0 | 16.1 | 10.3 |
| h) Not known | 42.9 | 52.2 | 47.5 | 41.9 | 44.0 | 37.5 | 51.7 |
| 9. Foods preferred | | | | | | | |
| a) Milk products/meat | 55.9 | 65.2 | 65.0 | 57.1 | 42.0 | 51.8 | 65.5 |
| b) Rice | 5.9 | 12.2 | 7.5 | 3.7 | 8.0 | 7.1 | 13.8 |
| c) Vegetable proteins | 2.0 | 2.6 | 0.0 | 2.8 | 2.0 | 0.0 | 3.4 |
| d) Vegetables | 16.6 | 6.1 | 15.0 | 17.5 | 30.0 | 10.7 | 0.0 |

TABLE XIII. (continued)

| | Total Sample | | Mothers By Region | | | | |
|---|---|---|---|---|---|---|---|
| | Mothers | Community | I | II | III | IV | V |
| e) Fruits | 8.9 | 4.3 | 7.5 | 5.5 | 16.0 | 17.9 | 6.9 |
| f) Other | 3.6 | 3.5 | 2.5 | 5.1 | 0.0 | 3.6 | 0.0 |
| g) Not known | 6.6 | 6.1 | 2.5 | 7.8 | 2.0 | 7.1 | 10.3 |
| 10. Reasons | | | | | | | |
| a) Tastes good | 37.5 | 19.1 | 35.0 | 35.5 | 42.0 | 39.3 | 44.8 |
| b) Expensive | 2.3 | 9.6 | 2.5 | 1.4 | 6.0 | 3.6 | 0.0 |
| c) Easy to cook | 0.3 | 0.0 | 0.0 | 0.5 | 0.0 | 0.0 | 0.0 |
| d) Prestige | 9.4 | 14.8 | 5.0 | 8.8 | 12.0 | 10.7 | 13.8 |
| e) Good for you | 36.7 | 38.3 | 52.5 | 35.9 | 34.0 | 39.3 | 20.7 |
| f) Custom | 1.5 | 0.9 | 2.5 | 2.3 | 0.0 | 0.0 | 0.0 |
| g) Other, not including fuel-conserving value | 5.6 | 10.4 | 0.0 | 6.5 | 4.0 | 3.6 | 13.8 |
| h) Not known | 6.6 | 7.0 | 2.5 | 9.2 | 2.0 | 3.6 | 6.9 |
| 11. Foods omitted | | | | | | | |
| a) Bulgur | 4.8 | 5.2 | 5.0 | 4.1 | 2.0 | 5.4 | 13.8 |
| b) Macaroni | 1.8 | 0.9 | 0.0 | 0.9 | 4.0 | 3.6 | 3.4 |
| c) Starchy roots and vegetables | 4.6 | 1.7 | 10.0 | 3.7 | 0.0 | 5.4 | 10.0 |
| d) Lentils/peas/dry beans | 6.9 | 9.6 | 7.5 | 6.5 | 6.0 | 8.9 | 6.9 |
| e) Camel/horse meat | 2.0 | 1.7 | 0.0 | 0.9 | 6.0 | 3.6 | 3.4 |

TABLE XIII. (continued)

| | Total Sample | | Mothers By Region | | | | |
|---|---|---|---|---|---|---|---|
| | Mothers | Community | I | II | III | IV | V |
| f) Vegetables | 3.1 | 0.9 | 0.0 | 5.1 | 2.0 | 0.0 | 0.0 |
| g) Eggs | 1.3 | 2.6 | 2.5 | 0.9 | 4.0 | 0.0 | 0.0 |
| h) Other | 7.9 | 7.0 | 5.0 | 9.7 | 8.0 | 5.4 | 3.4 |
| i) Not known | 67.6 | 70.4 | 70.0 | 68.2 | 68.0 | 67.9 | 58.9 |
| 12. Reasons | | | | | | | |
| a) Dislike food | 22.2 | 13.9 | 15.0 | 22.6 | 26.0 | 19.6 | 27.6 |
| b) Low prestige | 2.0 | 4.3 | 0.0 | 0.5 | 4.0 | 5.4 | 6.9 |
| c) Not good for you | 2.3 | 0.9 | 2.5 | 2.8 | 0.0 | 1.8 | 3.4 |
| d) Custom | 3.8 | 9.6 | 10.0 | 3.7 | 2.0 | 3.6 | 0.0 |
| e) Not known | 68.9 | 71.3 | 72.5 | 70.5 | 68.0 | 66.1 | 58.6 |
| 13. Foods for special events | | | | | | | |
| a) Death | 14.8 | 12.2 | 2.5 | 12.9 | 12.0 | 28.6 | 24.1 |
| b) Engagement/marriage | 27.6 | 41.7 | 47.5 | 30.4 | 20.0 | 19.6 | 6.9 |
| c) Feast of Ramadan | 15.8 | 22.6 | 17.5 | 10.6 | 24.0 | 21.4 | 27.6 |
| d) Feast of sacrifice | 18.9 | 11.3 | 17.5 | 13.4 | 32.0 | 23.2 | 31.0 |
| e) Christmas/New Year | 2.3 | 2.6 | 0.0 | 4.1 | 0.0 | 0.0 | 0.0 |
| f) Arrival of guest/relative | 14.5 | 3.5 | 7.5 | 20.7 | 8.0 | 3.6 | 10.3 |
| g) Not known | 4.8 | 2.6 | 5.0 | 6.0 | 4.0 | 3.6 | 0.0 |

TABLE XIII. (continued)

| | Total Sample | | Mothers By Region | | | | |
|---|---|---|---|---|---|---|---|
| | Mothers | Community | I | II | III | IV | V |
| 14. Foods eaten for these events (special) | | | | | | | |
| a) Complete meal | 88.8 | 93.0 | 95.0 | 87.6 | 92.0 | 87.5 | 86.2 |
| b) Meat, poultry | 2.3 | 0.0 | 0.0 | 0.9 | 2.0 | 5.4 | 10.3 |
| c) Others | 3.3 | 2.6 | 0.0 | 4.6 | 0.0 | 3.6 | 3.4 |
| d) Not known | 5.1 | 3.5 | 5.0 | 6.5 | 4.0 | 3.6 | 0.0 |
| 15. Frequency | | | | | | | |
| a) Once a week | 3.8 | 3.5 | 2.5 | 3.7 | 6.0 | 1.8 | 6.9 |
| b) Once a month | 1.8 | 3.5 | 0.0 | 2.8 | 2.0 | 0.0 | 0.0 |
| c) Once a year | 38.0 | 39.1 | 45.0 | 28.1 | 52.0 | 48.2 | 58.6 |
| d) Twice a year | 3.6 | 0.9 | 7.5 | 2.3 | 8.0 | 3.6 | 0.0 |
| e) Not known | 51.8 | 47.8 | 45.0 | 61.3 | 32.0 | 46.4 | 34.5 |
| 16. Duration | | | | | | | |
| a) One meal | 43.1 | 30.4 | 37.5 | 52.5 | 22.0 | 30.4 | 41.4 |
| b) 1-2 days | 18.6 | 36.5 | 30.0 | 13.4 | 36.0 | 19.6 | 10.3 |
| c) 3-4 days | 20.2 | 19.1 | 22.5 | 16.6 | 26.0 | 19.6 | 34.5 |
| d) 5-6 days | 8.9 | 7.0 | 0.0 | 9.7 | 8.0 | 12.5 | 10.3 |
| e) 2-3 weeks | 1.3 | 0.9 | 0.0 | 0.5 | 2.0 | 5.4 | 0.0 |
| f) Not known | 7.1 | 5.2 | 10.0 | 6.9 | 6.0 | 8.9 | 3.4 |

TABLE XIII. (continued)

| | Total Sample | | Mothers By Region | | | | |
|---|---|---|---|---|---|---|---|
| | Mothers | Community | I | II | III | IV | V |
| 17. Who eats food during special events | | | | | | | |
| a) Everyone | 93.6 | 93.0 | 87.5 | 94.5 | 94.0 | 92.9 | 96.6 |
| b) Not known | 5.6 | 6.1 | 10.0 | 5.5 | 4.0 | 5.4 | 3.4 |
| 18. Pregnant women exempted from feasting during Ramadan | | | | | | | |
| a) Yes | 2[illegible].2 | 37.9 | 22.5 | 22.1 | 42.0 | 19.6 | 20.7 |
| b) No | 72.2 | 60.0 | 77.5 | 73.3 | 54.0 | 76.8 | 79.3 |
| c) Not known | 3.3 | 5.2 | 0.0 | 4.6 | 4.0 | 1.8 | 0.0 |
| 19. Reasons for exemption | | | | | | | |
| a) Restriction not good during pregnancy | 5.1 | 9.6 | 5.0 | 5.5 | 4.0 | 3.6 | 6.9 |
| b) Pregnant woman needs enough food | 5.6 | 9.6 | 7.5 | 2.8 | 10.0 | 8.9 | 10.3 |
| c) Should not keep pregnant woman hungry | 2.0 | 1.7 | 0.0 | 2.3 | 2.0 | 3.6 | 0.0 |
| d) Need food for growing | 4.1 | 6.1 | 7.5 | 3.7 | 4.0 | 5.4 | 0.0 |
| e) Custom | 7.9 | 13.0 | 2.5 | 5.1 | 6.0 | 12.5 | 31.0 |

TABLE XIII. (continued)

| | Total Sample | | Mothers By Region | | | | |
|---|---|---|---|---|---|---|---|
| | Mothers | Community | I | II | III | IV | V |
| f) Other | 13.0 | 13.0 | 20.0 | 17.5 | 8.0 | 0.0 | 3.4 |
| g) Not known | 57.9 | 42.6 | 57.5 | 58.1 | 62.0 | 60.7 | 44.8 |
| 20. Lactating women exempt from fasting during Ramadan | | | | | | | |
| a) Yes | 21.4 | 32.2 | 10.0 | 19.4 | 42.0 | 19.6 | 20.7 |
| b) No | 74.0 | 62.6 | 90.0 | 74.7 | 54.0 | 75.0 | 79.3 |
| c) Not known | 4.3 | 5.2 | 0.0 | 6.0 | 4.0 | 3.6 | 0.0 |
| 21. Reason for exemption | | | | | | | |
| a) Mother needs food to produce milk | 8.2 | 17.4 | 7.5 | 6.9 | 8.0 | 14.3 | 6.9 |
| b) Mother should not go hungry | 5.1 | 2.6 | 0.0 | 4.6 | 10.0 | 5.4 | 6.9 |
| c) Custom | 3.6 | 11.3 | 2.5 | 4.1 | 2.0 | 3.6 | 3.4 |
| d) Quality of milk affected | 0.8 | 3.5 | 0.0 | 0.5 | 0.0 | 0.0 | 6.9 |
| e) Other | 15.6 | 11.3 | 20.0 | 16.1 | 12.0 | 8.9 | 24.1 |
| f) Not known | 61.0 | 44.3 | 70.0 | 60.4 | 62.0 | 64.3 | 44.8 |
| 22. Children under 13 exempt from feasting during Ramadan | | | | | | | |
| a) Yes | 67.9 | 64.3 | 62.5 | 66.8 | 76.0 | 67.9 | 69.0 |

TABLE XIII. (continued)

| | Total Sample | | Mothers By Region | | | | |
|---|---|---|---|---|---|---|---|
| | Mothers | Community | I | II | III | IV | V |
| b) No | 27.0 | 29.6 | 37.5 | 28.6 | 18.0 | 21.4 | 27.6 |
| c) Not known | 4.6 | 6.1 | 0.0 | 4.6 | 6.0 | 7.1 | 3.4 |
| 23. Reason for exemption | | | | | | | |
| a) Children need for growth/health | 19.4 | 13.9 | 12.5 | 14.3 | 40.0 | 25.0 | 20.7 |
| b) Children should not go hungry | 8.4 | 8.7 | 0.0 | 6.0 | 10.0 | 16.1 | 20.7 |
| c) Children cannot restrict themselves | 28.3 | 28.7 | 40.0 | 32.3 | 12.0 | 21.4 | 24.1 |
| d) Custom | 1.8 | 0.9 | 0.0 | 1.4 | 2.0 | 1.8 | 6.9 |
| e) Other | 4.8 | 14.8 | 0.0 | 4.6 | 6.0 | 7.1 | 6.9 |
| f) Not known | 34.4 | 28.7 | 47.5 | 38.7 | 28.0 | 23.2 | 17.2 |
| 24. Sick people exempt from fasting during Ramadan | | | | | | | |
| a) Yes | 88.8 | 89.6 | 100.0 | 88.5 | 90.0 | 80.4 | 89.7 |
| b) No | 7.9 | 4.3 | 0.0 | 7.4 | 6.0 | 17.9 | 6.9 |
| c) Not known | 3.3 | 6.1 | 0.0 | 4.1 | 4.0 | 1.8 | 3.4 |

TABLE XIII. (continued)

| | Total Sample | | Mothers By Region | | | | |
|---|---|---|---|---|---|---|---|
| | Mothers | Community | I | II | III | IV | V |
| 25. Reason for exemption | | | | | | | |
| a) Need food to recover | 55.6 | 60.0 | 52.5 | 50.7 | 56.0 | 66.1 | 75.9 |
| b) Should not go hungry | 1.5 | 1.7 | 2.5 | 1.4 | 4.0 | 0.0 | 0.0 |
| c) Need food to be strong | 12.8 | 11.3 | 17.5 | 14.3 | 14.0 | 7.1 | 3.4 |
| d) Custom | 6.9 | 4.3 | 0.0 | 1.4 | 2.0 | 0.0 | 0.0 |
| e) Other | 5.9 | 6.1 | 12.5 | 5.1 | 4.0 | 8.9 | 0.0 |
| f) Not known | 20.2 | 16.5 | 15.0 | 24.4 | 18.0 | 14.3 | 10.3 |
| 26. Foods avoided due to religious teaching | | | | | | | |
| a) Yes | 85.7 | 87.8 | 92.5 | 82.0 | 94.0 | 89.3 | 82.8 |
| b) No | 9.7 | 5.2 | 0.0 | 12.9 | 4.0 | 7.1 | 13.8 |
| c) Not known | 4.6 | 7.0 | 7.5 | 5.1 | 2.0 | 3.6 | 3.4 |
| 27. Food items avoided | | | | | | | |
| a) Beef | 1.3 | 0.0 | 0.0 | 0.5 | 2.0 | 5.4 | 0.0 |
| b) Pork | 85.7 | 85.2 | 97.5 | 81.6 | 88.0 | 87.5 | 93.1 |
| c) Alcohol | 2.3 | 0.0 | 2.5 | 3.2 | 2.0 | 0.0 | 0.0 |
| d) Other | 1.0 | 7.0 | 0.0 | 1.4 | 0.0 | 1.8 | 0.0 |
| f) Not known | 9.4 | 7.8 | 0.0 | 12.9 | 8.0 | 5.4 | 6.9 |

TABLE XIII. (continued)

| | Total Sample | | Mothers By Region | | | | |
|---|---|---|---|---|---|---|---|
| | Mothers | Community | I | II | III | IV | V |
| 28. Reasons* | | | | | | | |
| a) Considered unclean | 1.8 | 12.2 | 0.0 | 2.3 | 2.0 | 0.0 | 3.4 |
| b) Considered sacred | 5.6 | 2.6 | 7.5 | 0.5 | 8.0 | 17.9 | 13.8 |
| c) Considered sinful | 76.8 | 33.0 | 82.5 | 77.0 | 82.0 | 64.3 | 75.9 |
| d) Unhealthy/harmful | 0.0 | 38.3 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| e) Other | 1.8 | 0.0 | 0.0 | 1.8 | 2.0 | 3.6 | 0.0 |
| f) Not known | 13.8 | 10.4 | 10.0 | 17.5 | 6.0 | 12.5 | 6.9 |

2) Food Preferences: More than half the families (55.9%) choose foods of animal origin as the foods they would most like to consume. Other foods mentioned are vegetables (16.6%) and fruits (8.9%). These are chosen for their palatability, health giving qualities and prestige value. Mothers mentioned they would reduce or omit foods such as lentils/dry beans, bulgur, starchy roots and certain vegetables if they had the choice of other foods.

