

# Awareness of Healthy Daily Nutrition Habits Among Adults

Leyla A. Abu-Hussein\*

Department of Allied Health Sciences, Faculty of Human Sciences, Al-Balqa' Applied University, Balqa, Jordan  
P. O. Box: 541911, Amman (11937)

## Abstract

This research aimed to study the nutritional status of adults. The study concentrated on collecting information about the food habits and nutrition disturbances among adults. Questionnaire was used to collect data. The questionnaire composed of three parts; The first part was for personal information, while the second part concerned about nutrition disturbances and the disturbances. Nutrition habits diagnosed among the sample revealed different third part concerned about food intake. The results showed that the studied sample suffers from different nutritional imbalance food intake among the sample. Awareness of balance food program should be improved through educational nutrition programs.

**Keywords:** Food intake, food disturbances, food habit

## 1. Introduction

Nutrition assessment is a method used to evaluate the nutrition status of individuals (Belot & James, 2011) and comparing the nutrition habits among different areas. Nowadays, nutrition assessment is used to determine the poverty of different areas and became international applied procedures (Bhattacharya, Currie, & Haider, 2004). The collected information through the nutrition assessment can be used to draw health care plans for different areas to correct any imbalances or food bad habits in different areas (Corder et al., 2011). Such work is very beneficial in poor areas of the world.

Nutrition assessment is a procedure applied through measuring the food habits in a specific period of time (Crites & Aikman, 2005; Florence, Asbridge, & Veugelers, 2008). The assessment is taken on daily, weekly, monthly or yearly basis. The evaluation includes the evaluation of food uptake in the period before the survey as well as collecting information about food intake habits (Stang & Story, 2005).

Good nutrition habits will help standing food health (Garduno, 2015). So, nutrition assessment is essential to improve individuals' health through improving their food habits. Increasing health care through food will decrease the expenses on medical care and improve awareness among citizens to minimize their exposure for diseases. One example can be mentioned in this respect is the nutrition assessment of women and food care plans would help minimizing the exposure for osteoporosis. Such assessment will increase women awareness about the food habits that should be followed, decreasing the exposure for diseases, and so minimizing the expenses for diseases treatment (Sebastian, Cleveland, & Goldman, 2008).

Accordingly, this paper will run nutrition assessment for a sample of citizens as a possibility to evaluate the food habits and patterns among individuals in two governorates. It is considered a good practicing to enhance understanding of the value of nutrition assessment surveys.

Nutritional awareness was defined as self-perception of the importance assigned to eating balanced meals, and classified as high, moderate, or of little importance (Alkerwi, Sauvageot, Malan, Shivappa, & Hébert, 2015). It is the ability to receive and differentiate sensory stimuli. Diet quality, improved income effected on nutritional awareness (Alkerwi et al., 2015). Parents' responsibility is to change behavior techniques to prompt barriers of food choices (Golley, Hendrie, Slater, & Corsini, 2011). Nutrition knowledge associated with healthy eating 25 times more (Wardle, Parmenter, & Waller, 2000). Lower educational level decline knowledge level; differences in knowledge between socio-demographic status and men knowledge is poorer than women's (Wardle et al., 2000), educational level, age and kind of occupation were the most important determinants of the women's nutrition knowledge (De Vriendt, Matthys, Verbeke, Pynaert, & De Henauw, 2009). Effective food-policy actions lead to positive changes in food, social, and information environments and the systems that underpin them (Hawkes et al., 2015). People with high nutrition knowledge tend to have high attitude toward food evaluation (Crites & Aikman, 2005). In (Pirouznia, 2001) the authors indicates that the correlation between food choices and nutrition knowledge for female and male students in different class level. Chronic disease control expands by knowledge of how people eat, risk behavior effect on risk factors; diet (Who & Consultation, 2003).

## 2. Design and Methods

### 2.1 Study population

Cross sectional random sample was selected from the studies governorates. The sample included 438 subjects distributed among the two governorates. The study concentrated on subjects with ages 18 years or more. The sample included different ages and educational levels to facilitate the comparison between the two governorates.

Questionnaire was used as a tool for data collection.

The questionnaire was built to collect information about demographic characteristics in its first part. The second part was designed to collect information about subject knowledge of some nutrition information and food habits. The third part was designed to collect information about the type of food consumed specially in breakfast meal. The content validity of questionnaire was tested through specialists in nutrition science. The questionnaire was tested through simple random sample to test its field validation and reliability. The collected questionnaires' data were entered to SPSS package (Ver. 21) to test its reliability as well as the notes were collected through the field were corrected.

The data was collected through personal interview to ensure the validity of questionnaires for analysis and to check in field the logic and integrity of its answers. A group of volunteered students at Nutrition Division in Al Balqa University executed the structured interviews. The collected questionnaires were entered and analyzed using SPSS.

## 2.2 Study variables

**Part 1: Personal information:** This part included questions to collected data about personal characteristics of individuals. The questions inserted in this part include asking about age, height, weight, sex, residence place, marital status, educational level, career, number of family members and family monthly income.

