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Knowledge and Attitudes of Students toward Fast Food in Assiut University

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Abstract
Background: Consumption of fast foods has become a hallmark of modern urban and semi- urban life style that have many adverse effects on health. **Aim**: To assess knowledge and attitudes of students toward fast food in Assiut university. **Subject and Method**: a descriptive cross sectional research design was used. The study conducted at four faculties of Assiut University among 1217 students who were selected by simple random sample. **Tools:** In this study utilized three tools for gathering data: the first tool; a structured self-administered questionnaire which included socio-demographic characteristic scale, knowledge and consumption of fast food, the second tool; attitude toward fast food and the last tool; anthropometric measurements. **Results:** It was found that 63.3% of studied students were males and 52.9% of them with middle socioeconomic class. Also the study cleared that 91.9% from students having fast food, whereas a positive correlation between total score of student's knowledge and attitude toward fast food with statistical significant difference between having fast food, knowledge and attitude. **Conclusions**: the outcome of present study concluded that lack of students' knowledge and had positive attitude about fast food. **Recommendation**: Periodic health education programs regarding effects of fast food on health.

Keywords: Attitude, Fast food & Knowledge.

Introduction
Healthy diet is a diet that helps to maintain or improve overall health and provides the body with essential nutrition such as fluid, macronutrients, micronutrients, and adequate calories The nutrients are chemical substances that are present in the food. The important nutrients are proteins, fats, carbohydrates, vitamins, minerals and water. Foods contain various nutrients in different proportions, depending on the relative concentration of various nutrients foods that serves many functions in the body**. (Barrett et al., 2020).**

Fast food is refers to food sold in restaurant or store with preheated or precooked components, and served to the customer in a package method for take-out or take-away; **(Nipun et al., 2017).** Fast food simply means a high calorie food which lacks in micro-nutrients such as vitamins (A and C), minerals, or amino acids, and fiber. These foods don't contain the nutrients that body needs to remain healthy. Hence, it is poor nutritional value and considered unhealthy because contain colors that are indigestible, carcinogenic and harmful to the body **(Palos Lucio et al., 2020).**

Few dietary guidelines adherence studies have been shown in Eastern Mediterranean countries, for example, in Saudi Arabia, Kuwait, Iran and Lebanon. No studies of diet quality and/or dietary guidelines adherence seem to have been conducted in Egypt and research that emphases on young adult university people is sparse. Moreover there are studies about socioeconomic determinants of eating pattern of adolescent students in Mansoura, Egypt (**El-Gilany & Elkhawaga, 2012**) which cleared that 34.1% of students practiced many faulty meal patterns and ate snacks daily. Studies in Arab countries, concentrated on consumer behavior in relation to fast food, are deficient so researchers touches on topic to identify knowledge and attitude of university students (**Musaiger et al.,2013).**

Many youngsters have adjusted to changing fast-food culture. These changes are accompanied by dramatic transformations in dietary patterns and increase in the consumption of processed foods such as hamburgers, cheeseburgers, deep-fried chicken, deep-fried potatoes/French fries, pizza etc. Fast-food consumption seems to be linked closely with soft-drink which have high fat levels and decreasing consumption of fruits and vegetables are the factors that related to health problems as diabetes, hypertension, obesity and coronary artery disease**. (Kumari & Kumari ,2020).**

Eating behaviors and food choices are influenced by nationality, culture, community, family, and individual food choice. Most of People like to eat fast food for various reasons containing price, save time, influence of media, peer pressure, availability, quick service and the taste of the food (**Monterrosa et al., 2020).**

Community health Nurses deal with people in many settings and dress many hats while conducting day-to-day practice. The focus of nurse includes not only the individual, but also the family and the community; meeting these multiple needs requires multiple roles .Community health nurse encourage the students to take right food for maintaining health, provide sufficient information about healthy food and hazards of fast food to take necessary health care decision and promote community awareness of significant health problems. **(Egbujie et al., 2018).**

Significance of the study

The college students; representative the young age population of community; for different reasons are predisposed to eat unhealthy foods and to have bad health habits during their college years which might affect their wellbeing and increase the risk of diabetes ,obesity and coronary heart disease **(Al-Qahtani, 2016)**.