3) Foods Preparations for Special Events and Restrictions: Special foods or feasts are prepared for specific events such as engagements/marriages, death, arrival of guests, Feast of Sacrifice (Id Al Adha), Ramadan. Life cycle events occur infrequently and religious feasts occur at least once a year. All family members partake of these special foods at feasts.

During Ramadan, pregnant women are exempt from fasting in less than a fourth of the households (24.2%) because (1) of custom, (2) pregnant women need foods, (3) fasting is not healthy for pregnancy and (4) the growing fetus needs nourishment. A similar pattern of exemption is seen for nursing women because (1) the mother needs food to produce milk, (2) a nursing mother should not stay hungry and (3) custom among other reasons. Two thirds of the households (67.9%) exempt children under 13 years from fasting; but this still leaves over a fourth of the households (27.0%) where they fast. Most sick people are exempt from fasting (88.8%) so that they can recover and regain their strength. A large percentage of families (85.7%) avoid pork in accordance with Muslim teachings. Mothers consider consumption of these

foods sinful, unclean or defiling to the body. Community influentials claimed that pork was unhealthy.

e) FOOD CLASSIFICATION SYSTEM

Data on "strong" and "weak" food classification systems are presented in Table XIV. Nearly half the mothers are aware of their existence (42.3%), though fewer are aware of it in the Southern Highlands and Southern Desert. "Strong" foods are generally defined as making one healthy, strong or active. Examples of strong foods are mutton, beef, milk and milk products, chicken, fish and eggs. "Weak" foods are defined as those that do not give energy or cause illness or ill health. Some examples of weak foods are bulgur/rice, and vegetables like cucumber, cabbage, and eggplant.

In general, those families who adhere to "strong" and "weak" food distinctions follow them at all times rather than during times of illness. A list of "strong" and "weak" foods mentioned by mothers are presented in Table XV.

Other food classifications stated by community influentials as being followed by families in the community are shown in Table XVI.

f) BENEFICIAL AND HARMFUL FOODS

Certain specific foods are attributed beneficial or harmful qualities for consumption by the general household group. Table XVII lists these foods along with the number of times the respondents stated they were either good or bad for consumption. By and large, more foods are mentioned as being beneficial than harmful. Foods mentioned as particularly beneficial are most animal origin foods such as beef/

TABLE XIV. STRONG AND WEAK FOOD CLASSIFICATIONS OBSERVED BY MOTHERS, EXPRESSED IN PERCENTAGES

| | Total Sample | Mothers By Region | | | | |
|---|---|---|---|---|---|---|
| | Mothers | I | II | III | IV | V |
| 1. Awareness of strong/weak food beliefs | | | | | | |
| a) Yes | 42.3 | 52.5 | 44.2 | 48.0 | 33.9 | 20.7 |
| b) No | 55.4 | 42.5 | 54.8 | 46.0 | 62.5 | 79.3 |
| c) Not known | 2.3 | 5.0 | 0.9 | 6.0 | 3.6 | 0.0 |
| 2. When followed | | | | | | |
| a) Mother: | | | | | | |
| 1) All times | 30.1 | 35.0 | 32.3 | 38.0 | 19.6 | 13.8 |
| 2) Only when sick | 3.8 | 12.5 | 0.9 | 4.0 | 7.1 | 6.9 |
| 3) Never | 1.5 | 0.0 | 1.8 | 0.0 | 1.8 | 3.4 |
| 4) Not known | 64.5 | 52.5 | 65.5 | 58.0 | 71.4 | 75.9 |
| b) Children 0-2 years: | | | | | | |
| 1) All times | 30.4 | 35.0 | 32.7 | 38.0 | 19.6 | 13.8 |
| 2) Only when sick | 3.3 | 12.5 | 0.5 | 2.0 | 7.1 | 6.9 |
| 3) Never | 1.5 | 0.0 | 1.8 | 0.0 | 1.8 | 3.4 |
| 4) Not known | 64.8 | 52.5 | 65.0 | 60.0 | 71.4 | 75.9 |
| c) All of the family: | | | | | | |
| 1) All times | 34.4 | 40.0 | 37.8 | 42.0 | 21.4 | 13.8 |
| 2) Only when sick | 3.8 | 12.5 | 1.4 | 2.0 | 7.1 | 6.9 |
| 3) Never | 1.8 | 0.0 | 2.3 | 0.0 | 1.8 | 3.4 |
| 4) Not known | 59.9 | 47.5 | 58.5 | 56.0 | 69.6 | 75.9 |

TABLE XIV. (continued)

| | Total Sample | Mothers By Region | | | | |
|---|---|---|---|---|---|---|
| | Mothers | I | II | III | IV | V |
| 3. Definition of strong foods | | | | | | |
| a) Heating when eaten | 3.6 | 0.0 | 6.0 | 0.0 | 1.8 | 0.0 |
| b) Makes you healthy | 32.9 | 30.0 | 37.8 | 34.0 | 26.8 | 10.3 |
| c) Makes you strong and active | 18.6 | 32.5 | 13.4 | 22.0 | 25.0 | 20.7 |
| d) Makes you gain weight | 1.3 | 0.0 | 0.0 | 0.0 | 1.8 | 0.0 |
| e) Other | 4.3 | 15.0 | 4.1 | 2.0 | 0.0 | 3.4 |
| f) Not known | 39.8 | 22.5 | 37.5 | 42.0 | 44.0 | 65.5 |
| 4. Definition of weak foods | | | | | | |
| a) Does not give energy | 28.6 | 42.5 | 25.8 | 36.0 | 28.6 | 17.2 |
| b) Makes you feel sick | 2.0 | 2.5 | 1.8 | 4.0 | 1.8 | 0.0 |
| c) Difficult to digest | 1.5 | 0.0 | 1.4 | 4.0 | 0.0 | 3.4 |
| d) Gas producing | 1.3 | 2.5 | 1.4 | 0.0 | 1.8 | 0.0 |
| e) Causes illness/unhealthy | 10.5 | 7.5 | 13.4 | 4.0 | 12.5 | 0.0 |
| f) Other | 7.7 | 20.0 | 8.3 | 4.0 | 3.6 | 0.0 |
| g) Not known | 48.2 | 25.0 | 47.9 | 46.0 | 51.8 | 79.3 |

TABLE XV. EXAMPLES OF STRONG AND WEAK FOODS MENTIONED BY MOTHERS, EXPRESSED IN PERCENTAGES

| | Total Sample | Mothers By Region | | | | |
|---|---|---|---|---|---|---|
| | Mothers | I | II | III | IV | V |
| 1. Strong food items | | | | | | |
| a) Rice, bread, bulgur, potatoes | 3.1 | 2.5 | 3.2 | 4.0 | 3.6 | 0.0 |
| b) Beef | 15.1 | 17.5 | 16.1 | 14.0 | 12.5 | 10.3 |
| c) Sheep | 25.8 | 37.5 | 29.5 | 8.0 | 21.4 | 20.7 |
| d) Mutton | 2.3 | 0.0 | 0.9 | 12.0 | 1.8 | 0.0 |
| e) Chicken, fish, egg | 5.4 | 7.5 | 5.1 | 4.0 | 7.1 | 3.4 |
| f) Milk and milk products | 7.4 | 7.5 | 6.5 | 14.0 | 8.9 | 0.0 |
| g) Fruits | 2.3 | 0.0 | 2.8 | 6.0 | 0.0 | 0.0 |
| h) Lentils | 1.3 | 2.5 | 1.4 | 0.0 | 0.0 | 3.4 |
| i) Squash, marrow | 0.3 | 0.0 | 0.5 | 0.0 | 0.0 | 0.0 |
| j) Ghee | 0.3 | 2.5 | 0.0 | 0.0 | 0.0 | 0.0 |
| k) Not known | 36.7 | 22.5 | 34.1 | 36.0 | 44.6 | 62.1 |
| 2. Weak food items | | | | | | |
| a) Cabbage | 1.3 | 0.0 | 1.8 | 0.0 | 1.8 | 0.0 |
| b) Lettuce | 0.8 | 2.5 | 0.9 | 0.0 | 0.0 | 0.0 |
| c) Nuts | 0.3 | 0.0 | 0.0 | 0.0 | 1.8 | 0.0 |
| d) Cucumber | 2.0 | 5.0 | 0.9 | 2.0 | 3.6 | 3.4 |
| e) Garlic | 0.3 | 0.0 | 0.0 | 0.0 | 1.8 | 0.0 |
| f) Onion | 1.0 | 0.0 | 0.5 | 4.0 | 1.8 | 0.0 |
| g) Lemon | 0.5 | 2.5 | 0.0 | 2.0 | 0.0 | 0.0 |
| h) Bulgur, rice | 15.1 | 17.5 | 18.4 | 6.0 | 10.7 | 10.3 |

TABLE XV. (continued)

| | Total Sample | Mothers By Region | | | | |
|---|---|---|---|---|---|---|
| | Mothers | I | II | III | IV | V |
| i) Lentils | 4.1 | 5.0 | 3.7 | 10.0 | 1.8 | 0.0 |
| j) Tomatoes | 0.5 | 0.0 | 0.5 | 0.0 | 1.8 | 0.0 |
| k) Potatoes | 0.8 | 0.0 | 1.4 | 0.0 | 0.0 | 0.0 |
| l) Eggplant | 1.0 | 5.0 | 0.5 | 2.0 | 0.0 | 0.0 |
| m) Fried food | 1.5 | 0.0 | 2.8 | 0.0 | 0.0 | 0.0 |
| n) Radish | 1.3 | 0.0 | 1.8 | 2.0 | 0.0 | 0.0 |
| o) Tea | 0.3 | 0.0 | 0.5 | 0.0 | 0.0 | 0.0 |
| p) Bread | 0.3 | 0.0 | 0.5 | 0.0 | 0.0 | 0.0 |
| q) Marrow, squash, okra | 0.5 | 0.0 | 0.9 | 0.0 | 0.0 | 0.0 |
| r) Not known | 68.9 | 62.5 | 65.0 | 70.0 | 75.0 | 86.2 |

TABLE XVI. OTHER FOOD CLASSIFICATIONS OBSERVED IN THE COMMUNITY

| | % of Respondents |
|---|---|
| **Food Classifications** | |
| 1. Strong-weak | 33.9 |
| 2. Sweet-sour | 0.9 |
| 3. Strength producing | 4.3 |
| 4. Blood giving | 7.0 |
| 5. Other | 4.3 |
| 6. Not known | 49.6 |
| **Who Follows** | |
| 1. All | 47.8 |
| 2. Children | 1.7 |
| 3. Not known | 50.4 |
| **When Followed** | |
| 1. All the time | 37.4 |
| 2. Illness only | 11.3 |
| 3. Illness and certain seasons | 0.9 |
| 4. Not known | 50.4 |

TABLE XVII. FOODS CONSIDERED BENEFICIAL OR HARMFUL FOR THE FAMILY

| BENEFICIAL FOODS | No. of times mentioned[1] | HARMFUL FOODS | No. of times mentioned |
|---|---|---|---|
| 1. Beef/chicken | 249 | 1. Fish | 23 |
| 2. Milk | 157 | 2. Peppers | 8 |
| 3. Eggs | 103 | 3. Spices | 6 |
| 4. Vegetables | 88 | 4. Canned food | 6 |
| 5. Rice/Bulgur | 79 | 5. Onions | 5 |
| 6. Oranges/grapes/mandarin | 34 | 6. Meat/beef/horse | 5 |
| 7. Apples | 29 | 7. Vegetables | 4 |
| 8. Lentils | 24 | 8. Eggs | 3 |
| 9. Bread | 23 | 9. Sugar | 3 |
| 10. Cheese | 17 | 10. Frozen food | 3 |
| 11. Fish | 14 | 11. Lentils | 2 |
| 12. Leban/lebaneh | 9 | 12. Fruits | 2 |
| 13. Imported butter | 6 | 13. Sardines | 1 |
| 14. Olive | 5 | 14. Alcohol | 1 |
| 15. Potatoes | 4 | | |
| 16. Ghee | 2 | | |
| 17. Tea | 1 | | |
| Why Beneficial | | Why Harmful | |
| 1. Strong food | 780 | 1. Weak food | 27 |
| 2. Good for health | 29 | 2. Strong food | 18 |
| 3. Weak food | 14 | 3. Difficult to digeat | 9 |

[1]Each respondent gave 3 examples of foods. The number of times each food was mentioned and the subsequent responses were added and presented in the table.

TABLE XVII. (continued)

| BENEFICIAL FOODS | | HARMFUL FOODS | |
|---|---|---|---|
| 4. Blood giving | 3 | 4. Gas producing | 7 |
| 5. Other | 6 | 5. Causes illness/unhealthy | 2 |
| | | 6. Other | 3 |
| <u>When Beneficial</u> | | <u>When Harmful</u> | |
| 1. All the time | 825 | 1. At all times | 40 |
| 2. During sickness only | 9 | 2. During sickness only | 21 |
| 3. Other | 3 | 3. During certain seasons | 5 |
| | | 4. During sickness and certain seasons | 1 |
| | | 5. Others | 1 |
| <u>Did the Mother Consume the Food</u> | | <u>Did the Mother Avoid the Food</u> | |
| 1. Yes | 813 | 1. Yes | 53 |
| 2. No | 28 | 2. No | 15 |
| <u>If Not, Why?</u> | | <u>If Not, Why?</u> | |
| 1. Expensive | 17 | 1. Only food available | 4 |
| 2. Did not believe | 4 | 2. Food inexpensive | 3 |
| 3. Not available | 3 | 3. Like the food | 3 |
| 4. Was not advised | 3 | 4. Was not advised | 1 |
| | | 5. Don't believe | 1 |
| | | 6. Other | 5 |

chicken, milk, eggs and others such as vegetables, rice/bulgur. Beneficial foods are classified predominantly as "strong" and good for health. In most cases the mother tries to prepare them for the family, but cost of these items affects the consumption.

Foods associated with harmful effects are fish, peppers, spices, canned food and are most often classified as "weak". These foods are avoided by most families at all times and not only during sickness.

g) SPECIAL DIETARY PRACTICES OF VULNERABLE GROUPS

1) Before Puberty and At Menstruation: Food practices observed during these phases of life cycle are presented in Table XVIII. In general, more foods are considered especially beneficial than harmful at puberty, first menstruation and subsequent menstrual cycles. First menstruation has the most restrictions of the 3 categories. The foods that are restricted are somewhat similar in all 3 phases. These are acidic foods (lemons, oranges), hot spicy foods, green and red peppers and coffee. The restricted foods are considered either too strong or too weak or in some cases to cause discomfort or sterility. Foods considered harmful at first menstruation are generally avoided for subsequent menstrual periods. The most frequently mentioned beneficial foods are animal protein foods such as milk/milk products, beef/ chicken, eggs.