**Part 2: Food disturbances:** This part concerned about collecting data for food disturbances practiced by individuals. It is included questions about: headache, lack of concentration, lack of appetite, practicing frequent diarrhea and constipation.

**Part 3: Food frequency intake:** This part cared for food frequency habits. The measurement of these habits includes all food categories: dairy products, meat, legumes and dry grains, vegetables, fruits, starch and grains, fats and sweets, beverages. The questionnaire cared for the amount of intake and the frequency of intake (daily, weekly, monthly and yearly). Also, this part cared for the measurement of type of food intake in the day before the interview.

**Calculating of nutrients intake;** The source of all nutrients value was the food composition table for Middle East (Pellett & Shadarevian, 1970) and Sossy Shadarevia except vitamin B12 the source is food composition table from understanding normal and clinical nutrition book by Rolfes, (Rolfes, Pinna, & Whitney, 2014). Nutrient intake for individuals were calculated by using the gram amounts of food expressed per (100) of food.

**Statistical Analysis;** The first three parts of the questionnaire were analyzed using Statistical Package for Social Sciences (SPSS) ver. 21. Descriptive statistics was used to describe the different demographic characteristics and frequency of meals taken by subjects. Inferential statistics namely chi-square was used to test for the differences of distribution of meals frequency on demographic characteristics. For the food intake patterns Excel 2010 was used to convert the amount of taken foods to (g/d) through the division of intake quantity on the period of intake. Food conversion and composition tables were used In (Sebastian et al., 2008) for propose for conversion food to carbohydrates, proteins and fats.

## 3. Result

The sample included 80% from Amman while only 20% from Balqa. The marital status of the sample indicated that most of samples are single with percentage 50% followed by the married individuals with percent 30%. Most of the samples are university graduates with percent 70%, followed by high school diploma with percent 20% (Figure 1).

Most of the sample are public employees with percent 40% followed by the students with percent 20.0% and 30% of the sample are unemployed. The individuals that live in families with less than 3 members form 40% of the sample followed by the individuals with family members' range 3-6 with percent 40%. The family income JD201-JD500 was more dominant in the sample with percent 50.0% followed by the families with income more than JD500 with percent 40.0% (Figure 1).

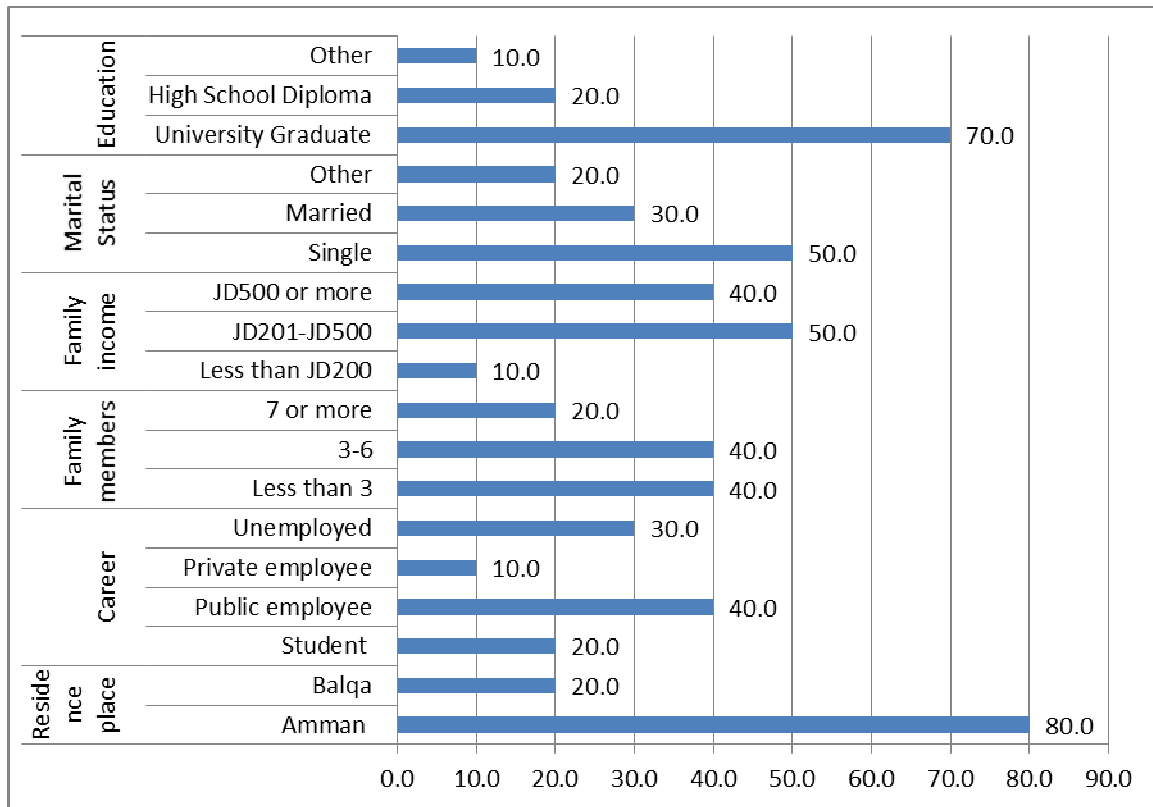


Figure (Golley et al.) Frequencies and percentage of subjects demographics

### 3.1 The effect of family structure on breakfast intake

One of the questionnaire concentrations was the breakfast. The regularity of breakfast intake was the least practiced daily. The highest breakfast intake reported was concentrating on once per three days (Figure 2). The percentage of males used to take breakfast once per three days was 41.0 compared to 43.2% of females. The differences tests between males and females for the frequency of breakfast intake was not significant (chi-square =4.107 and p=0.92), which reflects similar behavior for breakfast between males and females.

