Dietary and Lifestyle Behaviors of the University Students Living Away from Their Home: A Cross-Sectional Study

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Abstract
Dietary behaviors of the young population are affected by numerous factors. University study period also influences the lifestyle of students, including diet. The objective of this study was to explore dietary and lifestyle behaviors of Jordan University of Science and Technology (J.U.S.T.) students living away from their home. A convenient sample of 370 male students was recruited from different majors and academic years and with different socio-economic backgrounds. The sample size was calculated proportionally to the total number of university students. Participants filled out a self-reported questionnaire (included questions on eating and physical activity habits). Most participants spend around 51% of their financial income on food items. Statistical analysis of the available data shows that the general health in majority of the study sample is good. The psychological status of the participants has a significant direct effect on food intake. Results show that 71% of the study sample are not interested nor affected at all by books, internet, videos and magazines that portray food. In addition, fresh foods are predominantly consumed in both breakfast and lunch, while processed foods are more common in the dinner between 71% participants. Furthermore, consumption of snacks with discretionary calories is much higher that than of healthy snacks like fruits. It is recommended to plan and implement a nutritional intervention, extension and education programs which allow university students to improve their nutritional knowledge.
Keywords: Dietary behaviors, Lifestyle, University students, Diet, Cross-sectional study, J.U.S.T., Jordan.

1. Introduction

Nutritional and health problems have become so prevalent in all communities throughout the globe, and differ in their nature, type and etiologies from one community to another; a matter that is attributed to differences in socio-economic status, environmental conditions and other factors that can affect the nutritional status (WHO, 2003).University students comprise an important sector of the community, with more emphasis on those students who live alone and depend on themselves in procurement of their meals from purchasing, cooking and preparation; a matter that places them in a special condition reflected by different psychological, economic, health and nutritional factors. University life has its unique characteristics, and is profoundly reflected on individual's life, because it represents a period of increased responsibility regarding healthy lifestyle behaviors and food choices (Wilson et al., 2017; Satalic et al., 2003). At the same time, young adults often lack the experience of food procurement, shopping, preparation and planning meals (Bull, 1988).

Several reports indicated for the unhealthy dietary habits and lifestyle behaviors among University students (Bagordo et al.,2013; Anding et al., 2001; Huang et al., 2003; Ortega et al., 1997; Racette et al., 2005; Soriano et al., 2000; Steptoe et al., 2002). The mostly reported underlying factors affect food choices in this group of young adults include cost and financial resources (Pan et al., 1999; Papadaki and Scott, 2002), changes in living arrangements (Brevard and Ricketts, 1996), and increased availability of convenience and fast foods (Nicklas et al., 2001) which are mostly junks foods. Other factors affect their dietary choices include life experiences (e.g., social settings, cultural background), expectations regarding food choices, physiological and psychological characteristics, and food preferences and beliefs (Furst et al., 1996; Pei-Lin, 2004). Moving away from their family home to a country with completely or partially different dietary behaviors to those practiced in the students' country or district of origin may have become the primarily responsible factor for the changes in their food choices and dietary and lifestyle behaviors (Papadakia et al., 2007). Therefore, the current study was designed in order to assess the lifestyle and dietary behaviors among college students living away from their homes and to examine how the psychological status of the study sample and the influence it has on dietary intake.

2. Methodology
2.1 Study design and Study population

A cross-sectional study was conducted using a validated self-administered questionnaire distributed to male students, which was answered by the respondents and recollected. The current study was conducted in the Jordan University of Science and Technology (JUST), Northern of Jordan. The study targeted male students known to live away from their parents, where a convenient sample of 370 male students chosen from different majors and academic years and with different socio-economic backgrounds. The sample size was multiplied and calculated proportionally to the total number of university students. Females were excluded from the study because they are

more predominantly living with their families due to the socio-cultural background of the Jordanian community, and because they are usually more able to tackle the issue of food preparation and procurement.

2.2 Data collection
Data collection was done by using a pre-tested questionnaire that comprised of four domains: demographic (age, major, academic year and home country); behavioral and health lifestyle (appetite, practices adopted to maintain health, fatigue, sleep hours, stress, smoking, using mass media and social media); dietary and nutritional behaviors (daily dietary practices, number of meals, place where meals are eaten, types of food eaten at each meal and additional types of food consumed throughout a day).

2.3 Data analysis
SPSS version 19 was used to analyze the collected data. Descriptive statistics of frequencies and percentages were used to meet the study objectives. Analytical statistics were not used since the study does not target finding the correlations between the different obtained variables.

3. Results and discussion
3.1 General characteristics of the study sample
Table 1 shows the returning homes and academic day's characteristics of the enrolled subjects. It denotes that 62.2% of the study subjects were students who attended the university on all days of the week. This could in turn have impacted the number of meals eaten in a day which will be discussed later. It can be seen from table (1) that most students in this category spent their weekends with their families.