2) Pregnancy: The type and extent of dietary precautions and restrictions during pregnancy is critical for the mother as well as the growing fetus. This is all the more important when the mother is in her teens and is still in the growing stage. Pregnancies as

TABLE XVIII. FOODS CONSIDERED BENEFICIAL OR HARMFUL TO YOUNG GIRLS BEFORE MENSTRUATION, AT FIRST MENSTRUATION, AND AT SUBSEQUENT MENSTRUATIONS

BEFORE MENSTRUATION

| BENEFICIAL FOODS | No. of times[1] mentioned | HARMFUL FOODS | No. of times mentioned |
|---|---|---|---|
| 1. Milk/milk products | 96 | 1. Acidic food | 15 |
| 2. Beef/chicken | 80 | 2. Coffee | 11 |
| 3. Eggs | 46 | 3. Onions/garlic | 8 |
| 4. Oranges/apples | 33 | 4. Green and red peppers | 8 |
| 5. Bulgur/rice | 26 | | |
| 6. Tomatoes | 24 | | |
| 7. Tea | 12 | | |
| 8. Bread | 9 | | |
| 9. Coffee | 7 | | |
| 10. Fish | 7 | | |
| 11. Lentils | 6 | | |
| 12. Onions | 5 | | |
| 13. Olives | 5 | | |
| 14. Figs/raisins/pears/peaches | 2 | | |
| 15. Cucumbers | 2 | | |
| Why Beneficial | | Why Harmful | |
| 1. Strong food | 331 | 1. Weak food | 25 |
| 2. Weak food | 9 | 2. Strong food | 6 |
| 3. Helps girl develop | 8 | 3. Causes sterility | 2 |

[1]Each respondent gave 3 examples of foods. The number of times each food was mentioned and the subsequent response were added and presented in the table.

TABLE XVIII. (continued)

| BEFORE MENSTRUATION | | | |
|---|---|---|---|
| BENEFICIAL FOODS | | HARMFUL FOODS | |
| | No. of times mentioned | | No. of times mentioned |
| 4. Increases fertility | 3 | 4. Custom | 2 |
| 5. Keeps girl from developing | 2 | 5. Retards development | 1 |
| | | 6. Other | 4 |
| When Beneficial | | When Harmful | |
| 1. Above 6 years | 167 | 1. Early puberty | 22 |
| 2. Early puberty | 120 | 2. Above 6 years | 14 |
| 3. Other | 50 | 3. Other | 4 |
| Did the Mother Consume the Food | | Did the Mother Avoid the Food | |
| 1. Yes | 340 | 1. Yes | 31 |
| 2. No | 10 | 2. No | 12 |
| If Not, Why? | | If Not, Why? | |
| 1. Not available | 7 | 1. Did not believe | 8 |
| 2. Expensive | 2 | 2. Only food available | 3 |
| | | 3. Not advised to avoid | 1 |
| | | 4. Custom | 1 |

TABLE XVIII. (continued)

FIRST MENSTRUATION

| BENEFICIAL FOODS | No. of times mentioned | HARMFUL FOODS | No. of times mentioned |
|---|---|---|---|
| 1. Beef | 54 | 1. Acid forming food | 23 |
| 2. Milk | 45 | 2. Hot, spicy food | 15 |
| 3. Eggs | 44 | 3. Coffee | 8 |
| 4. Fruits | 35 | 4. Lemon | 6 |
| 5. Leban/lebaneh | 27 | 5. Green and red peppers | 5 |
| 6. Vegetables | 21 | 6. Fried food | 3 |
| 7. Tomatoes | 19 | 7. Alcohol; onion | 1 |
| 8. Cheese | 18 | | |
| 9. Chicken | 12 | | |
| 10. Bread | 8 | | |
| 11. Fish | 7 | | |
| 12. Lentils; chickpeas | 4 | | |
| Why Beneficial | | Why Harmful | |
| 1. Strong | 273 | 1. Strong food | 22 |
| 2. Strength giving | 11 | 2. Weak food | 13 |
| 3. Weak | 6 | 3. Causes sterility | 10 |
| 4. Other | 3 | 4. Causes discomfort | 2 |
| | | 5. Other | 6 |

TABLE XVIII. (continued)

| FIRST MENSTRUATION | | | |
|---|---|---|---|
| BENEFICIAL FOODS | | HARMFUL FOODS | |
| | No. of times mentioned | | No. of times mentioned |
| When Beneficial | | When Harmful | |
| 1. All time - after first menstruation | 175 | 1. During menstrual period | 53 |
| 2. During menstrual period | 114 | 2. All the time | 5 |
| 3. Other | 3 | 3. Other | 1 |
| Did the Mother Consume the Food | | Did the Mother Avoid the Food | |
| 1. Yes | 286 | 1. Yes | 45 |
| 2. No | 8 | 2. No | 12 |
| If Not, Why? | | If Not, Why? | |
| 1. Not available | 5 | 1. Did not believe | 10 |
| 2. Expensive | 3 | 2. Only food available | 2 |
| 3. Did not believe | 2 | | |

TABLE XVIII. (continued)

| LATER MENSTRUATION | | | |
|---|---|---|---|
| BENEFICIAL FOODS | | HARMFUL FOODS | |
| | No. of times mentioned | | No. of times mentioned |
| 1. Milk | 73 | 1. Spices | 9 |
| 2. Beef | 40 | 2. Coffee | 8 |
| 3. Eggs | 35 | 3. Oranges | 3 |
| 4. Leban/lebaneh | 31 | 4. Watermelons; meat | 1 |
| 5. Melons; chicken | 16 | | |
| 6. Bananas | 15 | | |
| 7. Tomatoes/onions | 14 | | |
| 8. Potatoes | 10 | | |
| 9. Lemon/orange/mandarin | 9 | | |
| 10. Figs/raisins/grapes | 8 | | |
| 11. Lentils | 6 | | |
| 12. Tea | 3 | | |
| 13. Jews mallow | 2 | | |
| 14. Chickpeas; fish | 1 | | |
| Why Beneficial | | Why Harmful | |
| 1. Strong food | 247 | 1. Causes discomfort | 10 |
| 2. Strength giving | 14 | 2. Strong food | 9 |
| 3. Weak food | 9 | 3. Weak food | 3 |
| 4. Cleansing effect | 3 | 4. Other | 2 |
| 5. Other | 3 | | |

TABLE XVIII. (continued)

| LATER MENSTRUATION | | | |
|---|---|---|---|
| BENEFICIAL FOODS | | HARMFUL FOODS | |
| | No. of times mentioned | | No. of times mentioned |
| When Beneficial | | When Harmful | |
| 1. All the time | 192 | 1. During menstrual period | 24 |
| 2. During menstrual period | 78 | 2. All the time | 3 |
| 3. Other | 1 | | |
| Did the Mother Consume the Food | | Did the Mother Avoid the Food | |
| 1. Yes | 272 | 1. Yes | 23 |
| 2. No | 7 | 2. No | 5 |
| If Not, Why? | | If Not, Why? | |
| 1. Not available | 3 | 1. Did not believe | 3 |
| 2. Expensive | 2 | 2. Like food | 1 |
| 3. Other | 2 | | |

early as 13 or 14 years of age do occur in rural Jordan. Some of the complications which occur during pregnancy are believed to be nutritionally related. Special dietary practices followed at pregnancy are presented in Table XIX. Nearly half the mothers (44.1%) believe a woman should eat less than normal during pregnancy, others (38.8%) mentioned normal amounts and relatively few (16.1%) mentioned increasing the diet. Illness of the mother during pregnancy further limits her diet, because she generally eats even less (61.5%) basically due to lack of appetite. In some cases, the mother may eat normally (12.8%) or completely omit foods (7.4%). Regional differences appear in the dietary alterations, with more mothers in the Southern Highlands and Southern Desert completely omitting foods when ill.

The mother's source of information regarding food regulations during pregnancy is through observing neighbors and friends (41.3%) or advice from her mother (33.4%). Foods that are considered especially beneficial or harmful during pregnancy are listed in Table XX. As in previous cases, animal origin foods such as lamb/goat/beef, milk and eggs are considered most beneficial because they are regarded as "strong". Their beneficial qualities are attributed for the entire pregnancy, though in several cases it was mentioned as being beneficial only upto the third month. Mothers who do not eat these foods give reasons of non-availability and high cost. Hot spicy foods, potato and lemons are the most frequently mentioned harmful foods because they are either too "strong" or "weak" for pregnancy or because they cause illness. These restrictions apply for the entire pregnancy period.

TABLE XIX. DIET DURING PREGNANCY AND ILLNESS DURING PREGNANCY

| | Total Sample | | Mothers By Region | | | | |
|---|---|---|---|---|---|---|---|
| | Mothers | Community | I | II | III | IV | V |
| 1. Amounts of food consumed | | | | | | | |
| a) Normal amounts | 38.8 | 40.9 | 47.5 | 36.9 | 46.0 | 41.1 | 24.1 |
| b) Less than normal amounts | 44.1 | 28.7 | 32.5 | 44.7 | 36.0 | 42.9 | 72.4 |
| c) More than normal amounts | 16.1 | 26.1 | 20.0 | 18.0 | 16.0 | 12.5 | 3.4 |
| 2. Diet during illness | | | | | | | |
| a) Do not eat | 7.4 | 8.7 | 7.5 | 4.6 | 4.0 | 14.3 | 20.7 |
| b) Eat less | 61.5 | 38.3 | 57.5 | 62.2 | 72.0 | 57.1 | 51.7 |
| c) Normal diet and medicinal teas | 5.4 | 11.3 | 5.0 | 6.0 | 2.0 | 7.1 | 3.4 |
| d) Restrict diet and medicinal teas | 5.6 | 8.7 | 5.0 | 6.0 | 6.0 | 5.4 | 3.4 |
| e) Normal diet | 12.8 | 13.0 | 20.0 | 14.3 | 4.0 | 8.9 | 13.8 |
| f) Other | 4.1 | 14.8 | 5.0 | 5.1 | 4.0 | 0.0 | 3.4 |
| g) Not known | 3.1 | 4.3 | 0.0 | 1.8 | 6 0 | 7.1 | 3.4 |
| 3. Reason | | | | | | | |
| a) To recover from illness | 12.5 | 13.9 | 17.5 | 13.8 | 10.0 | 10.7 | 3.4 |
| b) To give rest to the body | 2.6 | 1.7 | 0.0 | 2.8 | 2.0 | 5.4 | 0.0 |
| c) No appetite | 61.0 | 35.7 | 65.0 | 59.9 | 56.0 | 62.5 | 69.0 |

TABLE XIX. (continued)

| | Total Sample | | Mothers By Region | | | | |
|---|---|---|---|---|---|---|---|
| | Mothers | Community | I | II | III | IV | V |
| d) Bad to eat when sick | 1.8 | 0.9 | 0.0 | 2.8 | 0.0 | 1.8 | 0.0 |
| e) Other | 11.2 | 22.6 | 12.5 | 12.4 | 10.0 | 3.6 | 17.2 |
| f) Not known | 9.4 | 21.7 | 5.0 | 6.9 | 20.0 | 14.3 | 6.9 |
| 4. Source of advice regarding diet | | | | | | | |
| a) Respondent (self) | 41.3 | 40.9 | 42.5 | 38.7 | 50.0 | 42.9 | 41.3 |
| b) Mother of respondent | 33.4 | 19.1 | 40.0 | 34.6 | 28.0 | 30.4 | 31.0 |
| c) Mother-in-law | 3.1 | 2.6 | 0.0 | 3.2 | 2.0 | 5.4 | 3.4 |
| d) Older woman | 4.1 | 14.8 | 5.0 | 3.7 | 6.0 | 5.4 | 0.0 |
| e) Other mothers | 1.3 | 1.7 | 0.0 | 0.9 | 4.0 | 0.0 | 3.4 |
| f) Health worker | 8.2 | 10.4 | 2.5 | 8.8 | 4.0 | 10.7 | 13.8 |
| g) Other | 6.9 | 7.0 | 10.0 | 8.3 | 4.0 | 1.8 | 6.9 |
| h) Not known | 1.0 | 3.5 | 0.0 | 0.9 | 2.0 | 1.8 | 0.0 |

TABLE XX. FOODS CONSIDERED BENEFICIAL OR HARMFUL FOR PREGNANCY

| BENEFICIAL FOODS | No. of times[1] mentioned | HARMFUL FOODS | No. of times[1] mentioned |
|---|---|---|---|
| 1. Lamb/goat/beef | 177 | 1. Hot, spicy food | 34 |
| 2. Milk | 170 | 2. Potatoes | 20 |
| 3. Eggs | 124 | 3. Lemons | 19 |
| 4. Banana/apple | 50 | 4. Green and red peppers | 14 |
| 5. Tomatoes/onions | 43 | 5. Coffee/tea; onion/garlic; legumes | 7 |
| 6. Chicken | 42 | 6. Fried food | 5 |
| 7. Rice/bulgur | 40 | 7. Meat; tomatoes; cabbage | 4 |
| 8. Orange/lemon/mandarin | 25 | 8. Salt/sugar; fats/oils | 3 |
| 9. Leban/lebaneh/cheese | 24 | 9. Olives; melons; turnips/radish | 2 |
| 10. Beans/lentils; internal organs | 14 | 10. Cucumbers | 1 |
| 11. Bread | 9 | | |
| 12. Jew's mallow | 7 | | |
| 13. Cabbage/lettuce; cucumber | 4 | | |
| 14. Cookies | 3 | | |
| 15. Olives | 1 | | |
| Why Beneficial | | Why Harmful | |
| 1. Strong | 707 | 1. Weak | 36 |
| 2. Good for health | 22 | 2. Strong | 35 |
| 3. Good for growing fetus | 16 | 3. Causes illness | 25 |
| 4. Easy to digest | 11 | 4. Bad for growing fetus | 12 |
| 5. Weak | 9 | 5. Difficult to digest | 9 |

[1]Each respondent gave 3 examples of foods. The number of times each food was mentioned and the subsequent responses were added and presented in the table.

TABLE XX. (continued)

| BENEFICIAL FOODS | No. of times mentioned | HARMFUL FOODS | No. of times mentioned |
|---|---|---|---|
| 6. Doesn't cause excess weight gain | 4 | 6. Produces gas | 9 |
| 7. Other | 5 | 7. Other | 11 |
| When Beneficial | | When Harmful | |
| 1. Entire pregnancy | 650 | 1. Entire pregnancy | 109 |
| 2. Up to 3rd month | 83 | 2. 6th-9th month | 15 |
| 3. Up to 6th month | 6 | 3. Up to 6th month | 7 |
| 4. 6th-9th month | 6 | 4. up to 3rd month | 6 |
| Did the Mother Consume the Food | | Did the Mother Avoid the Food | |
| 1. Yes | 748 | 1. Yes | 66 |
| 2. No | 27 | 2. No | 8 |
| If Not, Why? | | If Not, Why? | |
| 1. Expensive | 19 | 1. Did not believe | 4 |
| 2. Not available | 8 | 2. Like food | 4 |
| 3. Did not believe | 4 | 3. Other | 2 |
| 4. Custom | 2 | | |

3) Post Partum: Table XXI presents information on dietary beliefs and practices at post partum. Over a third of the families (39.8%) believe the mother should not be given food after the baby's birth up to a period of 8 hours (36.7%) or 24 hours (7.7%), with the exception of few cases when 2 or 3 days were mentioned. Reasons for withholding food are to give the body rest and time to recuperate (27.3%) among others. Table XXII lists foods considered especially beneficial or harmful for the mother after childbirth. Again, a much larger number of foods are considered beneficial than harmful. The former are generally foods of animal origin such as beef/lamb/goat, milk and eggs because they are strong. These foods are considered good especially the first 3 days after birth but can last up to 60 days. Those mothers not consuming these foods give reasons of expensiveness and nonavailability. Very few foods are considered harmful for this period. The primary ones are fats/sauces which being "strong", cause illness and are considered unhealthy. Harmful foods are generally avoided up to 40 days after child birth.