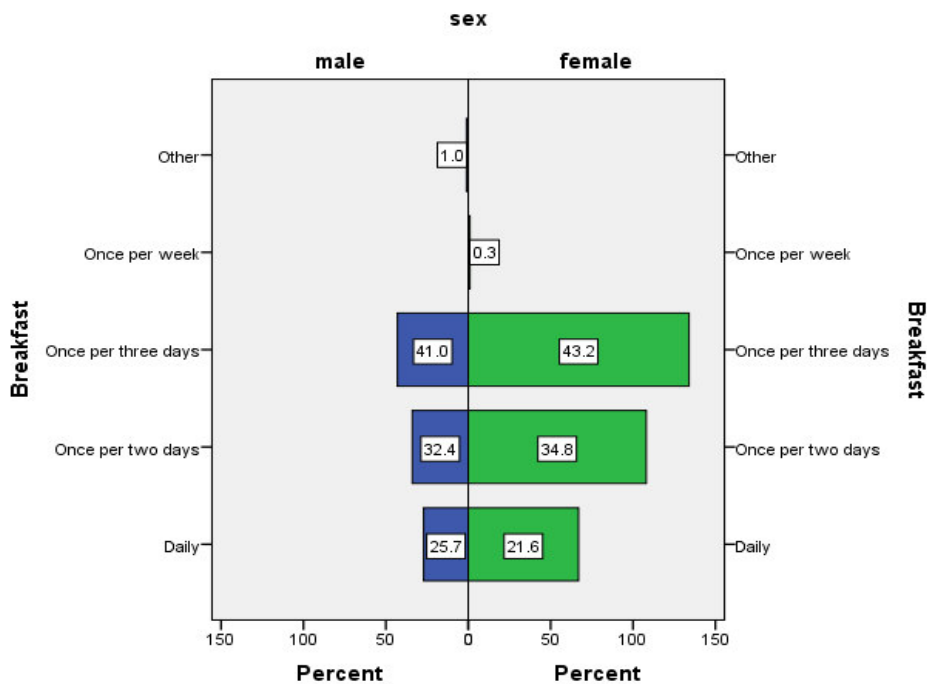


Figure 2: The frequency of breakfast intake between males and females.

Most of the sample indicated that they rely on mothers in preparing their breakfast meals. The majority of respondents who has their daily breakfast meal (18.5%) indicated that these meals are prepared by their mothers. About 3.7% of respondents rely on themselves to prepare the breakfast meal. Also, the percentage of reliance on mothers to prepare breakfast meal once per two days increased to reach 28.0% compared to others. Moreover, the percentage of mothers who prepare the breakfast meal once per three days increased to reach 34.9% and the individuals who prepare their own breakfast meal increased to reach 7.1%. However, who is preparing the breakfast, but the majority of sample take at least one meal every three days (Figure 3).