Table1: Returning homes and academic day's characteristics of the study sample

Research topic	Number	Percentage	Number	Percentage
Weekends	Return home		Do not return home	
	280	75.7%	90	24.3%
Academic days in the week	Sunday, Tuesday, Thursday		All days of the week	
	140	37.8%	230	62.2%

3.2 Statistics related to general health of the study sample
In regard to the health status of the participants Table (2) shows that 44% of them have a good appetite, 45.9% reported a fair appetite while participant with a poor appetite comprise 10%. Table (2) further indicates that 55.9% of participants rarely suffer from GI disturbances, 17% usually complain of such problems and 27% reported having them sometimes. Chewing process among participants ranged between fast 33%, moderate 50% and slow 17%, while most participants 83% sleep between 6 to 8 hours which is the recommended range, 11.1% sleep less than 6 hours and 5.9% of participants reach sleeping hours of more than 8. Health status among most of the participants is good. Further observation about health status represented in nature of fatigue where 78.1% report being fatigued after some kind of physical activity in contrast with 21.9% rarely experience fatigue. Furthermore, 59.5% of the study sample were smokers; this seems to have had an effect on their economic status and consequently the available amount of money to be spent on food.

Table 2: *General information about the health of the study sample*

Research topic	Number	Percentage	Number	Percentage	Number	Percentage
	Good		Fair		Poor	
Appetite	163	44.1%	170	45.9%	37	10%
	Rarely		Usually		Sometimes	
Gastrointestinal Problems	207	55.9%	63	17%	100	27%
	Fast		Moderate		Slow	
Chewing process	122	33%	185	50%	63	17%
	Less than 6 hours		Between 6 to 8 hours		More than 8 hours	
Sleeping hours	41	11.1%	307	83%	22	5.9%
	Yes with least activity		Yes with activity of high intensity		Rarely	
Fatigue	63	17%	226	61.1%	81	21.9%
	Yes		No			
Smoking	220	59.5%	150	40.5%		

3.3 Statistics related to psychological status of the study sample

University students that live away from home and experience academic life are under varying kinds of pressures such as living conditions at the dormitories but the most impacting of all is the psychological state. Reflected in Table (3), 78.1% of students experience uneasy mental state between anxiety and restlessness and 21.9% of them report a calm mental state; this state of mind largely impacts food intake as shown in Table (3) where in 55.1% avoid food intake due to anxiety and restlessness, 11.9% resort to food as an escape and 33% report no impact seen on their food intake as a result of psychological stresses.

Table 3: *Psychological status, it's effects on the dietary habits and methods of influence*

Research topic	No. *	%**	No.	%	No.	%
Psychological status	Calm		Anxious		Restless	
	81	21.9%	208	56.2%	81	21.9%
Impact of poor mental state (Anxiety and nervousness) on the level of food intake	Profuse increase in intake		Refrain from food intake		No impact	
	44	11.9%	204	55.1%	122	33%
Effects of media on food intake	Profound		Moderate		Slight	
	19	5.1%	62	16.8%	289	78.1%
Effects of nutrition books and magazines	Profoundly affected		Moderately affected		Not affected	
	44	11.9%	63	17%	263	71.1%

* No. = Number ;   ** % = percentage

The following factors were concluded as influencers on the students' psychological status as per information collected from the questionnaire:

- Dormitories issues (place of residence and how remote it is from the university): summed up in either internal or external environments of the dormitories; general ambience around the housing and it's location in regard to local supermarkets to feeling of settlement and security towards the place.
- Living away from families: could be positive or negative on the psychological status and thus affects the dietary habits.
- Examinations period: this is a critical time where there is a flare up of emotions and most of the students' time would be devoted to studying all of which indirectly affect food intake and meals preparation either negatively or positively.
- Being in a poor mental state: brings either positive or negative effects on the level of food intake as shown in Table (3).

Table (3) further denotes the impact of media on food intake of these participants where 78.1% are affected slightly, 16.8% are affected to some extent and only 5.1% are profoundly affected by food advertisements. Regarding food and nutrition books and magazines 11.9% of participants show to be greatly influenced by them, 17% are moderately affected and 71.1% are not affected at all.

3.4 Statistics related to daily dietary practices of the study sample

Main meals are eaten in different locations shown in Table (4); most visited place by 83% of the students for breakfast is the university cafeteria, followed by in the dormitories 11.9% and lastly in restaurants 5.1%. Lunch is consumed by most of the students 44.1% in a restaurant, followed by 38.9% in the university cafeteria and 17% in the dormitories. Restaurants seem to be again the preferred place for dinner chosen by 55.4% of participants, whereas 38.9% have dinner in the dormitories and only 5.7% visit the university cafeteria at dinnertime.