4) Lactation: Table XXIII shows dietary beliefs and regulations of the mother while breastfeeding the infant. The nutrient drain on the mother is especially heavy during lactation. Approximately half the mothers (56.9%) believe a woman should increase her food intake while breastfeeding to ensure good milk production. However, over a third (39.5%) still believe her diet should be as normal, despite the increased need for nutrients during lactation. The mother's diet is negatively affected by the illness of the infant, since she reduces her

TABLE XXI. DIET OF MOTHER AFTER DELIVERY OF BABY

| | Total Sample | | Mothers By Region | | | | |
|---|---|---|---|---|---|---|---|
| | Mothers | Community | I | II | III | IV | V |
| 1. Food given immediately after birth | | | | | | | |
| a) Yes | 58.7 | 63.5 | 60.0 | 65.9 | 54.0 | 50.0 | 27.6 |
| b) No | 39.8 | 32.2 | 37.5 | 33.6 | 40.0 | 48.2 | 72.4 |
| c) Not known | 1.3 | 4.3 | 2.5 | 0.5 | 4.0 | 1.8 | 0.0 |
| 2. If no, duration of restriction | | | | | | | |
| a) 0-8 hours | 36.7 | 30.4 | 42.5 | 36.9 | 26.0 | 39.3 | 41.4 |
| b) 0-24 hours | 7.7 | 6.1 | 12.5 | 3.7 | 10.0 | 7.1 | 27.6 |
| c) 48 hours | 2.8 | 3.3 | 0.0 | 3.2 | 0.0 | 5.4 | 3.4 |
| d) 3 days | 2.3 | 0.9 | 2.5 | 1.4 | 4.0 | 3.6 | 3.4 |
| e) Not known | 49.2 | 58.3 | 42.5 | 53.5 | 58.0 | 44.6 | 20.7 |
| 3. Reason for food restriction | | | | | | | |
| a) To give rest to the body | 27.3 | 21.7 | 32.5 | 23.5 | 24.0 | 30.4 | 48.3 |
| b) Mother is unclean | 1.3 | 0.9 | 0.0 | 0.5 | 2.0 | 3.6 | 3.4 |
| c) Custom | 1.5 | 0.0 | 0.0 | 0.5 | 2.0 | 5.4 | 3.4 |
| d) Other | 9.9 | 7.8 | 10.0 | 10.6 | 10.0 | 7.1 | 10.3 |
| e) Not known | 59.7 | 68.7 | 57.5 | 65.0 | 62.0 | 51.8 | 34.5 |

TABLE XXII. FOODS CONSIDERED BENEFICIAL OR HARMFUL AT POST PARTUM

| BENEFICIAL FOODS | No. of times[1] mentioned | HARMFUL FOODS | No. of times mentioned |
|---|---|---|---|
| 1. Beef/lamb/goat | 187 | 1. Fats/sauces | 41 |
| 2. Milk | 133 | 2. Green and red pepper | 10 |
| 3. Eggs | 104 | 3. Eggs | 5 |
| 4. Chicken/fish | 90 | 4. Lemons | 3 |
| 5. Rice/bulgur | 56 | 5. Cucumbers; radish/onion/garlic | 2 |
| 6. Apples/bananas | 51 | 6. Beef/chicken; oranges | 1 |
| 7. Halawa | 45 | | |
| 8. Leban/lebaneh | 26 | | |
| 9. Local butter | 25 | | |
| 10. Egg omelette | 20 | | |
| 11. Internal organs | 18 | | |
| 12. Tomatoes/onions | 17 | | |
| 13. Lentils/beans | 11 | | |
| 14. Chickpeas/peas; grapes/raisins | 8 | | |
| 15. Cabbage/lettuce | 6 | | |
| 16. Bread | 5 | | |
| 17. Eggplant; oil | 4 | | |
| 18. Sauce | 2 | | |
| 19. Sesame seeds; radish/onions | 1 | | |
| Why Beneficial | | Why Harmful | |
| 1. Strong | 722 | 1. Strong | 17 |

[1]Each respondent gave 3 examples of foods. The number of times each food was mentioned and the subsequent responses were added and presented in the table.

TABLE XXII. (continued)

| BENEFICIAL FOODS | No. of times mentioned | HARMFUL FOODS | No. of times mentioned |
|---|---|---|---|
| 2. Strengthening | 33 | 2. Causes illness/unhealthy | 13 |
| 3. Weak | 16 | 3. Gas producing | 9 |
| 4. Cleansing effect/purgative | 7 | 4. Unable to digest | 6 |
| 5. Helps healing | 3 | 5. Weak | 2 |
| 6. Other | 31 | 6. Mother in weakened condition | 1 |
| | | 7. Other | 11 |
| **When Beneficial** | | **When Harmful** | |
| 1. 0-3 days | 312 | 1. 0-40 days | 18 |
| 2. 0-40 days | 197 | 2. 0-15 days | 16 |
| 3. 0-7 days | 125 | 3. 0-7 days | 15 |
| 4. 0-15 days | 77 | 4. 0-3 days | 6 |
| 5. 0-60 days | 53 | 5. 0-60 days | 1 |
| **Did the Mother Consume the Food** | | **Did the Mother Avoid the Food** | |
| 1. Yes | 773 | 1. Yes | 54 |
| 2. No | 34 | 2. No | 2 |
| **If Not, Why?** | | **If Not, Why?** | |
| 1. Expensive | 22 | 1. Only food available | 2 |
| 2. Not available | 10 | 2. Other | 3 |
| 3. Did not believe | 2 | | |
| 4. Dislike | 1 | | |
| 5. Other | 5 | | |

TABLE XXIII. DIET OF LACTATING WOMEN

| | Total Sample | | Mothers By Region | | | | |
|---|---|---|---|---|---|---|---|
| | Mothers | Community | I | II | III | IV | V |
| 1. Amount of food consumed | | | | | | | |
| a) Normal amounts | 39.5 | 29.6 | 40.0 | 35.5 | 40.0 | 51.8 | 44.8 |
| b) Less than normal | 2.6 | 1.7 | 5.0 | 1.4 | 6.0 | 3.6 | 0.0 |
| c) More than normal | 56.9 | 63.5 | 55.0 | 62.7 | 52.0 | 42.9 | 51.7 |
| 2. Reasons | | | | | | | |
| a) Causes indigestion in child | 1.5 | 0.0 | 0.0 | 1.4 | 4.0 | 1.8 | 0.0 |
| b) Need more food to increase milk production | 50.5 | 54.8 | 50.0 | 58.1 | 44.0 | 28.6 | 48.3 |
| c) Other, not including harmfulness to child | 13.0 | 3.5 | 20.0 | 8.3 | 16.0 | 23.2 | 13.8 |
| d) Not known | 31.1 | 29.6 | 30.0 | 30.0 | 30.0 | 39.3 | 27.6 |
| 3. Lactating women's diet when baby is ill | | | | | | | |
| a) Reduce food intake | 42.9 | 34.8 | 40.0 | 45.2 | 30.0 | 53.6 | 31.0 |
| b) Eat special foods | 11.2 | 11.3 | 0.0 | 12.9 | 8.0 | 10.7 | 20.7 |
| c) Omit certain foods | 6.1 | 20.9 | 12.5 | 7.8 | 2.0 | 1.8 | 0.0 |
| d) Reduce food intake and eat special foods | 1.3 | 0.0 | 7.5 | 0.9 | 0.0 | 0.0 | 0.0 |

TABLE XXIII. (continued)

| | Total Sample | | Mothers By Region | | | | |
|---|---|---|---|---|---|---|---|
| | Mothers | Community | I | II | III | IV | V |
| e) Omit certain foods and eat special foods | 3.3 | 1.7 | 0.0 | 2.3 | 0.0 | 10.7 | 6.9 |
| f) Reduce food intake and omit certain foods | 1.8 | 0.0 | 5.0 | 1.4 | 4.0 | 0.0 | 0.0 |
| g) Other | 24.0 | 9.6 | 25.0 | 23.5 | 34.0 | 14.3 | 27.6 |
| h) Not known | 9.4 | 20.9 | 10.0 | 6.0 | 22.0 | 8.9 | 13.8 |
| 4. Source of advice regarding diet | | | | | | | |
| a) Respondent (self) | 41.3 | 40.9 | 42.5 | 38.7 | 50.0 | 42.9 | 41.3 |
| b) Mother of respondent | 33.4 | 19.1 | 40.0 | 34.6 | 28.0 | 30.4 | 31.0 |
| c) Mother-in-law | 3.1 | 2.6 | 0.0 | 3.2 | 2.0 | 5.4 | 3.4 |
| d) Older woman | 4.1 | 14.8 | 5.0 | 3.7 | 6.0 | 5.4 | 0.0 |
| e) Other mothers | 1.3 | 1.7 | 0.0 | 0.9 | 4.0 | 0.0 | 3.4 |
| f) Health worker | 8.2 | 10.4 | 2.5 | 8.8 | 4.0 | 10.7 | 13.8 |
| g) Other | 6.9 | 7.0 | 10.0 | 8.3 | 4.0 | 1.8 | 0.0 |
| h) Not known | 1.0 | 3.5 | 0.0 | 0.9 | 2.0 | 1.8 | 0.0 |

food intake (42.9%). Mothers learn of foods to consume or avoid during lactation by observing neighbors and friends (41.3%) or advice from her own mother (33.4%).

Table XXIV presents foods that are considered beneficial or harmful during lactation. A number of foods are believed to have beneficial qualities. These are beef/goat/lamb, milk, leban/lebaneh, butter/olive oil/ghee, tomatoes, onions and rice water because they are "strong", and increase milk production. These foods are good for the entire lactation period and are consumed unless they are unavailable or too expensive. Foods considered harmful are vegetables such as cucumbers, radishes, fruits and figs because they are gas producing, or harmful to the infant via the breastmilk. These food avoidances last for the entire lactation period.

5) Infants and Preschoolers: Infant and preschool feeding practices are shown in Table XXV.

a) Neonatal Feeding: Most mothers (79.8%) give sugar water to the new born infant early in life (24 or 48 hours). Some other foods such as butter or herbs are given by a few. The reasons for this practice are 1) to clean out the infant, 2) prepare the baby to receive the mother's milk, 3) strengthening or 4) customary among others.

b) Breastfeeding: Approximately a third of the mothers (34.7%) were breastfeeding their infants at the time of the survey. Nearly all of them (96.6%) breastfed their infants from birth, this being the traditional practice in the country. Almost one fifth of the mothers

TABLE XXIV. FOODS CONSIDERED BENEFICIAL OR HARMFUL DURING BREASTFEEDING

| BENEFICIAL FOODS | No. of times[1] mentioned | HARMFUL FOODS | No. of times mentioned |
|---|---|---|---|
| Examples 1,2 & 3* | | | |
| 1. Milk | 192 | 1. Cucumber | 28 |
| 2. Beef/goat/lamb | 99 | 2. Fruits | 25 |
| 3. Leban/lebaneh | 62 | 3. Figs | 17 |
| 4. Tomatoes/onions | 61 | 4. Radish; pepper | 11 |
| 5. Butter/olive oil/ghee | 60 | 5. Lemon; cabbage | 6 |
| 6. Rice water | 52 | 6. Melons | 5 |
| 7. Chicken/fish | 42 | 7. Ghee; onions; chickpeas | 3 |
| 8. Bananas/apples | 37 | 8. Sugar/cookies; alcohol; grapes; turnips | 2 |
| 9. Halawa | 24 | | |
| 10. Eggs | 23 | | |
| 11. Lemons/mandarin/oranges | 16 | | |
| 12. Beans/lentils | 15 | | |
| 13. Eggplant/jew's mallow | 13 | | |
| 14. Bulgur/wheat/bread | 6 | | |
| 15. Chickpeas/peas | 4 | | |
| 16. Internal organs | 3 | | |
| 17. Potatoes | 2 | | |
| 18. Cabbage/lettuce | 1 | | |

[1]Each respondent gave 3 examples of foods. The number of times each food was mentioned and the subsequent responses were added and presented in the table.

*Responses are significantly different between the mothers and community influentials ($P \leq 0.05$).

TABLE XXIV. (continued)

| BENEFICIAL FOODS | No. of times mentioned | HARMFUL FOODS | No. of times mentioned |
|---|---|---|---|
| **Why Beneficial** | | **Why Harmful** | |
| 1. Strong | 595 | 1. Harmful to infant | 39 |
| 2. Increases milk production | 82 | 2. Gas producing | 24 |
| 3. Makes milk better/improves milk quality | 18 | 3. Weak | 17 |
| 4. Weak | 11 | 4. Strong | 14 |
| 5. Good for infant | 3 | 5. Causes indigestion | 7 |
| 6. Strengthening for mother | 3 | 6. Decreases milk production | 6 |
| 7. Other | 3 | 7. Difficult to digest | 4 |
| | | 8. Other | 10 |
| **When Beneficial** | | **When Harmful** | |
| 1. Entire breastfeeding | 632 | 1. Entire breastfeeding | 108 |
| 2. 1-2 weeks | 19 | 2. 1st month | 2 |
| 3. 1st month | 16 | 3. 1-2 weeks | 2 |
| 4. Other | 16 | 4. Other | 3 |
| **Did the Mother Consume the Food** | | **Did the Mother Avoid the Food** | |
| 1. Yes | 701 | 1. Yes | 107 |
| 2. No | 11 | 2. No | 11 |

TABLE XXIV. (continued)

| BENEFICIAL FOODS | | HARMFUL FOODS | |
|---|---|---|---|
| | No. of times mentioned | | No. of times mentioned |
| If Not, Why? | | If Not, Why? | |
| 1. Not available | 5 | 1. Did not believe | 4 |
| 2. Expensive | 5 | 2. Only food available | 1 |
| 3. Not advised to eat | 3 | 3. Other | 7 |
| 4. Difficult to prepare | 1 | | |
| 5. Did not believe | 1 | | |

TABLE XXV. INFANT FEEDING PRACTICES

| | Total Sample | | Mothers By Region | | | | |
|---|---|---|---|---|---|---|---|
| | Mothers | Community | I | II | III | IV | V |
| 1. Food items given to infant immediately after birth | | | | | | | |
| a) Water only | 0.8 | 1.7 | 0.0 | 0.5 | 2.0 | 1.8 | 0.0 |
| b) Sugar solution | 79.8 | 66.1 | 82.5 | 82.0 | 70.0 | 73.2 | 89.7 |
| c) Put to breast | 1.8 | 4.3 | 0.0 | 0.9 | 2.0 | 7.1 | 0.0 |
| d) Castor oil | 0.8 | 0.0 | 5.0 | 0.5 | 0.0 | 0.0 | 0.0 |
| e) Local butter | 6.6 | 5.2 | 0.0 | 7.4 | 12.0 | 3.6 | 6.9 |
| f) Herbs | 4.3 | 5.2 | 7.5 | 4.6 | 4.0 | 3.6 | 0.0 |
| g) Other | 2.6 | 3.5 | 2.5 | 1.8 | 2.0 | 5.4 | 3.4 |
| h) Not known | 2.8 | 13.0 | 2.5 | 1.8 | 8.0 | 3.6 | 0.0 |
| 2. Number of hours after birth | | | | | | | |
| a) 0-24 hours | 14.5 | 15.7 | 15.0 | 8.3 | 20.0 | 30.4 | 20.7 |
| b) 0-48 hours | 23.5 | 18.3 | 30.0 | 23.5 | 32.0 | 17.9 | 10.3 |
| c) Other | 55.1 | 53.0 | 50.0 | 64.1 | 34.0 | 39.3 | 62.1 |
| d) Not known | 3.8 | 13.0 | 2.5 | 1.8 | 12.0 | 7.1 | 0.0 |
| 3. Reasons | | | | | | | |
| a) Has ritual significance | 1.0 | 1.7 | 0.0 | 0.9 | 0.0 | 3.6 | 0.0 |
| b) Has cleansing effect | 34.4 | 23.5 | 30.0 | 33.2 | 30.0 | 37.5 | 51.7 |
| c) Strength giving | 4.6 | 5.2 | 2.5 | 2.8 | 4.0 | 10.7 | 10.3 |