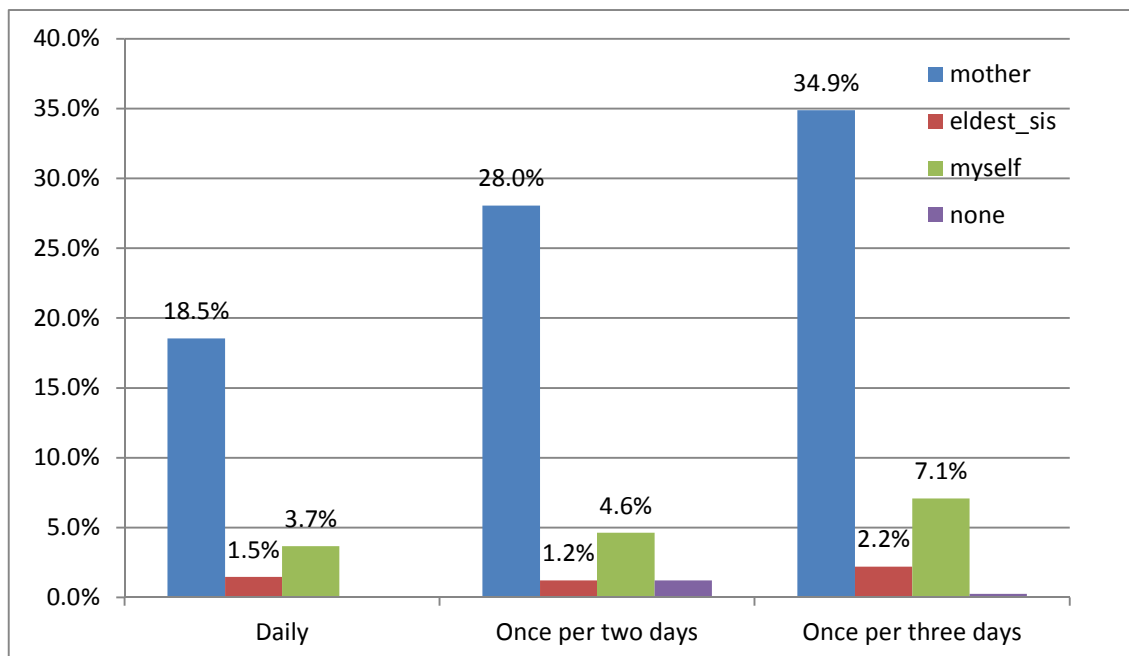


Figure 3: Preparation of breakfast among sample

The number of females per household affected the intake of breakfast meal as well as the regularity of it. When the number of females inside household is equal or less than 5, then the breakfast intake increased daily, once per two days or once per three days. The highest regularity recorded for the breakfast intake was when the number of females inside the household is 3 or 4. This indicates that the reliability on females on breakfast meal increase in society (Figure 4).

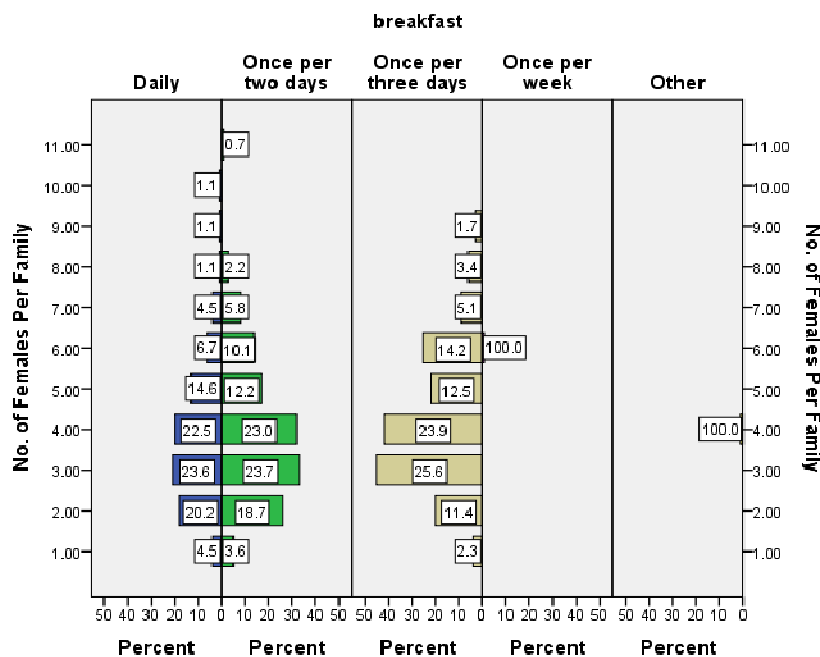


Figure 4: The regularity of breakfast meal intake based on the number of females per family  
 The percentage of females to males inside household supported the previous attitude for breakfast

intake. When the percent of females exceeds males, the percentage of individuals take the breakfast meal is 51.1% (Figure 5) compared to the household with equal or less females. Similar trends recorded for the subjects who intake breakfast every two days. The highest percentage of this category (45.3%) is living in families with females more than males. Also, the same trend was recorded for subjects' intake breakfast once per three days (53.1%).

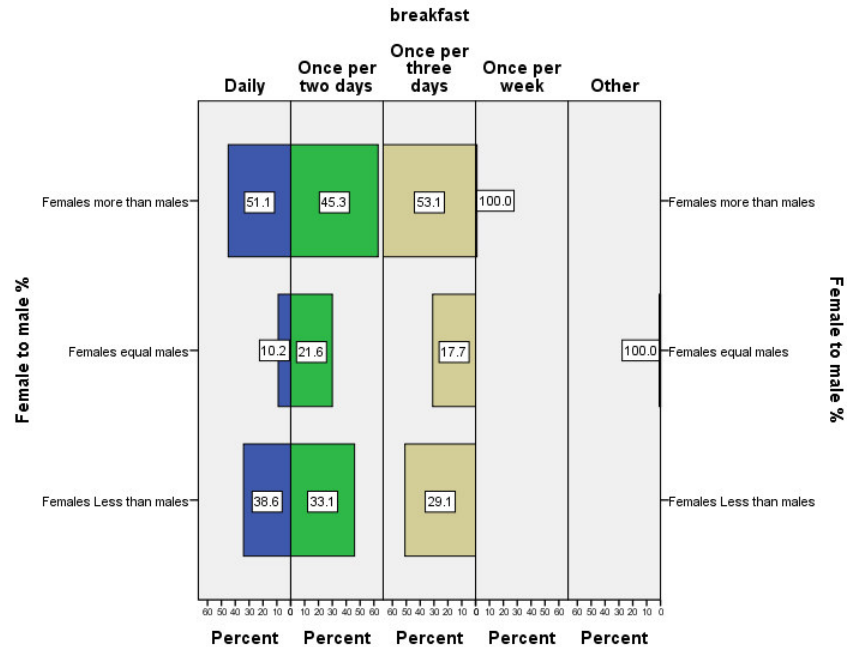


Figure 5: The effect of regularity of breakfast intake depending on percentage of females to males in households