Study about adherence to recommended dietary guidelines and the relationships with the importance of eating healthy in Egyptian university students which cleared that 34.1% of students practiced many faulty meal patterns and ate snacks daily.**(El Ansari & Samara, 2018)**.

So the present study was conducted to assess knowledge and attitude of university students regarding fast food at Assiut University.

Aim of study:

To assess knowledge and attitudes of university students toward fast food

Research question:

What are the student's knowledge and attitudes about fast food?

Subject and Method

Research design:

A descriptive cross-sectional research design was used.

Setting: Assiut University includes (18) faculties divided into (12) practical colleges and (6) theoretical colleges; this study was conducted at (4) faculties which selected randomly includes two practical faculties (faculty of pharmacy and faculty of computer & information) and two theoretical faculties (faculty of social services and faculty of Education).

Sampling size:

The total number of students in a selected faculties were 16716 students, by applying software EPI/info, version 3, 3 with 99, 9% confidence interval (CI), the sample size estimated was 1017 students .To compensate the drop outs; (20%) was added to the sample size; the final sample size were 1217. The

following table clears the name of faculties from which the sample selected and the number of students in each faculty: Table (1)

Faculty	Number of students	Sample size	Percent
Faculty ofEducation	7852	572	47%
Faculty of social service	4408	321	26%
Faculty of pharmacy	3231	235	19.3%
Faculty of computer and information	1225	89	7.3%
Total	**16716**	**1217**	**100%**

NB: - percent of sample according the actually percent from total number of students.

Sampling technique: - multistage random sample was utilized in the present study which contained within Simple random sample to select the previous faculties which mentioned above; the names of facilities (practical and theoretical colleges), each of them, are placed in a separate plate, and then the colleges are chosen randomly. Also systematic random sample used for selected the students whereas the researcher was taken the student affairs lists from each faculty to select the students.

To determine the sample for each faculty, the total number of students in the college is divided by the total number of students in the university giving us the percentage of students from each college.

Tools of the study:-

The following tools were utilized by the researcher and piloted to collect data:

Tool I: A Structured self -administered questionnaire it was developed by the researchers based on relevant literature to collect the needed data; this included three parts:

Part (1): Socio-demographic characteristics which developed by **(Abdeltwab,2012)** it included: name of faculty, age, gender,   , parents education and occupation ,residence, type of housing and family income.

Part (2): students' knowledge toward fast food: (7)questions it included the following items: definition of healthy food, definition of fast food, reasons, types, appearance of any symptoms after eating it and effect on health and most category eating fast food with them .

Scoring system of knowledge: The total scores of knowledge was (18) points; a correct response take **one** grade and the incorrect take **zero**. The scores of items were summed and then converted into

percentage. Knowledge was considered: Poor, if the score was less than 50%, fair, if the score was (50-70) % and good, if the score more than 70% **(Musaiger et al., 2013).**

Part (3): fast food consumption: It included (7) questions about fast food such as: having fast food, No. of fast food meals per week, types of fast food eaten, reasons for having fast food, ready to stay without fast food, reasons and People who eat fast food with them.

Tool II:

Students Attitude for fast food developed by **(Yahya & Zafar.,2013 & Abraham et al.,2016)** To assess students attitudes regarding fast food; it included (15) statement the responses were based on 5 points likert scale ranging from (strongly disagree 1, disagree 2, neutral 3, agree 4 and strongly agree 5 for positive statements and reversed for negative statements.

Scoring system for attitude toward fast food:

The grades for each item were summed and then converted into a percent score. Student attitude was considered positive if the score was ≥60 % and negative attitude if the score was<60 %**.(Yahya &Zafar.,2013 &Abraham et al.,2016) .**

Tool III:

It included anthropometric measurements: weight, height and calculate Body mass index (BMI) is calculated after measure weight and height, to calculate it divided weight in kg by square height in meter (kg/m^2)

$$BMI = \frac{weight\ (kg)}{height\ (m)2}$$

Categories of BMI: Lastly the results compared by plotted growth chart according to the World Health Organization (WHO):

Underweight: BMI <18.5 kg.m^2, Normal: BMI < 25kg, Overweight: BMI of ≥ 25 kg.m^2 and Obese: BMI ≥ 30 kg.m^2 **(Mackenbach & Charreire., 2018).**

Validity of tools:

The face validity: the tools were tested by jury of 5 specialists in the field of community health nursing at Assiut University and according to their opinions the necessary modification was done.