TABLE XXV. (continued)

| | Total Sample | | Mothers By Region | | | | |
|---|---|---|---|---|---|---|---|
| | Mothers | Community | I | II | III | IV | V |
| d) Easy to digest | 2.3 | 1.7 | 0.0 | 1.4 | 8.0 | 0.0 | 6.9 |
| e) Prepares baby to receive milk | 14.0 | 20.9 | 15.0 | 8.3 | 28.0 | 21.4 | 17.2 |
| f) Custom | 3.8 | 6.1 | 12.5 | 1.8 | 4.0 | 3.6 | 6.9 |
| g) Other | 24.0 | 0.9 | 22.5 | 35.0 | 6.0 | 10.7 | 0.0 |
| h) Not known | 8.4 | 20.0 | 10.0 | 8.3 | 12.0 | 7.1 | 3.4 |
| 4. % of mothers who breastfeed | 96.6 | - | 97.5 | 96.3 | 96.0 | 98.2 | 96.6 |
| 5. % of mothers currently breastfeeding | 34.7 | - | 32.5 | 32.3 | 34.0 | 42.9 | 41.4 |
| 6. Breastfeeding infant immediately after birth | | | | | | | |
| a) Yes - first day | 16.1 | 21.7 | 10.0 | 9.7 | 24.0 | 33.9 | 24.1 |
| b) Yes - between 1-2 days | 23.1 | 21.7 | 42.5 | 22.1 | 30.0 | 21.4 | 3.4 |
| c) Yes - between 2-3 days | 39.8 | 41.7 | 37.5 | 48.8 | 30.0 | 21.4 | 27.6 |
| d) No | 18.6 | 9.6 | 7.5 | 18.9 | 12.0 | 19.6 | 41.4 |
| e) Not known | 1.8 | 5.2 | 2.5 | 0.5 | 4.0 | 3.6 | 3.4 |

TABLE XXV. (continued)

| | Total Sample | | Mothers By Region | | | | |
|---|---|---|---|---|---|---|---|
| | Mothers | Community | I | II | III | IV | V |
| 7. Reasons for yes/no | | | | | | | |
| a) Child needs milk for strength | 14.3 | 12.2 | 20.0 | 7.4 | 40.0 | 17.9 | 6.9 |
| b) Child learns to suck sooner | 0.8 | 2.6 | 2.5 | 0.0 | 0.0 | 0.0 | 6.9 |
| c) Child needs to develop immunity | 8.2 | 5.2 | 7.5 | 9.2 | 14.0 | 3.6 | 0.0 |
| d) Child cannot suck | 2.6 | 5.2 | 0.0 | 2.3 | 2.0 | 1.8 | 10.3 |
| e) Child's digestive system must be cleaned | 1.0 | 0.9 | 0.0 | 0.0 | 0.0 | 5.4 | 3.4 |
| f) First milk harmful to child | 3.1 | 0.9 | 5.0 | 0.9 | 0.0 | 5.4 | 17.2 |
| g) First milk unclean | 2.8 | 1.7 | 2.5 | 4.1 | 0.0 | 1.8 | 0.0 |
| h) Other | 52.0 | 28.7 | 52.5 | 62.2 | 18.0 | 48.2 | 41.4 |
| i) Not known | 15.3 | 42.6 | 10.0 | 13.8 | 26.0 | 16.1 | 13.8 |
| 8a. If no, after how many days was the child breastfed in days (mothers) | 2.59± 1.17 | - | 2.71± 0.61 | 2.69± 1.02 | 2.36± 1.12 | 2.29± 1.30 | 2.56± 1.82 |
| 8b. Breastfeeding after how many days | | | | | | | |
| a) Half day | - | 4.3 | - | - | - | - | - |

TABLE XXV. (continued)

| | Total Sample | | Mothers By Region | | | | |
|---|---|---|---|---|---|---|---|
| | Mothers | Community | I | II | III | IV | V |
| b) 1 day | - | 3.5 | - | - | - | - | - |
| c) 2 days | - | 9.6 | - | - | - | - | - |
| d) 3 days | - | 7.0 | - | - | - | - | - |
| e) 4-6 days | - | 1.7 | - | - | - | - | - |
| f) Not known | - | 73.9 | - | - | - | - | - |
| 9. Duration of breastfeeding (average in months) | 16.37± 7.43 | - | 18.28± 9.32 | 15.64± 7.08 | 18.29± 7.84 | 16.61± 6.63 | 15.55± 7.19 |
| 10. Actual practice | | | | | | | |
| a) % of mothers who breastfeed longer | - | 24.0 | 22.5 | 22.6 | 14.0 | 32.1 | 37.9 |
| b) % of mothers who breastfeed less | - | 7.0 | 10.0 | 8.3 | 2.0 | 7.2 | 0.0 |
| 11. Breastfeeding when mother is ill | | | | | | | |
| a) No | 48.0 | 43.5 | 40.0 | 52.5 | 30.0 | 46.4 | 58.6 |
| b) Someone else breastfeeds (wet nurse) | 1.8 | 3.5 | 7.5 | 1.4 | 0.0 | 0.0 | 3.4 |

TABLE XXV. (continued)

| | Total Sample | | Mothers By Region | | | | |
|---|---|---|---|---|---|---|---|
| | Mothers | Community | I | II | III | IV | V |
| c) Yes, normally | 39.5 | 41.7 | 45.0 | 37.3 | 64.0 | 32.1 | 20.7 |
| d) Yes, less than normal | 9.2 | 7.0 | 7.5 | 7.4 | 4.0 | 17.9 | 17.2 |
| e) Not known | 1.5 | 4.3 | 0.0 | 1.4 | 2.0 | 3.6 | 0.0 |
| 12. Reasons | | | | | | | |
| a) Mother's illness affects child | 14.0 | 13.9 | 10.0 | 9.2 | 20.0 | 23.2 | 27.6 |
| b) Child gets mother's illness | 34.2 | 28.7 | 40.0 | 43.8 | 2.0 | 19.6 | 37.9 |
| c) Mother does not have milk | 3.3 | - | 2.5 | 2.3 | 6.0 | 7.1 | 0.0 |
| d) Child needs milk | 24.5 | 25.2 | 30.0 | 25.3 | 30.0 | 17.9 | 13.8 |
| e) Someone else's milk will not affect child | 1.0 | - | 0.0 | 1.4 | 0.0 | 0.0 | 3.4 |
| f) Child not affected if less milk given | 2.3 | 3.5 | 0.0 | 2.3 | 0.0 | 3.6 | 6.9 |
| g) Custom | 1.3 | - | 0.0 | 0.0 | 6.0 | 3.6 | 0.0 |
| h) Other | 7.7 | 7.8 | 12.5 | 5.1 | 16.0 | 7.1 | 6.9 |
| i) Not known | 11.7 | 20.9 | 5.0 | 10.6 | 20.0 | 17.9 | 3.4 |
| 13. Breastfeeding when baby is ill | | | | | | | |
| a) No | 26.8 | 19.1 | 22.5 | 24.4 | 32.0 | 39.3 | 17.2 |
| b) Yes - normal amount | 60.5 | 66.1 | 67.5 | 61.3 | 62.0 | 48.2 | 65.5 |

TABLE XXV. (continued)

| | Total Sample | | Mothers By Region | | | | |
|---|---|---|---|---|---|---|---|
| | Mothers | Community | I | II | III | IV | V |
| c) Yes - less than normal | 7.9 | 8.7 | 7.5 | 8.3 | 4.0 | 8.9 | 10.3 |
| d) Not known | 4.3 | 6.1 | 2.5 | 5.5 | 2.0 | 3.6 | 3.4 |
| 14. Reasons | | | | | | | |
| a) Baby given rest | 2.6 | 2.6 | 7.5 | 0.9 | 4.0 | 1.8 | 6.9 |
| b) Milk causes sickness | 15.6 | 10.4 | 15.0 | 13.4 | 14.0 | 23.2 | 20.7 |
| c) Baby needs milk for strength | 41.6 | 39.1 | 47.5 | 43.8 | 32.0 | 33.9 | 48.3 |
| d) Other | 23.5 | 27.0 | 15.0 | 27.2 | 26.0 | 17.9 | 13.8 |
| e) Not known | 14.0 | 20.0 | 15.0 | 13.4 | 22.0 | 12.5 | 6.9 |
| 15. % of mothers who bottlefeed | 52.0 | - | 47.5 | 54.8 | 64.0 | 35.7 | 48.3 |
| 16. Age of starting bottle in months (mothers) | 4.18± 5.62 | - | 2.32± 1.57 | 3.44± 3.91 | 5.59± 7.24 | 7.65± 9.19 | 4.85± 8.43 |
| 17. Age of starting bottle (Community) | | | | | | | |
| a) 0-3 months | - | 45.0 | - | - | - | - | - |
| b) 4-6 months | - | 20.0 | - | - | - | - | - |

TABLE XXV. (continued)

| | Total Sample | | Mothers By Region | | | | |
|---|---|---|---|---|---|---|---|
| | Mothers | Community | I | II | III | IV | V |
| c) 7-9 months | - | 7.8 | - | - | - | - | - |
| d) 10-12 months | | 4.3 | | | | | |
| e) 13 -18 months | | 2.6 | | | | | |
| f) 24-36 months | | 3.5 | | | | | |
| g) Other | | 2.6 | | | | | |
| h) Not known | | 13.9 | | | | | |
| 18. Reasons* | | | | | | | |
| a) Child refuses breast | 1.8 | 1.7 | 0.0 | 3.2 | 0.0 | 0.0 | 0.0 |
| b) Child needs other food | 7.7 | 14.8 | 5.0 | 7.4 | 14.0 | 5.4 | 6.9 |
| c) Mother does not have milk | 17.6 | 45.2 | 17.5 | 22.6 | 10.0 | 7.1 | 13.8 |
| d) Mother's milk makes child ill | 0.5 | 0.0 | 2.5 | 0.5 | 0.0 | 0.0 | 0.0 |
| e) Prefer other foods in bottle | 0.3 | 2.6 | 0.0 | 0.5 | 0.0 | 0.0 | 0.0 |
| f) Easy to prepare | 0.0 | 2.6 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| g) Was advised | 0.3 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 3.4 |
| h) Other | 8.7 | 10.4 | 5.0 | 10.1 | 10.0 | 7.1 | 3.4 |
| i) Not known | 63.3 | 22.6 | 70.0 | 55.8 | 66.0 | 80.4 | 72.4 |

*Responses are significantly different between the mothers and community influentials ($P \leq 0.05$).

TABLE XXV. (continued)

| | Total Sample | | Mothers By Region | | | | |
|---|---|---|---|---|---|---|---|
| | Mothers | Community | I | II | III | IV | V |
| 19. Type of milk given in the bottle | | | | | | | |
| a) Evaporated, dry, condensed | 38.5 | 84.3 | 35.0 | 44.7 | 36.0 | 25.0 | 27.6 |
| b) Fresh | 4.1 | 1.7 | 0.0 | 2.3 | 12.0 | 8.9 | 0.0 |
| c) Not known | 56.9 | 13.9 | 65.0 | 52.5 | 52.0 | 66.1 | 69.0 |

(18.6%) do not believe the infant should be given the breast within the first 3 days after birth. Most of the remaining mothers believe it should be delayed 1 to 2 days. This practice limits the colostrum that can be fed to the child, thereby not taking full advantage of its anti-infectious and nutritious properties. The average age mothers believe an infant should be breastfed is 16.4 months confirming earlier reports that breastfeeding usually lasts between 12 to 18 months (7). Other studies in the country indicate approximately a third of the infants are breastfed upto 12 months, another third from 12 to 18 months and the remaining from 18 to 24 months, with a small percentage nursing for longer than 2 years, the longer periods being mentioned in the Eastern Desert and the Jordan Rift Valley. In actual practice, most mothers breastfed up to the time they indicated with some breastfeeding even longer, a few breastfeeding for a shorter period.

The practice of breastfeeding is affected by the illness of the mother and the infant. Nearly half the mothers believe (48.0%) a woman should stop breastfeeding her infant when she is ill. This is particularly true of the Northern Highlands and the Southern Desert. Most of the remaining mothers (39.5%) believe breastfeeding should continue in normal amounts and some (9.2%) in less than normal amounts. Few indicate wet nursing. The reasons for ceasing breastfeeding are the child may get the mother's illness or be affected by the mother's illness via the breast milk. The main reason for continuing breastfeeding is the child needs the mother's milk despite her illness.

If the infant is ill, over a fourth of the mothers (26.8%) believe breastmilk should be stopped completely because it can aggravate the illness. However, most others (60.5%) believe breastfeeding should continue normally because the infants need food for strength. In cases where the breast is not given, other foods such as rice preparations may be given instead.

c) Bottlefeeding: Approximately half the mothers (52.0%) bottlefeed their infants besides breastfeeding starting at a mean age of 4.2 months. It begins even earlier in the Eastern Desert and later in the Southern Highlands. The main reasons given for starting bottlefeeding is the mother does not have suffient milk and the child needs other foods besides breastmilk. Animal milk is one of the foods given by bottle, mostly in the processed variety ie. evaporated, dry, condensed formula (38.5%) particularly in the Northern Highlands rather than as fresh (4.1%) given by a few families in the Jordan Rift Valley and Southern Highlands. Most mothers (70.2%) believe, if a woman cannot breastfeed, the bottle is the obvious substitute. This is particularly true in the Eastern Desert and Northern Highlands. Although very few (2.0%) of the total sample mentioned wet nursing, it was mentioned by somewhat more mothers (10.3%) in the Southern Desert Region.

d) Weaning Practices: Infant weaning practices are presented in Table XXVI. The most frequent method of weaning is by introducing food gradually in the infant's diet.(46.7%). Applying bitter substances on the breast such as quinine to discourage the infant occurs in one third of the households (33.4%) similar to earlier

TABLE XXVI. WEANING PRACTICES

| | Total Sample | | Mothers By Region | | | | |
|---|---|---|---|---|---|---|---|
| | Mothers | Community | I | II | III | IV | V |
| 1. Methods of weaning | | | | | | | |
| a) Introduce food gradually | 46.7 | 28.7 | 50.0 | 47.5 | 38.0 | 51.8 | 47.4 |
| b) Introduce food abruptly | 6.6 | 13.0 | 20.0 | 6.5 | 2.0 | 5.4 | 0.0 |
| c) Send child away | 1.0 | 3.5 | 0.0 | 0.0 | 6.0 | 1.8 | 0.0 |
| d) Apply bitter substances to breast | 33.4 | 33.9 | 20.0 | 32.7 | 40.0 | 28.6 | 55.2 |
| e) Discourage child - withhold breast | 1.3 | 3.5 | 0.0 | 1.8 | 0.0 | 1.8 | 0.0 |
| f) Other | 9.2 | 9.6 | 10.0 | 10.6 | 12.0 | 3.6 | 3.4 |
| g) Not known | 1.3 | 7.0 | 0.0 | 0.5 | 2.0 | 5.4 | 0.0 |
| 2. Reasons for weaning | | | | | | | |
| a) New pregnancy | 77.0 | 80.9 | 80.0 | 78.8 | 72.0 | 76.8 | 69.0 |
| b) Illness of child | 0.8 | 0.0 | 0.0 | 0.0 | 2.0 | 3.6 | 0.0 |
| c) Illness of mother | 3.6 | 1.7 | 2.5 | 3.7 | 2.0 | 1.8 | 10.3 |
| d) Insufficient milk | 2.6 | 2.6 | 5.0 | 2.3 | 2.0 | 0.0 | 6.9 |
| e) Mother's figure | 1.5 | 0.0 | 0.0 | 1.4 | 0.0 | 1.8 | 6.9 |
| f) Child eats other food | 1.0 | 0.9 | 0.0 | 0.9 | 0.0 | 3.6 | 0.0 |
| g) Child old enough to eat solids | 9.2 | 7.0 | 8.5 | 9.2 | 16.0 | 5.4 | 6.9 |