### 3.2 The breakfast and common diseases incidence

The results showed that the breakfast intake is affecting the incidence of headache among subjects. The incidence of headache increased to 39.0% among the subjects that have breakfast every two days or three days, while it was recorded to be 21.4% among the subjects that have breakfast daily (Figure 6). Also, the percentage of subjects that sometimes have headache increased to reach 46.4% among the subjects that intake breakfast once every three days and decreased to 32.8% among the subjects that intake breakfast once per two days to 20.8% among the subject that have headache sometimes with daily breakfast intake (Figure 6). The effect of breakfast on headache incidence was significant (Chi-square 16.76 and  $p = 0.033$ ).

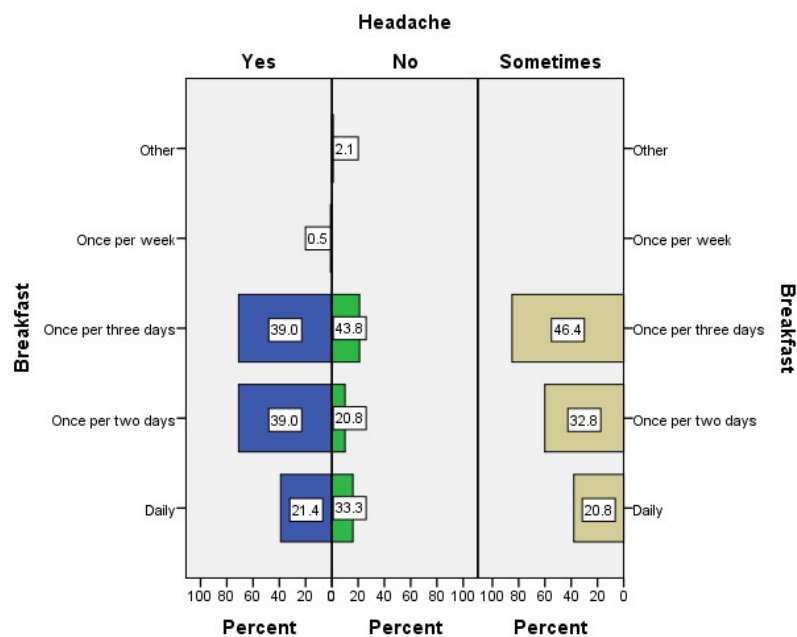


Figure 6: The effect of breakfast on headache incidence

On the other hand, breakfast has a direct effect on the lack of concentration among subjects during the day. The highest lack of concentration (48.4%) which happens sometimes recorded among individuals who intake breakfast once per every three days and decreased among subjects who take breakfast once per two days (30.4%) to reach 21.2% among the subjects who intake breakfast daily (Figure 7). Also, the highest level of lack of concentration was reported among subjects who intake breakfast once per two days (41.0%) and once per three days (31.4). The results showed that this effect was significant (Chi-square = 16.603 and  $p = 0.035$ ).