Reliability of tools:

To evaluate the students' attitude toward fast food scale tool II reliability; was analyzed by Cronbach's alpha to measure reliability about 0.830.

Methodology:-

Administrative design:

Before conducting the study, an official permission letter was obtained from the dean of the faculty of nursing, Assiut University, to vice of university president for education and student's affairs of Assiut University. This letter included a permission to perform the study and explained the nature and purpose of the study.

Ethical consideration:

The researchers clarified the purpose and nature of the study for students .The student has the right to agree or disagree on participation in the study ,consent to share in the study was secured orally from every student and informed that the information obtained would be confidential and used only for the purpose of the study, during data collection privacy was being considered and written consents were obtained from the Deans of the Colleges that are agreeable to contribute in the present study after explaining the nature and aim of the study.

Operational design

Pilot Study:

It was applied on 10% of students (122) which involved in the study sample, for non-existing modifications. It is purpose to assess the feasibility of the study and clarity of tools for gathering data. It also helped to estimate the time needed for filling the sheet.   .

Data collection Phase:

• Data was gathered by the researchers, in the period from the mid of February to the end of April, 2017, the researchers took two days in each week, 55-65 questionnaires per day. The researchers introduced themself to the Dean of the College at each selected faculties, and reminded them of the nature and purpose of the study .Then, the researchers asked them to take a copy of the study scheduled grades of faculties.

• The researchers were taken oral permission from the teaching staff members who were responsible for the preferred lectures or sections depending on their persuasion and the nature of each faculty, and then the researchers asked them about ideal time for data collection, either in the first or last part of the selected lectures or sections.

• Researchers introduced themself to the students and explained the purpose and nature of the study and explained the main parts of the questionnaire. After that, the researchers distributed the questionnaire to the students .Students were asked to complete the questionnaire and during this period the

researchers explained any difficulty in the questions .

- Filling the questionnaire and measuring weight and height took 20-25 minutes by students and after completing that the researchers collected the questionnaires with paying careful attention to incomplete answers to ask students to complete them. Finally, the researchers thanked the students and teaching staff for their cooperation.

Statistical analysis:

Data obtained from the study were reviewed , prepared for computer entry ,coded ,analyzed and tabulated .Descriptive statistics (i.e., number, percentage, mean + standard deviation) were done by Statistical Package for Social Science (SPSS) software; version 22. The data presented by Chi-square test used to compare between qualitative variables. Pearson's correlation used to see link among different variables .it is considered statistically significant when P-values were less than 0.05(P < 0.05).

Results:

Table 1: Socio-demographic characteristics distribution among studied students at Assiut University, 2017

Items	No.=(1217)	%
Faculty:		
Faculty of Education	572	47.0
Faculty of Social Services	321	26.4
Faculty of Pharmacy	235	19.3
Faculty of Computer and Information	89	7.3
Age: (years)		
18 –	459	37.7
20 –	610	50.1
More than 22	148	12.2
Mean ± SD (Range)	20.97 ± 1.14 (18.0 – 25.0)	
Sex:		
Male	770	63.3
Female	447	36.7
Father education:		
Illiterate	106	8.7
Read & write	66	5.4
Basic education	162	13.3
Secondary	342	28.1
University and Postgraduate	541	44.4
Mother education:		
Illiterate	284	23.3
Read & write	89	7.3
Basic education(primary and preparatory)	203	16.6
Secondary	302	24.8
University and Postgraduate	339	27.9
Father occupation:		
Employee	608	50.0
Farmer	185	15.2
Free business	180	14.8
Skilled worker	234	19.2
Dead	10	0.8
Mother occupation:		
Working	332	27.3
Housewife	885	72.7
Residence:		
Rural	743	61.1
Urban	474	38.9