TABLE XXVI. (continued)

| | Total Sample | | Mothers By Region | | | | |
|---|---|---|---|---|---|---|---|
| | Mothers | Community | I | II | III | IV | V |
| h) child refuses breast | 0.3 | 0.0 | 0.0 | 0.5 | 0.0 | 0.0 | 0.0 |
| i) Not known | 2.8 | 4.3 | 5.0 | 2.8 | 2.0 | 3.6 | 0.0 |
| 3. Substitute for mother's milk | | | | | | | |
| a) Wet nurse | 2.0 | 2.6 | 0.0 | 1.8 | 2.0 | 0.0 | 10.3 |
| b) Bottle | 70.2 | 88.7 | 82.5 | 73.7 | 68.0 | 57.1 | 55.2 |
| c) Other | 22.7 | 3.5 | 15.0 | 21.2 | 22.0 | 32.1 | 27.6 |
| d) Not known | 4.8 | 5.2 | 2.5 | 3.2 | 6.0 | 10.7 | 6.9 |
| 4a. Average age for introduction of other foods in months (mothers) | 7.71± 6.39 | - | 7.49± 6.05 | 6.46± 4.75 | 9.51± 7.22 | 11.49± 9.43 | 7.14± 5.84 |
| 4b. Age when other foods are introduced in months (community) | | | | | | | |
| a) 0-3 months | - | 10.4 | - | - | - | - | - |
| b) 4-6 months | | 33.0 | | | | | |
| c) 7-9 months | | 14.8 | | | | | |

TABLE XXVI. (continued)

| | Total Sample | | Mothers By Region | | | | |
|---|---|---|---|---|---|---|---|
| | Mothers | Community | I | II | III | IV | V |
| d) 10-12 months | - | 14.8 | - | - | - | - | - |
| e) 13 -18 months | | 3.5 | | | | | |
| f) 19 -21 months | | 7.8 | | | | | |
| g) Other | | 2.6 | | | | | |
| h) Not known | | 6.1 | | | | | |
| 5. Reason for introducing other foods | | | | | | | |
| a) Child refuses breast | 2.3 | 0.9 | 0.0 | 1.8 | 2.0 | 0.0 | 13.8 |
| b) Child needs other food | 51.0 | 38.3 | 45.0 | 48.8 | 52.0 | 60.7 | 55.2 |
| c) Insufficient milk | 6.6 | 13.0 | 7.5 | 6.9 | 6.0 | 8.9 | 0.0 |
| d) Was advised | 0.3 | 0.9 | 0.0 | 0.0 | 2.0 | 0.0 | 0.0 |
| e) Other | 31.4 | 26.1 | 37.5 | 37.3 | 18.0 | 19.6 | 24.1 |
| f) Not known | 6.9 | 19.1 | 10.0 | 4.1 | 18.0 | 7.1 | 3.4 |
| 6. First foods given to child | | | | | | | |
| a) Milk/eggs | 16.6 | 9.6 | 20.0 | 12.9 | 32.0 | 16.1 | 13.8 |
| b) Leban/lebaneh/cheese | 4.6 | 7.0 | 2.5 | 3.7 | 6.0 | 7.1 | 6.9 |
| c) Bread/rice/bulgur | 28.8 | 35.7 | 35.0 | 30.9 | 22.0 | 23.2 | 0.0 |
| d) Apples/bananas | 8.9 | 5.2 | 2.5 | 9.2 | 6.0 | 10.7 | 17.2 |

TABLE XXVI. (continued)

| | Total Sample | | Mothers By Region | | | | |
|---|---|---|---|---|---|---|---|
| | Mothers | Community | I | II | III | IV | V |
| e) Broad beans/peas/lentils | 2.8 | 1.7 | 0.0 | 2.8 | 4.0 | 3.6 | 3.4 |
| f) Cucumber/eggplant/okra/ tomatoes/squash | 14.3 | 15.7 | 22.5 | 14.3 | 16.0 | 12.5 | 3.4 |
| g) Meat/chicken | 1.8 | 0.9 | 0.0 | 2.8 | 0.0 | 1.8 | 0.0 |
| h) Other | 12.8 | 10.4 | 15.0 | 17.1 | 4.0 | 1.8 | 13.8 |
| i) Not known | 9.4 | 13.9 | 2.5 | 6.5 | 10.0 | 23.2 | 13.8 |
| 7. Preparation | | | | | | | |
| a) Regular gruel/porridge | 15.1 | 13.9 | 7.5 | 18.4 | 14.0 | 10.7 | 10.3 |
| b) Thin gruel/porridge | 7.9 | 2.6 | 12.5 | 5.5 | 14.0 | 8.9 | 6.9 |
| c) Juice | 5.4 | 3.5 | 5.0 | 5.1 | 8.0 | 7.1 | 0.0 |
| d) Cooked & mashed | 46.2 | 37.4 | 50.0 | 49.3 | 34.0 | 35.7 | 58.6 |
| e) Uncooked & unmashed | 1.3 | 3.5 | 0.0 | 1.4 | 0.0 | 1.8 | 3.4 |
| f) Regular adult food | 7.7 | 8.7 | 7.5 | 7.8 | 8.0 | 10.7 | 0.0 |
| g) Dilute milk | 6.1 | 12.2 | 5.0 | 4.6 | 6.0 | 8.9 | 13.8 |
| h) Other | 2.8 | 1.7 | 2.5 | 2.3 | 8.0 | 1.8 | 0.0 |
| i) Not known | 7.7 | 16.5 | 10.0 | 5.5 | 8.0 | 14.3 | 6.9 |
| 8a. Average age when these foods are given in months (mothers) | 6.52± 6.11 | - | 5.66± 4.18 | 5.38± 3.61 | 10.52± 11.63 | 8.25± 6.79 | 6.04± 4.62 |

TABLE XXVI. (continued)

| | Total Sample | | Mothers By Region | | | | |
|---|---|---|---|---|---|---|---|
| | Mothers | Community | I | II | III | IV | V |
| 8b. Age first food is given to the infant in months (community) | | | | | | | |
| a) 0-3 months | - | 15.7 | - | - | - | - | - |
| b) 4-6 months | | 30.4 | | | | | |
| c) 7-9 months | | 7.8 | | | | | |
| d) 10-12 months | | 13.9 | | | | | |
| 9. Reason for giving these foods foods | | | | | | | |
| a) Child needs more food | 17.1 | 23.5 | 20.0 | 15.7 | 20.0 | 23.2 | 6.9 |
| b) Child is hungry | 2.0 | 23.5 | 2.5 | 1.4 | 6.0 | 1.8 | 0.0 |
| c) Strengthening | 19.9 | 28.7 | 15.0 | 20.7 | 20.0 | 12.5 | 34.5 |
| d) Blood giving | 1.0 | 1.7 | 0.0 | 0.0 | 4.0 | 1.8 | 3.4 |
| e) Keeps child healthy | 1.8 | 6.1 | 0.0 | 2.3 | 0.0 | 3.6 | 0.0 |
| f) Helps growth | 41.8 | 12.2 | 45.0 | 47.0 | 34.0 | 28.6 | 37.9 |
| g) Mother has insufficient milk | 3.6 | 4.3 | 2.5 | 3.7 | 4.0 | 3.6 | 3.4 |
| h) Other | 3.3 | 4.3 | 5.0 | 1.4 | 2.0 | 8.9 | 6.9 |
| i) Not known | 6.9 | 17.4 | 10.0 | 7.8 | 7.8 | 10.0 | 16.1 |

TABLE XXVI. (continued)

| | Total Sample | | Mothers By Region | | | | |
|---|---|---|---|---|---|---|---|
| | Mothers | Community | I | II | III | IV | V |
| 10a. Average age adult food is introduced in months (mothers) | 16.77± 8.24 | - | 17.53± 8.23 | 16.45± 6.95 | 18.82± 11.69 | 15.51± 8.65 | 17.07± 8.65 |
| 10b. Age adult foods are introduced (community) | | | | | | | |
| a) 0-6 months | - | 5.2 | - | - | - | - | - |
| b) 6-12 months | | 30.4 | | | | | |
| c) 1-2 years | | 37.4 | | | | | |
| d) 2-3 years | | 12.2 | | | | | |
| e) 4-5 years | | 5.2 | | | | | |
| f) 5-6 years | | 3.5 | | | | | |
| g) Not known | | 6.1 | | | | | |
| 11. Reason for introducing adult foods | | | | | | | |
| a) Child can digest food | 59.0 | 49.6 | 50.0 | 62.2 | 66.0 | 42.9 | 69.0 |
| b) Child can chew food | 15.6 | 13.0 | 25.0 | 17.5 | 6.0 | 16.1 | 3.4 |
| c) Child refuses baby food | 1.8 | 1.7 | 2.5 | 1.8 | 0.0 | 1.8 | 3.4 |
| d) Child needs for growth | 5.1 | 7.0 | 2.5 | 2.3 | 4.0 | 14.3 | 13.8 |

TABLE XXVI. (continued)

| | Total Sample | | Mothers By Region | | | | |
|---|---|---|---|---|---|---|---|
| | Mothers | Community | I | II | III | IV | V |
| e) Child needs for health | 1.8 | 1.7 | 2.5 | 2.8 | 0.0 | 0.0 | 0.0 |
| f) Child likes adult food | 1.8 | 0.9 | 2.5 | 1.8 | 0.0 | 3.6 | 0.0 |
| g) Other | 8.7 | 7.8 | 12.5 | 7.8 | 8.0 | 10.7 | 6.9 |
| h) Not known | 4.6 | 13.0 | 2.5 | 2.8 | 14.0 | 5.4 | 3.4 |
| 12. Average age mother introduced adult food to own child (mothers) | 17.05± 8.81 | - | 18.85± 9.49 | 16.22± 7.74 | 18.06± 8.33 | 17.49± 10.97 | 18.11± 11.36 |
| 13. Reasons | | | | | | | |
| a) Child can digest food | 46.4 | - | 47.5 | 44.7 | 54.0 | 48.2 | 41.4 |
| b) Child can chew food | 15.3 | | 15.0 | 17.1 | 16.0 | 7.1 | 17.2 |
| c) Child refuses baby food | 1.8 | | 5.0 | 1.4 | 2.0 | 1.8 | 0.0 |
| d) Child needs for growth | 9.2 | | 5.0 | 5.5 | 6.0 | 19.6 | 27.6 |
| e) Child needs for health | 4.8 | | 5.0 | 6.0 | 2.0 | 3.6 | 3.4 |
| f) Child likes adult food | 2.6 | | 2.5 | 1.8 | 4.0 | 3.6 | 3.4 |
| g) Other | 11.7 | | 15.0 | 15.2 | 2.0 | 8.9 | 3.4 |
| h) Not known | 6.6 | | 5.0 | 6.5 | 12.0 | 5.4 | 3.4 |

reported figures (5). Other abrupt methods such as stopping breastmilk completely and abruptly introducing other foods in the diet occurs to a small extent (6.6%). The primary reason for weaning is a new pregnancy (77.0%) confirming a similar pattern reported earlier (5,10). Mothers believe a pregnant woman's milk is harmful to her suckling infant. This belief is not discouraged by most indigeneous medical or paramedical personnel (10). Among the reasons for weaning, the ones less often mentioned are that the child is old enough to eat solid foods (9.2%) or illness of the mother (3.6%).

Other foods are first introduced in the infant's diet at a mean age of 7.7 months, primarily because the mother believes the child needs other nourishment besides breastmilk (51.0%). However, less than a third of the mothers (30.4%) were able to confirm introducing foods at the time stated. Some mothers (9.2%) stated introducing foods later and some (4.4%) earlier than what they believed should be the age for introducing them.

Some examples of first foods given to infants are cereal products such as bread/rice/bulgur (28.8%), milk/eggs (16.6%), vegetables like squash/tomatoes/cucumbers (14.3%) and fruits like apples, bananas (8.9%). The popular method of preparing these foods is by cooking and mashing the food or preparing it in a porridge or gruel form. Milk given may be diluted with water as reported earlier (7). The average age at which these foods were given is 6.5 months because they 1) help the child's growth, 2) has strength giving qualities or 3) the child needs more food. Almost all mothers (89.3%) introduced foods to

their children in this manner. The nutrition survey indicated that among the foods a 6 month old baby would receive, the top 3 are rice pudding, fruit juice or banana (4). By one year, the child may be introduced to the family food (4). Other reports indicated that bread, biscuits and cereal preparations were the common supplementary foods, milk and milk products were next in line followed by portions from the family diet (7). Also tea may be used as a milk substitute as weaning reaches its peak (11). A variety of soft drinks have also entered the Jordanian marketplace and tend to compete with milk and teas as infant foods. The same is true of prepared infant cereals (11).

Mothers generally believe the average age at which adult food (family food which has not undergone any special preparation for the child) can be given to the preschooler is around 16.8 months. Reasons for this are the child can digest the food (59.0%), or chew the food (15.6%) in the form consumed by the adult. Both the age and reasons given for adult food introduction is very close to the ones the mothers actually followed. Earlier reports indicate that the largest proportion of infants are weaned between 12 to 18 months (5).

Food considered beneficial or harmful to children 0-2 years are listed in Table XXVII. From this list, it is evident more foods are considered especially beneficial than especially harmful for this age group. Milk ranks highest as a beneficial food. Some others mentioned are eggs, rice/bulgur, and apples/bananas. Few foods are mentioned as harmful. Foods are considered beneficial at all times, mostly because they are 'strong'.

TABLE XXVII. FOODS CONSIDERED BENEFICIAL OR HARMFUL FOR CHILDREN AGE 0-2 YEARS

| BENEFICIAL FOODS | No. of times[1] mentioned | HARMFUL FOODS | No. of times mentioned |
|---|---|---|---|
| Example 2* | | | |
| 1. Milk | 247 | 1. Spices | 27 |
| 2. Eggs | 91 | 2. Coffee; pepper/onions/garlic | 5 |
| 3. Rice/bulgur | 85 | 3. Sardines | 4 |
| 4. Apples/bananas | 55 | 4. Fats/oils; acidic food | 3 |
| 5. Lamb/goat/beef | 32 | 5. Meat | 2 |
| 6. Leban/lebaneh/jamid | 25 | 6. Candy; carbonated drinks; cabbage | 1 |
| 7. Biscuits | 24 | | |
| 8. Tomatoes/onions | 17 | | |
| 9. Carrots | 11 | | |
| 10. Bread; grapes/figs | 9 | | |
| 11. Beans/lentils | 7 | | |
| 12. Tea/custard | 5 | | |
| 13. Potatoes | 3 | | |
| 14. Cabbages/lettuce; peas/chickpeas; oranges | 2 | | |
| 15. Pears/peaches; cerelac | 1 | | |

[1]Each respondent gave 3 examples of foods. The number of times each food was mentioned and the subsequent responses were added and presented in the table.

[2]Responses are significantly different between the mothers and community influentials ($P \leq 0.05$).