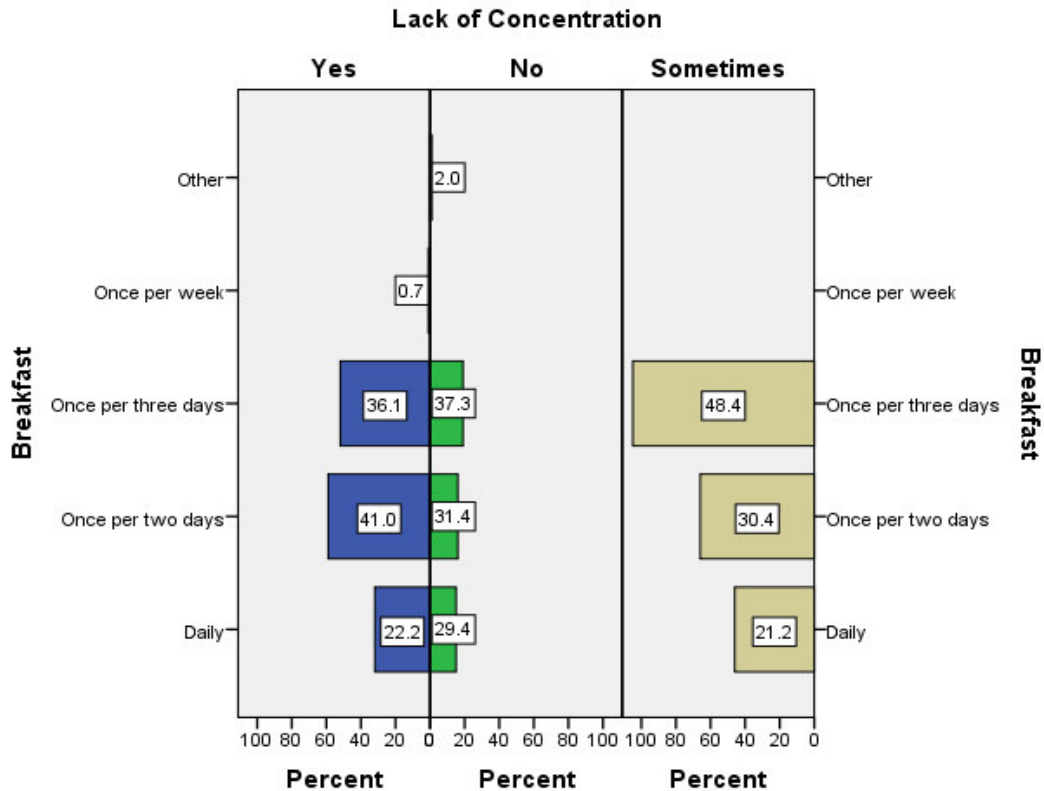


Figure 7: The effect of breakfast intake on lack of concentration

### 3.3 Food Habits

The majority of the sample takes two meals per day with percent 50.0%, while 30% of the sample takes three meals per day. The sample was divided to two parts, the first part takes the meals regularly, while the other part do not. The major meal for the majority of sample (70.0%) was the lunch, while the supper was major for 20% and breakfast for 10%. The sample differed in their attitudes for omitting meal, some prefer to omit the breakfast, the others prefer to omit the lunch, or supper. The intake of vitamins among the sample did not exceed 40% (Figure 8).

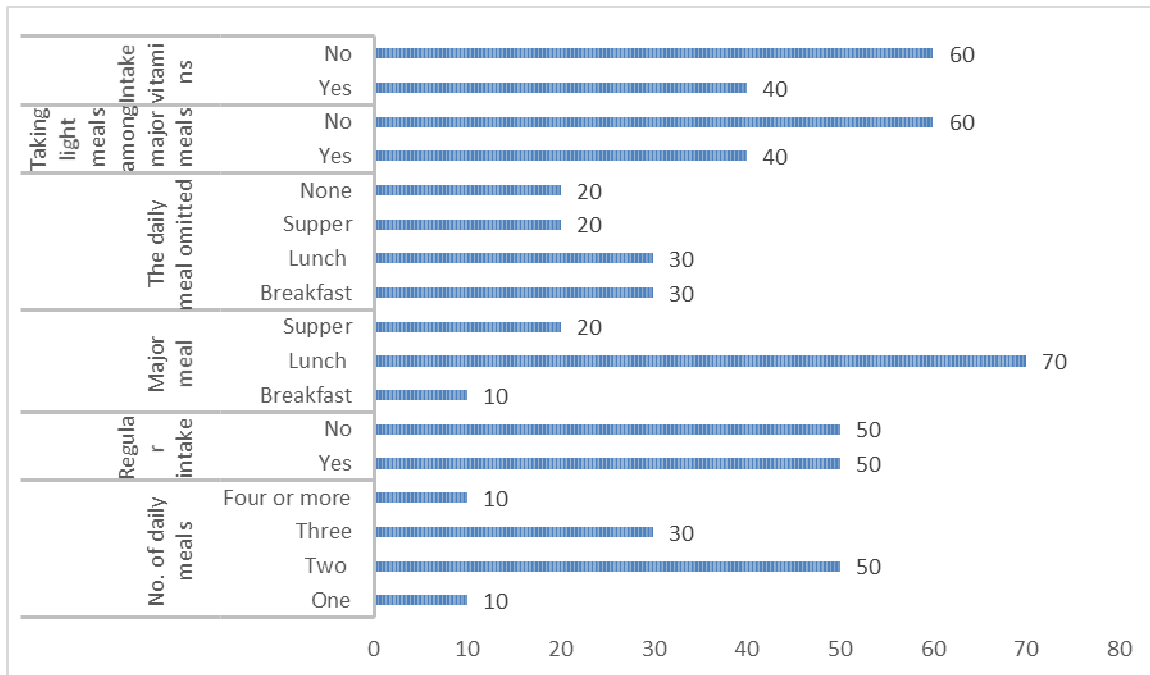


Figure 8: The daily food habits of subjects

More than half of the sample do not take snack meals between the major ones with percent 60%, while the rest they do. The number of snack meals exceeded sometimes 3 ones for some persons of the sample.

About 60% of the sample cared for the food educational programs and half of the sample care for food value. The majority of the sample did not take fast food, when they did they used to eat it twice to thrice a week. Most of the sample prefers the vegetables as a source of food (60.0%), while the rest prefer the animal food. The source of information about food distributed among the mentioned tools (Figure 9).