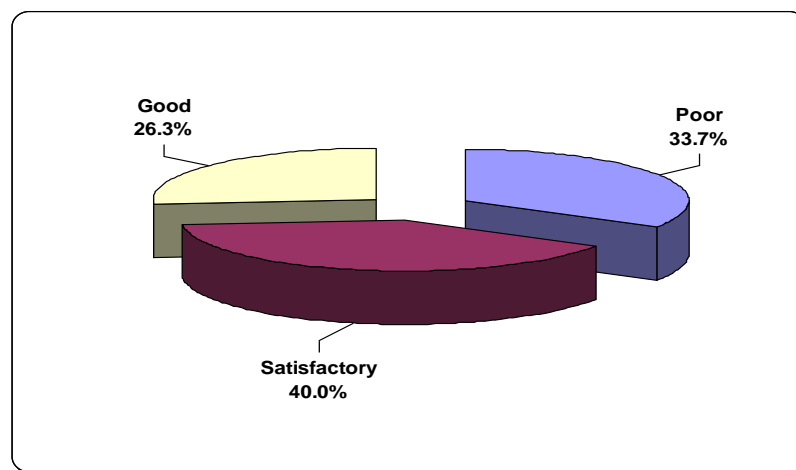| Items	No.=(1217)	%
Type of housing:		
Rent	75	6.2
Owned	1142	93.8
Family income:		
< 300 pounds	29	2.4
300 - < 600 pounds	48	3.9
600 - < 1000 pounds	142	11.7
1000 - < 1800 pounds	505	41.5
1800 - < 4000 pounds	370	30.4
≥ 4000 pounds	123	10.1
Socioeconomic class:		
Low	303	24.9
Middle	644	52.9
High	270	22.2

Figure (1): Total score of studied sample knowledge regarding fast food at Assuit University, 2017
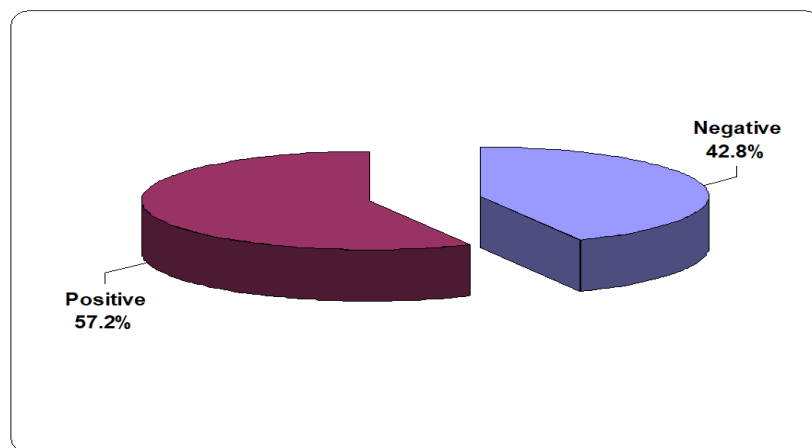