TABLE XXVII. (continued)

| BENEFICIAL FOODS | No. of times mentioned | HARMFUL FOODS | No. of times mentioned |
|---|---|---|---|
| **Why Beneficial** | | **Why Harmful** | |
| 1. Strong | 566 | 1. Strong | 17 |
| 2. Helps growth | 27 | 2. Weak | 14 |
| 3. Gives strength/blood | 18 | 3. Difficult to digest | 4 |
| 4. Weak | 12 | 4. Other | 19 |
| 5. Child likes | 3 | | |
| 6. Easy to digest | 2 | | |
| **When Beneficial** | | **When Harmful** | |
| 1. All times | 600 | 1. All the time | 43 |
| 2. During sickness only | 3 | 2. During sickness and certain seasons | 1 |
| 3. During certain seasons | 1 | 3. Other | 10 |
| 4. During sickness and certain seasons | 1 | | |
| 5. Other | 11 | | |
| **Did the Mother give the Food to the Child** | | **Did the Mother Avoid giving the Food** | |
| 1. Yes | 628 | 1. Yes | 49 |
| 2. No | 4 | 2. No | 5 |

TABLE XXVII. (continued)

| BENEFICIAL FOODS | | HARMFUL FOODS | |
|---|---|---|---|
| | No. of times mentioned | | No. of times mentioned |
| If Not, Why? | | If Not, Why? | |
| 1. Did not believe | 7 | 1. Like the food | 4 |
| 2. Not available | 3 | 2. Only food available | 1 |
| 3. Expensive | 2 | | |
| 4. Difficult to prepare | 1 | | |

Harmful foods are attributed either 'strong' or 'weak' qualities among others.

e) Child feeding: Table XXVIII shows information of child feeding practices. In nearly all households (91.3%), the mother feeds the child because it is customary. There are a few exceptions when other members of the household such as a grand-mother, an older child, other women or the father may help because the mother is busy or working or the grandmother usually takes care of the child. As during pregnancy and lactation, the mother learns about infant and child feeding practices through tradition, by observing neighbors or friends (80.1%). The mother-in-law may have some influence in some of the homes (10.2%). As in other countries of this region, medical personnel and maternal and child health workers have little or no influence on infant or child feeding practices (7).

Table XXIX presents information on foods considered especially beneficial or harmful to children 3-7 years of age. A few foods such as spices are considered bad because of their strong/weak associations. Beneficial foods are again similar to the younger preschool age group. Examples of these are milk, potatoes, rice/bulgur and eggs. They are associated with being 'strong'.

f) Health Practices: Table XXX presents information on specific health practices followed by some mothers for their children. This is the practice of purging the infant or preschooler. Most mothers (78.6%) purge their infants at certain specific periods such

TABLE XXVIII. CHILD FEEDING PRACTICES

| | Total Sample | | Mothers By Region | | | | |
|---|---|---|---|---|---|---|---|
| | Mothers | Community | I | II | III | IV | V |
| 1. Who feeds child | | | | | | | |
| a) Mother | 91.3 | 87.0 | 92.5 | 93.5 | 90.0 | 83.9 | 89.7 |
| b) Grandmother | 3.1 | 7.0 | 0.0 | 2.3 | 2.0 | 8.9 | 3.4 |
| c) Older child | 2.0 | - | 2.5 | 2.3 | 2.0 | 1.8 | 0.0 |
| d) Older woman | 1.3 | 0.9 | 2.5 | 0.9 | 4.0 | 0.0 | 0.0 |
| e) Father | 0.5 | - | 0.0 | 0.0 | 0.0 | 3.6 | 0.0 |
| f) Other | 1.0 | - | 0.0 | 0.9 | 0.0 | 0.0 | 6.9 |
| g) Not known | 0.8 | 5.2 | 2.5 | 0.0 | 2.0 | 1.8 | 0.0 |
| 2. Reasons* | | | | | | | |
| a) Mother works | 1.0 | 0.9 | 0.0 | 0.5 | 2.0 | 1.8 | 3.4 |
| b) Mother is busy | 3.8 | 5.2 | 0.0 | 4.1 | 8.0 | 1.8 | 3.4 |
| c) Grandmother cares for child | 1.3 | 4.3 | 0.0 | 0.5 | 0.0 | 7.1 | 0.0 |
| d) Custom | 25.0 | 10.4 | 17.5 | 18.9 | 50.0 | 37.5 | 13.8 |
| e) Other | 46.4 | 30.4 | 40.0 | 53.9 | 12.0 | 41.1 | 69.0 |
| f) Not known | 21.7 | 37.4 | 42.5 | 21.2 | 26.0 | 10.7 | 10.3 |
| 3. Source of advice* | | | | | | | |
| a) Watch other women | 80.1 | 47.0 | 85.0 | 82.0 | 64.0 | 82.1 | 82.8 |
| b) Mother's mother-in-law | 10.2 | 16.5 | 12.5 | 9.2 | 12.0 | 10.7 | 10.3 |
| c) Health worker | 3.6 | 12.2 | 0.0 | 4.6 | 4.0 | 1.8 | 3.4 |

*Responses are significantly different between mothers and community influentials ($P \leq 0.05$).

TABLE XXVIII. (continued)

| | Total Sample | | Mothers By Region | | | | |
|---|---|---|---|---|---|---|---|
| | Mothers | Community | I | II | III | IV | V |
| d) Local curer | 0.5 | 2.6 | 0.0 | 0.0 | 0.0 | 1.8 | 3.4 |
| e) Older women | 1.0 | 7.8 | 0.0 | 1.4 | 2.0 | 0.0 | 0.0 |
| f) Other mothers | 1.0 | 3.5 | 0.0 | 0.9 | 4.0 | 0.0 | 0.0 |
| g) Other | 2.6 | 5.2 | 2.5 | 1.4 | 12.0 | 0.0 | 0.0 |

TABLE XXIX. FOODS CONSIDERED BENEFICIAL OR HARMFUL FOR CHILDREN AGE 3-7 YEARS

| BENEFICIAL FOODS | No. of times[1] mentioned | HARMFUL FOODS | No. of times mentioned |
|---|---|---|---|
| 1. Milk | 129 | 1. Spices | 10 |
| 2. Potatoes | 86 | 2. Onion/garlic | 7 |
| 3. Rice/bulgur | 85 | 3. Coffee; fats/oils; turnips; cabbage | 2 |
| 4. Eggs | 76 | | |
| 5. Beef/goat/lamb | 69 | | |
| 6. Bananas/apples | 44 | | |
| 7. Tomatoes/onions | 36 | | |
| 8. Leban/lebaneh/ghee | 34 | | |
| 9. Lentils/beans | 21 | | |
| 10. Bread | 9 | | |
| 11. Carrots | 6 | | |
| 12. Eggplant | 5 | | |
| Why Beneficial | | Why Harmful | |
| 1. Strong | 535 | 1. Weak | 5 |
| 2. Helps growth | 28 | 2. Strong | 4 |
| 3. Weak | 17 | 3. Difficult to digest | 2 |
| 4. Gives strength | 9 | 4. Makes child sterile | 1 |
| 5. Blood giving | 6 | 5. Other | 8 |
| 6. Easy to digest | 2 | | |
| 7. Removes worms | 1 | | |
| 8. Other | 2 | | |

[1]Each respondent gave 3 examples of foods. The number of times each food was mentioned and the subsequent responses were added and presented in the table.

TABLE XXIX. (continued)

| BENEFICIAL FOODS | No. of times mentioned | HARMFUL FOODS | No. of times mentioned |
|---|---|---|---|
| **When Beneficial** | | **When Harmful** | |
| 1. All times | 566 | 1. All the time | 18 |
| 2. During certain seasons | 3 | 2. During sickness and certain seasons | 2 |
| 3. During sickness only | 1 | | |
| 4. Other | 5 | | |
| **Did the Mother give the Food to the Child** | | **Did the Mother Avoid giving the Food** | |
| 1. Yes | 588 | 1. Yes | 20 |
| 2. No | 8 | | |
| **If Not, Why?** | | | |
| 1. Not available | 2 | | |
| 2. Expensive | 1 | | |
| 3. Other | 4 | | |

TABLE XXX. CHILDHOOD HEALTH PRACTICES

| | Total Sample | | Mothers By Region | | | | |
|---|---|---|---|---|---|---|---|
| | Mothers | Community | I | II | III | IV | V |
| 1. Mother cleans child's bowels | 78.6 | 71.3 | 80.0 | 80.2 | 74.0 | 71.4 | 86.2 |
| 2. When | | | | | | | |
| a) At birth | 43.6 | 29.6 | 42.5 | 68.6 | 18.0 | 41.1 | 51.7 |
| b) Fever | 5.2 | 3.8 | 7.5 | 4.1 | 10.0 | 1.8 | 6.9 |
| c) Diarrhea | 3.4 | 0.9 | 2.5 | 1.4 | 8.0 | 5.4 | 6.9 |
| d) Constipation | 23.5 | 26.9 | 15.0 | 24.4 | 24.0 | 21.4 | 31.0 |
| e) Every 2 weeks | 5.9 | 4.3 | 10.0 | 4.6 | 8.0 | 5.4 | 6.9 |
| f) Monthly | 3.6 | 9.6 | 5.0 | 3.2 | 4.0 | 5.4 | 0.0 |
| g) Not known | 21.7 | 29.6 | 22.5 | 18.9 | 32.0 | 26.8 | 13.8 |
| 3. Reason | | | | | | | |
| a) Child unclean | 46.9 | 50.4 | 37.5 | 50.7 | 34.0 | 46.5 | 55.1 |
| b) Food causes fever | 10.0 | 2.6 | 22.5 | 6.0 | 4.0 | 5.4 | 3.4 |
| c) Constipation causes fever | 1.1 | 1.7 | 0.0 | 1.4 | 2.0 | 0.0 | 0.0 |
| d) Upset stomach | 13.8 | 10.4 | 2.5 | 16.2 | 24.0 | 8.9 | 6.8 |
| e) Constipation is unhealthy | 14.1 | 7.0 | 15.0 | 11.0 | 16.0 | 17.9 | 24.1 |
| f) Not known | 21.7 | 29.6 | 30.0 | 18.9 | 26.0 | 26.8 | 13.8 |

as at birth (43.6%) because the newborn is considered unclean; when bowel movements are irregular (23.5%) because constipation is unhealthy and can cause upset stomach or fever. Others purge during fevers (5.2%) and diarrhea (3.4%), or regularly every 2 weeks (5.9%) or on a monthly basis (3.6%). Purging the infant or child particularly during stress conditions may have harmful effects.

g) Foods Beneficial or Harmful at Specific Illnesses: Foods especially beneficial or harmful for common ailments such as diarrhea/vomitting, fevers, colds/sore throats and worms are presented in Table XXXI. Carbohydrate concentrated foods such as cooked rice, rice preparation and potatoes are popular. Few mothers mentioned tea, herbs, lemon and leban. An earlier nutrition survey indicated the leben, rice, rice water, lemon juice (lemonade), potatoes and unsweetened tea would be among the foods given during diarrhea (4). Foods avoided at this time are primarily milk, followed by sugars/molasses, meat (goat/lamb/beef), tomatoes, onions, eggs, olive oil/butter. Foods are either good or bad because they could either stop diarrhea/vomitting or aggravate it further. Few mothers mentioned foods as being beneficial or harmful for other ailments. Lemon is considered good by some mothers for both fever and colds/sore throats. Mothers acquired these feeding practices from their mothers/mothers-in-law (31.4%), other older women (13.3%), or health personnel (26.5%).

h) Beneficial and Harmful Foods Summary: Table XXXII presents a summary of foods beneficial and harmful to the family and

TABLE XXXI. FOODS GIVEN OR AVOIDED AT CERTAIN ILLNESSES EXPRESSED IN PERCENTAGES

| | Total Sample | | Mothers By Region | | | | |
|---|---|---|---|---|---|---|---|
| | Mothers | Community | I | II | III | IV | V |
| A1. Foods given when child has diarrhea/vomiting | | | | | | | |
| a) Tea | 2.0 | 1.7 | 7.5 | 1.4 | 2.0 | 1.8 | 0.0 |
| b) Herbs | 2.8 | 2.6 | 2.5 | 2.8 | 4.0 | 1.8 | 3.4 |
| c) Potatoes | 25.0 | 33.0 | 25.0 | 25.3 | 24.0 | 19.6 | 34.5 |
| d) Rice | 31.9 | 25.2 | 30.0 | 35.0 | 10.0 | 37.5 | 37.9 |
| e) Lemon | 3.6 | 2.6 | 5.0 | 3.2 | 2.0 | 7.1 | 0.0 |
| f) Rice preparation | 12.2 | 0.0 | 5.0 | 14.7 | 20.0 | 3.6 | 6.9 |
| g) Leban (yoghurt) | 5.1 | 0.0 | 5.0 | 3.2 | 12.0 | 7.1 | 3.4 |
| h) Not known | 14.3 | 20.9 | 17.5 | 12.9 | 14.0 | 17.9 | 13.8 |
| 2. Foods avoided when child has diarrhea/vomiting | | | | | | | |
| a) Milk | 41.1 | 9.6 | 37.5 | 44.2 | 36.0 | 30.4 | 51.7 |
| b) Tomatoes;onions | 3.3 | 22.6 | 0.0 | 0.9 | 4.0 | 16.1 | 0.0 |
| c) Eggs | 2.8 | 0.0 | 10.0 | 0.9 | 8.0 | 1.8 | 0.0 |
| d) Beef/goat/lamb | 6.6 | 24.3 | 2.5 | 7.8 | 8.0 | 3.6 | 6.9 |
| e) Sugar/molasses | 16.1 | 2.6 | 17.5 | 18.4 | 6.0 | 17.9 | 10.3 |
| f) Olive oil/butter | 2.8 | 0.0 | 5.0 | 2.8 | 2.0 | 1.8 | 3.4 |
| g) Not known | 19.9 | 24.3 | 17.5 | 17.5 | 30.0 | 19.6 | 24.1 |

TABLE XXXI. (continued)

| | Total Sample | | Mothers By Region | | | | |
|---|---|---|---|---|---|---|---|
| | Mothers | Community | I | II | III | IV | V |
| 3. Who advised | | | | | | | |
| a) Doctor/nurse | 26.5 | 28.7 | 25.0 | 25.3 | 40.0 | 23.2 | 20.7 |
| b) Midwife/paraprofessional/ al-atar | 1.8 | 0.9 | 0.0 | 0.0 | 2.0 | 8.9 | 3.4 |
| c) Mother/mother-in-law | 31.4 | 29.6 | 22.5 | 36.9 | 24.0 | 23.2 | 31.0 |
| d) Older woman | 13.3 | 29.6 | 25.0 | 10.1 | 20.0 | 12.5 | 10.3 |
| e) Other | 11.5 | 13.0 | 7.5 | 12.4 | 2.0 | 16.1 | 17.2 |
| f) Not known | 14.3 | 20.9 | 20.0 | 13.8 | 12.0 | 14.3 | 13.8 |
| B1. Foods given when child has colds/sore throat | | | | | | | |
| a) Tea | 2.0 | 0.9 | 2.5 | 1.4 | 2.0 | 3.6 | 3.4 |
| b) Milk | 3.1 | 1.7 | 2.5 | 3.2 | 8.0 | 0.0 | 0.0 |
| c) Lemon | 16.3 | 15.7 | 10.0 | 21.2 | 10.0 | 7.1 | 17.2 |
| d) Hot liquids | 8.3 | 6.1 | 7.5 | 9.7 | 4.0 | 7.1 | 10.3 |
| e) Not known | 62.2 | 67.0 | 67.5 | 58.5 | 56.0 | 76.8 | 65.5 |
| 2. Foods avoided when child has colds/sore throat | | | | | | | |
| a) Grape leaves | 2.3 | 0.0 | 2.5 | 1.4 | 6.0 | 3.6 | 0.0 |
| b) Leban | 5.4 | 0.9 | 5.0 | 5.1 | 2.0 | 7.1 | 10.3 |
| c) Not known | 82.7 | 89.6 | 82.5 | 80.2 | 86.0 | 85.7 | 89.7 |