Table 4: *Location of eating main meals among study sample*

Research topic	Number	Percentage	Number	Percentage	Number	Percentage
	Dormitories		Restaurant		University cafeteria	
Breakfast	44	11.9%	19	5.1%	307	83%
Lunch	63	17%	163	44.1%	144	38.9%
Dinner	144	38.9%	205	55.4%	21	5.7%

Forms of foods consumed at main meals were assessed in the questionnaire using three categories: processed, fresh and frozen (Table 5). Most students 88.1% consume fresh food for their breakfast and 12% consume processed. Majority of students consume fresh food on lunch 56.8%, whereas 25.9% eat processed foods and 17.3% have frozen food items for their lunch. Dinner represents a different case, 71.9% of the participants preferred processed foods and only 28.1% consume fresh food for dinner.

Table 5: *Types of foods consumed in the main meals*

Research topic	Number	Percentage	Number	Percentage	Number	Percentage
	Processed		Fresh		Frozen	
Breakfast	44	11.9%	326	88.1%		
Lunch	96	25.9%	210	56.8%	64	17.3%
Dinner	266	71.9%	104	28.1%		

Types of snacks consumed vary between junk food and foods known to have empty calories and good healthful snacks such as fruits. Table (6) represents the distribution of participants in regards to frequency of consuming each type of snacks, where 56% report that they always include confectionary and chocolate as part of their daily snacks, while 27% of participants sometimes snack on these and 17% rarely consume those snacks. In addition, it can be seen from table (6) that 71.9% always drink tea or coffee, 23% drink these beverages sometimes and 5.1% rarely drink them.

Interestingly only 5.1% of students have fruits and fruit juices frequently, 83% consume them occasionally and 11.9% rarely. Fourth category of snacks that is comprised of (soft drinks, chips, sandwiches, nuts) is always consumed by 61.1% of the study sample, sometimes by 33.8% and rarely by only 5.1%. In another unpublished data, it was reported that most of students fit in the highest monthly income category and therefore a significant positive relationship between monthly income and amount of money spent on food is established and hence shown in positive nutritional status and dietary habits among participants.

Table 6: *Types of snacks and frequency of their consumption*

Research topic	No.*	%**	Number	Percentage	Number	Percentage
	Always		Sometimes		Rarely	
Confectionary and chocolate	207	56%	100	27%	63	17%
Tea and coffee	266	71.9%	85	23%	19	5.1%
Fruits and fruit juice	19	5.1%	307	83%	44	11.9%
Others (soft drinks, chips, sandwiches, nuts)	226	61.1%	125	33.8%	19	5.1%

* No. = Number ;   ** % = percentage

Theoretically, the importance of this study lies in the genuine topic and it's close association with the study sample that is students who live abroad and have completed 18 years of age to be now considered as adults. There is a significant relationship between their dietary habits and pattern of living resulting in problems they face throughout their academic life in JUST. Such problems are as follows:

1- Food procurement, preparation and service takes a fair amount of time as well as cleaning the aftermath of cooking required to be done by these students that depend on themselves. This can affect the time allocated for studies.

2- The university's location; as it's not in the city of Irbid itself. Going to the university takes a lot of time in comparison to going to Yarmouk University for example which is in a strategic location close to all facilities. The time required to reach the university directly affects students, as most of them find no time for breakfast; they get carried away with lectures till a late timing, forgetting their first meal of the day and hence missing on one third of their daily nutritional needs that otherwise would be covered from this meal. Buildings within the university are remote from one another increasing the energy required by individuals walking between buildings to attend their lectures due to an increase in their physical activity.

3- Psychological stresses imposed on students due to the fact of living away from parents and families further affect dietary intake, appetite and amount of foods eaten.

4- Students lack the basic nutritional knowledge as well as the golden rules of food preparation, required to cover the individual's daily meals and the number of servings recommended from each food group.

This research was the first ever study conducted in this area; hence, further research is needed to explore more discussion of the results.

4. Conclusions

The following can be concluded after the statistical analysis; (1) Most participants spend around 51% of their financial income on food items; (2) Statistical analysis of the available data shows that the general health in majority of the study sample is good;(3) The psychological status of the participants has a significant direct effect on food intake; (4) Results show that 71% of the study sample are not interested nor affected at all by books, internet, videos and magazines that portray food; (5) Fresh foods are predominantly consumed in both breakfast and lunch, while processed foods are more common in the dinner between 71% participants; (6) Consumption of snacks with discretionary calories is much higher that than of healthy snacks like fruits.

5. Recommendations

Based on the obtained findings, the following can be suggested; (1) it is recommended to prepare meals from fresh raw materials and avoid eating processed food as much as possible; (2) it is recommended to obtain from snacks with discretionary calories and substitute them with nutritious and healthy alternatives such as fruits; (3) it is recommended to plan and implement a nutritional intervention, extension and education programs which allow university students to improve their nutritional knowledge (e.g. identify food groups correctly and the servings needs to meet daily requirements).

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