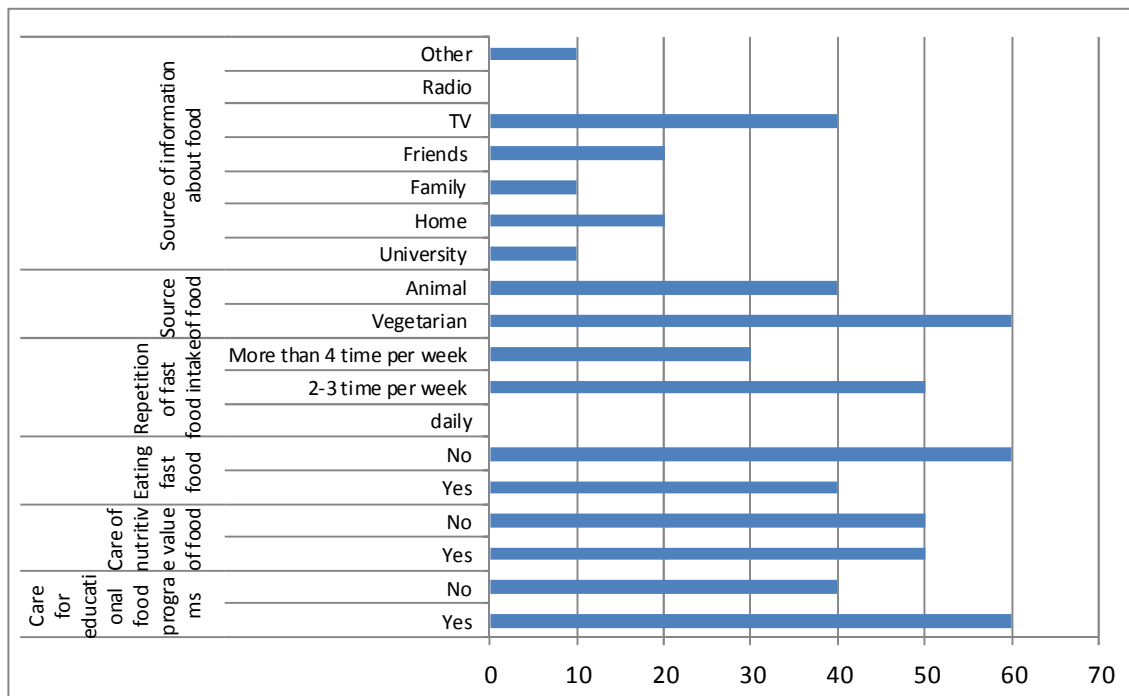


Figure 9: Education tools about food

There was a wide variation of food intake among the different items. The sample shows high intake of some items, while they show less intake of others. Some items indicated high intake such lebaneh, with mean (g/d) is 750 while other items show very low consumption such as milk low fat with mean (g/d) is 2.70. For the meat group the sample has shown high intake of poultry compare to other meats. The eaten vegetables per day was high, this approves that most of the sample were vegetarian. The grain groups were the highest group of intake with highest value for bread "Al Muwahad" (Table 1).

**Table 1:** Average intake (g/day) for food items

Food group	Food Item	Mean (g/day)
<b>Milk Group</b>	Milk whole	18.93
	Milk low fat	2.70
	Milk skim	9.77
	Yogurt	202.38
	labaneh	750.00
	white cheese ( Goat)	51.79
	processes cheese	47.30
<b>Meat and beans Group</b>	Beef	14.52
	Sheep	125.06
	Chicken	203.33
	Fish	30.34
	Egg	156.83
	Lentils	88.55
	Hummus	61.51
	Black bean	58.95
	White been	89.89
	Walnut	9.08
	Peanut	21.54
Hazelnut	9.02	
<b>Vegetables Group</b>	Green beans	279.03
	Peas	165.56
	Cauliflower	305.41
	Squash(Zucchini)	231.23
	Eggplant	127.61
	Potato	433.97
	Carrots	161.27
	Tomato	952.55
	Mallow	133.16
	Spinach	155.49
	Lettuce	167.19
	Cabbage	67.81
	Peppermint	107.70
	Parsley	73.10
<b>Fruits Group</b>	Banana	48.50
	Orange	32.00
	Apple	50.02
	Limon	60.13
	Peach	35.92
<b>Grains Group</b>	Cooked wheat	111.08
	Bread	914.29
	Rice	386.51
	Macaroni	156.19
<b>Fats and sweets</b>	Oatmeal	41.11
	Chocolate	146.28
	Jams	78.50
	Sugar	183.57
	Olive oil	383.96
	Hydrogenated Oil(Ghee)	167.16
	Peanut butter	26.03
Spreading Butter	5.96	
<b>Beverages</b>	Coffee	209.52
	Tea	803.33
	Carbonated beverages	52.87
	Apple juice	10.41
	Limon Juice	30.38
Orange juice	139.51	

Table (2) shows the mean intake of nutrients in Amman and Al-Balqa' and the average recommendations of DRI for this nutrients, all mean intake of nutrients was over the DRI recommendation except Ca Amman and Al-Balqa', vitamin C and kcal less than the DRI recommendations.