TABLE XXXI. (continued)

| | Total Sample | | Mothers By Region | | | | |
|---|---|---|---|---|---|---|---|
| | Mothers | Community | I | II | III | IV | V |
| 3. Who advised | | | | | | | |
| a) Doctor/nurse | 14.0 | 20.0 | 15.0 | 9.2 | 32.0 | 16.1 | 13.8 |
| b) Midwife/paraprofessional | 0.3 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 3.4 |
| c) Mother/mother-in-law | 12.0 | 9.6 | 7.5 | 14.3 | 10.0 | 12.5 | 3.4 |
| d) Older woman | 5.6 | 9.6 | 2.5 | 6.5 | 8.0 | 3.6 | 3.4 |
| e) Other mothers/friends | 0.3 | 1.7 | 0.0 | 0.0 | 2.0 | 0.0 | 0.0 |
| f) Husband/father | 0.5 | 0.0 | 0.0 | 0.5 | 0.0 | 0.0 | 3.4 |
| g) Other | 5.6 | 2.6 | 2.5 | 8.8 | 2.0 | 0.0 | 3.4 |
| h) Not known | 61.5 | 65.2 | 72.5 | 60.8 | 46.0 | 66.1 | 69.0 |
| C1. Foods given when child has fever | | | | | | | |
| a) Herbs | 2.3 | 1.7 | 5.0 | 1.8 | 6.0 | 0.0 | 0.0 |
| b) Potatoes | 2.0 | 3.5 | 0.0 | 1.8 | 0.0 | 1.8 | 10.3 |
| c) Lemon | 10.2 | 10.4 | 5.0 | 10.1 | 10.0 | 12.5 | 13.8 |
| d) Leban | 5.1 | 0.0 | 0.0 | 7.4 | 4.0 | 1.8 | 3.4 |
| e) Not known | 70.2 | 63.5 | 77.5 | 71.0 | 62.0 | 73.2 | 62.1 |
| 2. Foods avoided during fever | | | | | | | |
| a) Eggs | 4.3 | 0.0 | 0.0 | 4.1 | 4.0 | 10.7 | 0.0 |
| b) Beef/goat/lamb | 4.8 | 7.0 | 0.0 | 7.4 | 6.0 | 0.0 | 0.0 |

TABLE XXXI. (continued)

| | Total Sample | | Mothers By Region | | | | |
|---|---|---|---|---|---|---|---|
| | Mothers | Community | I | II | III | IV | V |
| c) Sugar/molasses | 2.3 | 3.5 | 0.0 | 1.4 | 2.0 | 1.8 | 13.8 |
| d) Not known | 82.7 | 78.0 | 92.5 | 80.6 | 88.0 | 80.4 | 79.3 |
| 3. Who advised | | | | | | | |
| a) Doctor/nurse | 14.5 | 24.3 | 12.5 | 10.1 | 28.0 | 19.6 | 17.2 |
| b) Mother/mother-in-law | 8.7 | 14.8 | 2.5 | 9.7 | 10.0 | 5.4 | 13.8 |
| c) Older woman | 6.4 | 14.8 | 12.5 | 4.1 | 10.0 | 8.9 | 3.4 |
| d) Other, not including local curer | 4.8 | 3.5 | 0.0 | 6.0 | 2.0 | 7.1 | 3.4 |
| e) Not known | 64.5 | 53.9 | 72.5 | 69.1 | 48.0 | 58.9 | 58.6 |

TABLE XXXII. SUMMARY OF FOODS CONSIDERED BENEFICIAL AND HARMFUL BY MOTHERS[1]

| | Every-one | Before Puberty | First Menstruation | Later Menstruation | Pregnancy | After Delivery | Lactation | 0-2 Years | 3-7 Years |
|---|---|---|---|---|---|---|---|---|---|
| BENEFICIAL FOODS | | | | | | | | | |
| Staples/grains/bread | 102 | 35 | 8 | 0 | 49 | 61 | 6 | 95 | 94 |
| Starchy roots and vegetables | 4 | 0 | 0 | 10 | 14 | 1 | 2 | 14 | 92 |
| Animal proteins | 549 | 229 | 207 | 196 | 562 | 578 | 423 | 395 | 308 |
| Vegetable proteins | 24 | 6 | 8 | 7 | 14 | 19 | 19 | 9 | 21 |
| Vegetables | 88 | 31 | 40 | 16 | 58 | 27 | 75 | 19 | 41 |
| Fruits | 68 | 40 | 35 | 68 | 76 | 59 | 53 | 67 | 44 |
| Beverages/drinks | 1 | 19 | 0 | 3 | 0 | 0 | 0 | 5 | 0 |
| Sugar/sweets | 0 | 0 | 0 | 0 | 0 | 45 | 24 | 29 | 0 |
| Fats & oils | 8 | 0 | 0 | 0 | 3 | 29 | 60 | 0 | 0 |
| Ricewater | 0 | 0 | 0 | 0 | 0 | 0 | 52 | 0 | 0 |
| Total | 844 | 360 | 298 | 300 | 776 | 819 | 714 | 623 | 600 |

[1]Each mother gave 3 examples of foods considered beneficial or harmful for each category. The number of times each food was mentioned is totaled and presented in the table.

TABLE XXXII. (continued)

| | Every-one | Before Puberty | First Menstruation | Later Menstruation | Pregnancy | After Delivery | Lactation | 0-2 Years | 3-7 Years |
|---|---|---|---|---|---|---|---|---|---|
| HARMFUL FOODS | | | | | | | | | |
| Starchy roots and vegetables | 0 | 0 | 0 | 0 | 22 | 22 | 13 | 0 | 2 |
| Animal proteins | 32 | 0 | 0 | 1 | 4 | 6 | 0 | 6 | 0 |
| Vegetable proteins | 2 | 0 | 0 | 0 | 7 | 0 | 3 | 0 | 0 |
| Vegetables | 17 | 0 | 1 | 0 | 9 | 4 | 48 | 6 | 9 |
| Fruits | 2 | 0 | 6 | 4 | 23 | 4 | 55 | 0 | 0 |
| Beverages/drinks | 1 | 11 | 9 | 8 | 7 | 0 | 2 | 1 | 2 |
| Condiments/spices | 6 | 16 | 20 | 9 | 55 | 10 | 0 | 27 | 10 |
| Sugars/salt | 3 | 0 | 0 | 0 | 3 | 0 | 2 | 1 | 0 |
| Fats & oils (fried food) | 0 | 0 | 3 | 0 | 8 | 41 | 3 | 3 | 2 |
| Acidic food | 0 | 15 | 23 | 0 | 0 | 0 | 0 | 3 | 0 |
| Canned/frozen food | 9 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total | 72 | 42 | 63 | 22 | 138 | 67 | 126 | 47 | 25 |

to women and children of specific vulnerable periods of life. Overall, many more foods are believed to be beneficial than harmful qualities for all groups. These beneficial foods fall largely in the category of animal origin foods and are considered 'strong'. Foods that are harmful apply most to pregnant and lactating women. They are usually condiments/spices, fruits and vegetables and starchy roots such as potatoes.

i) Beneficial and Harmful Food Habits: Table XXXIII presents information on food habits considered beneficial or harmful by community influentials in their respective communities. Consumption of meat, milk and milk products such as leban/lebaneh are listed as beneficial, as are the practice of breastfeeding infants and covering foods as a good hygienic practice. These beneficial food habits are believed to be conducive to good health and strength. Community influentials believed these practices could be encouraged and reinforced through education by teaching mothers how to continue adopting good food habits, through health lessons in maternal and child health centers and through demonstrations. Harmful foods listed are inadequate consumption of foods, drinking too much tea/coffee, eating uncooked, unhygienic food and eating too much fatty food. These habits are considered harmful to health, bad for the individual consuming it or being a 'weak' food. It is believed that change can be brought about by education i.e. teaching the mothers how they could change to other foods and demonstrating its harmfulness to health.

TABLE XXXIII. BENEFICIAL AND HARMFUL FOOD HABITS EXPRESSED IN PERCENTAGES

| | Community |
|---|---|
| I. Beneficial Food Habits | |
| 1. Eating leban/lebaneh | 10.4 |
| 2. Drinking milk | 6.1 |
| 3. Eating raw vegetables | 1.7 |
| 4. Eating meat | 11.3 |
| 5. Eating eggs | 1.7 |
| 6. Eating covered food | 8.7 |
| 7. Breast feeding | 9.2 |
| 8. Eating bread | 0.9 |
| 9. Eating fruits | 0.9 |
| 10. Not known | 53.0 |
| Why Beneficial | |
| 1. Good for health | 24.3 |
| 2. Strength giving | 11.3 |
| 3. Others | 4.3 |
| 4. Not known | 56.5 |
| How Encouraged | |
| 1. Teach mother how to adopt good food habits | 20.0 |
| 2. Show it is good | 4.3 |
| 3. Health lessons at MCH centers | 8.7 |
| 4. Teach how to grow and raise food | 0.9 |
| 5. Reduce prices of basic commodities | 0.9 |
| 6. Others | 1.7 |
| 7. Not known | 63.5 |

TABLE XXXIII. (continued)

| | Community |
|---|---|
| II. Harmful Food Habits | |
| 1. Eating uncooked, unclean food | 4.3 |
| 2. Eating too much fatty food | 4.3 |
| 3. Eating too much starchy food | 3.5 |
| 4. Drinking too much tea/coffee | 6.1 |
| 5. Eating only some of the foods daily | 20.0 |
| 6. Avoiding good food | 0.9 |
| 7. Children drinking cold refreshments | 0.9 |
| 8. Boiling food longer than needed | 0.9 |
| 9. Restrict intake of pregnant/breast feeding/sick women | 0.9 |
| 10. Not known | 58.3 |
| Why Harmful | |
| 1. Bad for individual | 7.8 |
| 2. Harmful to health | 18.3 |
| 3. Weak food | 4.3 |
| 4. Causes indigestion | 2.6 |
| 5. Others | 7.0 |
| 6. Not known | 60.0 |
| How Changed | |
| 1. Teach mother how to change the habit | 21.5 |
| 2. Show it is harmful | 8.7 |
| 3. Others | 7.8 |
| 4. Not known | 60.9 |

## V. COMPARISON OF RESPONSES BETWEEN THE TWO GROUPS OF RESPONDENTS

The community influentials' responses are compared with the mothers' to verify if the former group, i.e., the community influentials could confirm the food habits observed in their respective communities, and whether they could be used as the only source of information for obtaining similar information for future studies.

Although the community influentials' responses agreed with the mothers' in general, there were several instances when their answers were significantly different from each other. Listed below are some specific differences that emerged in the study.

### I. Food Consumption Data

The different type of foods eaten by the households in the community, and frequencies of consumption are in general similar. Significant differences occur in the type of second starchy roots and vegetables consumed. The mothers responded that squash was their primary secondary vegetable as opposed to pumpkin stated by community influentials. Reasons behind frequency of consumption (first and second starchy roots) were also different, mothers generally implying that these foods were consumed because they were liked by the family members.

### II. Food Production, Purchasing, Cooking and Storage Practices

A number of significant differences occur in this section of household food practices.

1) Foods raised for household use: Almost one fourth of the

community influentials were not able to respond to the question.

2) Type of animal foods raised: A larger percent of community influentials believed more poultry and goats were raised by the households than was the case as reflected by the mothers' responses.

3) Type of vegetable foods grown: Similarly, a larger percent of influentials believed their community grew staples, vegetable proteins and other vegetables for household consumption.

4) Proportion of food consumed that is grown/raised at home: Less households grew/raised 50 to 75% of their household consumption than was believed by the influentials. A similar pattern is seen in the number of households growing/raising 25-50% or less than 25% of their food consumption.

5) Frequency of marketing: Community influentials believed fewer households purchased food daily, but more purchased it 3-4 times per week.

6) Foods prepared at home: More mothers prepared/preserved Jew's mallow and olives and less made jameed for home use.

7) Method of cooking used most often: Fewer mothers used boiling and more of them fried foods than believed by the community influentials.

8) Preparation of bread: Some mothers did not prepare any bread for home use contrary to the response of the community influentials indicating that at least some bread was prepared by all of them.

9) Food preparation: Although the family meal is mostly

prepared by the mother, an older child or other women do so in a few households which the community influentials were not aware of.

10) Storage of uncooked dry food: More community influentials believed these foods were stored than was actually indicated by the mothers.

III. General Eating Practices, Food Preferences and Restrictions

There was concurrence between the mothers and community influentials in this area of questioning. Exceptions occur in who eats meals outside the home. A smaller percentage of community influentials listed the husband/father as eating outside the home than was actually true. The second difference occurred in the reason for avoiding foods due to religious teachings. An overwhelming number of mothers believed it was a sin. Community influentials stated eating forbidden food (pork) was unhealthy/harmful or unclean besides being considered a sin.

IV. Vulnerable Groups

Significant differences occurred in foods considered beneficial for pregnancy between the mothers and community influentials' responses.

In infant feeding practices there is a difference in the reason for starting bottle feeding. A larger percentage of community influentials believe that the mother started bottle feeding because the child needs other foods or the mother does not have enough milk. More community influentials believe processed milk (evaporated, dry, condensed), or infant formula is given through the bottle than that stated by the mothers.

The reasons behind who feeds the child and source of advice for child feeding are significantly different. More community influentials believe the mother-in-law, health worker or older women have greater influence on the mother. A comparatively smaller percentage of community influentials believed a mother learns about child feeding by observing others in the community.

## VI. FUTURE PROGRAM IMPLICATIONS

The survey findings when translated into action guidelines provide general and specific program direction. The findings confirmed that people living in the desert regions in Jordan are at a greater disadvantage in securing a more nutritious and varied diet than other regions. The CARE/Jordan mission has already taken action to shift their nutrition programming to the more disadvantaged areas. The food habits survey gave additional support and emphasis for focussing in this region.

This survey provided concrete information on food beliefs and practices that have positive and negative nutritional consequences. New efforts for nutrition and health education can be developed to emphasize and encourage the positive nutritional practices existing in the country. At the same time, these efforts can also examine and discuss the practices that have negative nutritional consequences brought to light in the survey.

Some of the areas that require closer attention are as follows:

a. The widely held belief that a pregnant woman should eat less than normal (44.1%) or only normal amounts of food (38.8%) during pregnancy. This obviously impacts the health of the mother and that of the growing fetus.

b. The practice of eating together from the family pot and its possible negative nutritional implications for females and younger children.

c. The belief that a pregnant woman should eat less than normal when she is ill.

d. The number of mothers who believe that food intake for lactating mothers should be normal is an extremely high percentage (39.5%). The importance of nursing mothers increasing food intake should be stressed.

e. The fact that approximately half the mothers surveyed (42.9%) believe that the food intake of nursing mothers should be reduced when their child is ill is another negative belief that should be discussed.

f. The belief, held by almost all the mothers, that the newly born child should not be breastfed for the first one to three days after birth leading to a reduction in the intake of colostrum is critical. This should be a key message in nutrition and health education efforts.

g. Nearly half the mothers (48.0%) stated that breastfeeding should be stopped when the nursing mother is ill. Although the child could be infected from the mother, the consequences to the child of not being breastfed are more serious.

h. Mothers introduce other foods by approximately a mean age of 8 months. The necessity of introducing them at an earlier age should be stressed.

i. The wide-spread belief and practice of purging (78.6%) children regularly or during illness is of importance

and needs further examination particularly in view of the extremely negative consequences it could have during stress conditions.

The finding that mothers learn food beliefs and practices from observing other women in the community offers the hope that the introduction and acceptance of improved practices can be more readily accomplished through nutrition and health education efforts than would otherwise be the case if a person's mother or mother-in-law were the sole source of such behavior models. In the same vein, the fairly solid belief that more foods are beneficial than harmful means that there are almost no or very few food taboos that are nutritionally unwise (i.e., prohibitions against eggs or meat, etc.). The distinction between "strong" and "weak" foods and its consumption should be a point for discussion.

In short, there are many positive factors revealed by the survey that should make nutrition and health education efforts possible. Another positive finding that came out of the survey, was the expression of interest by mothers to the survey administration in increasing MCH programs. Mothers recognize the value of these programs and would like to have them expanded.

In conclusion, Food Beliefs Survey has provided useful information that CARE/Jordan will be able to use in the very practical ways discussed above. It is of interest and potential use to

Jordanian professional in the MCH, the Community Medicine Department of the University of Jordan, the Ministry of Education and other agencies working in the health and nutrition fields.

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