Tables (2) Mean intake of (CHO, Protein, Fat, VC, Iron, Ca, and Kcal)

Macro and micro nutrient and energy	Mean	DRI recommendation
<b>CHO(g)</b>	320.1	130
<b>Protein(g)</b>	116.2	55.4
<b>Fat (g)</b>	39.3	
<b>VC(mg)</b>	22.1	90
<b>Vb12(µg)</b>	3.1	2.4
<b>Iron(mg)</b>	220.7	8
<b>Ca(mg)</b>	650.1	1013.3
<b>Kcal</b>	3105.3	3067

#### 4. Discussion

Most of sample members show some food intake problems. The major problem they had is the lack of appetite for food. The sample shows that they do not have regular food intake. The majority of the sample takes two meals all the day and they prefer to omit the breakfast meal which is considered as one of the important meals for persons. Also, they showed less care for food items quality when they take their meals. Most of the sample showed that they are vegetarian, so most of them do not take meals outside their homes.

The sample shows that concentrate in their food on current daily foods such as grains in general and namely bread, vegetables. Concerning meats, the sample concentrate on chicken (poultry) as a source for meat, while their concentration on other sources is less. Most of sample members prefer home food over the fast or junk food.

The results revealed the disturbances of the sample for food intake. The sample has shown that there is unbalance deal with the different food groups. This indicates they do not care about the type of food and its quality but concentrating on food per se.

This leads to conclude that the sample of the study does not have frequent and well planned food on daily basis, despite the 24hr recall analysis show enough uptake of micro and macro elements, still the sample requires more arrangements to have better food balance, and the sample concentrated on vegetarian sources of food, but they lack the ability to get balanced food through vegetarian sources.

#### References

- Alkerwi, A., Sauvageot, N., Malan, L., Shivappa, N., & Hébert, J. R. (2015). Association between Nutritional Awareness and Diet Quality: Evidence from the Observation of Cardiovascular Risk Factors in Luxembourg (ORISCAV-LUX) Study. *Nutrients*, 7(4), 2823-2838.
- Belot, M., & James, J. (2011). Healthy school meals and educational outcomes. *Journal of health economics*, 30(3), 489-504 .
- Bhattacharya, J., Currie, J., & Haider, S. (2004). Poverty, food insecurity, and nutritional outcomes in children and adults. *Journal of health economics*, 23(4), 839-862 .
- Corder, K., van Sluijs, E., Steele, R., Stephen, A., Dunn, V., Bamber, D., . . . Ekelund, U. (2011). Breakfast consumption and physical activity in British adolescents. *British Journal of Nutrition*, 105(02-316), (321)
- Crites, S. L., & Aikman, S. N. (2005). Impact of nutrition knowledge on food evaluations. *European journal of clinical nutrition*, 59(10), 1191-1200 .
- De Vriendt, T., Matthys, C., Verbeke, W., Pynaert, I., & De Henauw, S. (2009). Determinants of nutrition knowledge in young and middle-aged Belgian women and the association with their dietary behaviour. *Appetite*, 52(3), 788-792 .
- Florence, M. D., Asbridge, M., & Veugelers, P. J. (2008). Diet quality and academic performance. *Journal of School Health*, 78(4), 209-215 .
- Garduno, S. D. (2015). Dietary Patterns and Food Culture in the Middle East. *EC Nutrition*, 2, 318-327 .
- Golley, R., Hendrie, G., Slater, A., & Corsini, N. (2011). Interventions that involve parents to improve children's weight - related nutrition intake and activity patterns—what nutrition and activity targets and behaviour change techniques are associated with intervention effectiveness? *Obesity Reviews*, 12(2), 114-130 .
- Hawkes, C., Smith, T. G., Jewell, J., Wardle, J., Hammond, R. A., Friel, S., . . . Kain, J. (2015). Smart food policies for obesity prevention. *The Lancet*, 385(9985), 2410-2421 .
- Pellett, P. L., & Shadarevian, S. (1970). Food composition tables for use in the Middle East .
- Pirouznia, M. (2001). The association between nutrition knowledge and eating behavior in male and female adolescents in the US. *International journal of food sciences and nutrition*, 52(2), 127-132 .
- Rolfes, S. R., Pinna, K., & Whitney, E. (2014). *Understanding normal and clinical nutrition*: Cengage Learning.
- Sebastian, R. S., Cleveland, L. E., & Goldman, J. D. (2008). Effect of snacking frequency on adolescents' dietary

- intakes and meeting national recommendations. *Journal of Adolescent Health*, 42(5), 503-511 .
- Stang, J., & Story, M. (2005). Nutrition screening, assessment and intervention. *Guidelines for Adolescent Nutritional Services* .
- Wardle, J., Parmenter, K., & Waller, J. (2000). Nutrition knowledge and food intake. *Appetite*, 34(3), 269-275 .
- Who, J., & Consultation, F. E. (2003). Diet, nutrition and the prevention of chronic diseases. *World Health Organ Tech Rep Ser*, 916(i-viii) .(