Figure (2): Total score of studied sample attitude regarding fast food at Assuit University, 2017
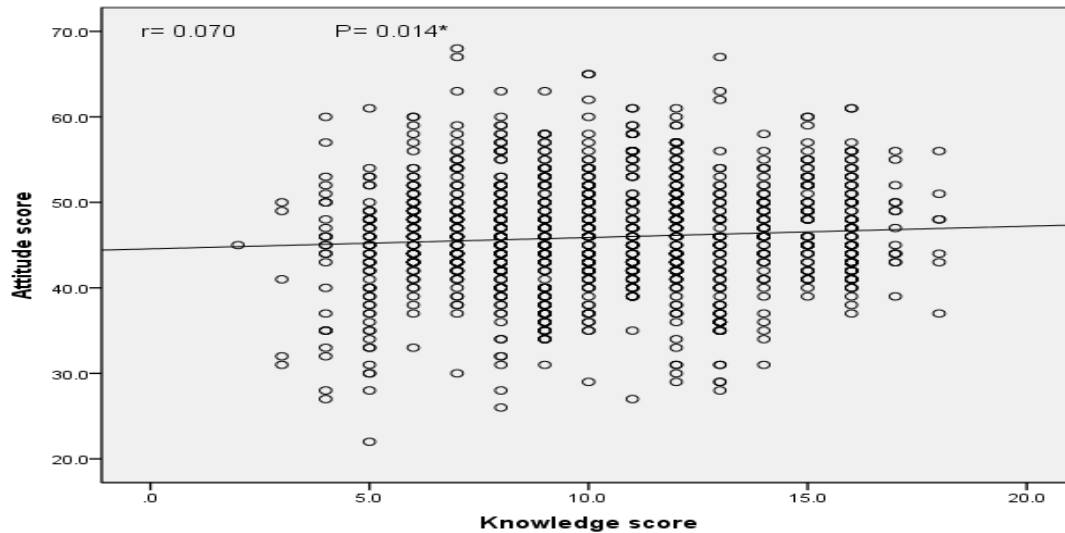
Figure (3): Correlation between the score of studied sample knowledge and their attitude toward fast food at Assuit University, 2017

Table (2): Distribution of fast food consumption among studied sample at Assuit University, 2017

Items	No.=(1217)	%
Having fast food:		
Yes	1118	91.9
No	99	8.1
No. of fast food meals per week: (n= 1118)		
1 – 3	438	39.2
4 – 6	422	37.7
> 6	258	23.1
Most common types of fast food eaten:		
Burger	363	32.4
Hot dog	290	25.9
Fried potato	670	59.9
Shawarma	385	34.4
The pizza	665	59.4
Grills	432	38.6
Don't know	74	6.6
Reasons for having fast food :		
1-It is tasty.	520	46.5
2-Save time.	780	69.8
3-Inexpensive.	200	17.9
4-Easy to get.	135	12.1
Ready to stay without fast food:		
Yes	304	27.1
No	814	72.8
Reason:(n=304)		
1-Un healthy fast food	244	80.3
2-fast food Contains a lot of fat	86	28.2
3-fast food cause obesity	204	67.1
People who eat fast food with students:		
their Family	93	8.3
their Friends	987	88.3
Both	38	3.4

(#)More than one answer was allowed.

Table (3): Relationship between the studied sample knowledge, attitude and body mass index regarding to their fast food intake in Assuit University, 2017

Items	Having fast food				X^2	P-value
	Yes		No			
	No.	%	No.	%		
Knowledge score:						
Poor	353	86.1	57	13.9	40.44	0.000*
Fair	448	92.0	39	8.0		
Good	317	99.1	3	0.9		
Attitude level:						
Negative	499	95.8	22	4.2	18.66	0.000*
Positive	619	88.9	77	11.1		
BMI:						
Underweight	27	93.1	2	6.9	2.34	0.310
Normal	593	92.9	45	7.1		
Overweight/ obese	498	90.5	52	9.5		

* Statistical significance difference by p value< 0.05.

Table (4): Relationship between the studied sample knowledge, attitude and body mass index (BMI) regarding to fast food intake per week in Assuit University, 2017

Items	No. of fast food meals per week						X^2	P-value
	1 – 3		4 – 6		> 6			
	No.	%	No.	%	No.	%		
Knowledge level:								
Poor	160	45.3	134	38.0	59	16.7	21.38	0.000*
Satisfactory	170	37.9	177	39.5	101	22.5		
Good	108	34.1	111	35.0	98	30.9		
Attitude level:								
Negative	149	29.9	186	37.3	164	32.9	57.45	0.000*
Positive	289	46.7	236	38.1	94	15.2		
BMI:							4.57	0.334
Underweight	12	44.4	9	33.3	6	22.2		
Normal	227	38.3	215	36.3	151	25.5		
Overweight/ obese	199	40.0	198	39.8	101	20.3		

* Statistical significance difference by p value< 0.05.

Table (1): Presents socio-demographic characteristics distribution among studied students at Assuit University; which found that 50, 1% of students' aged from20- years old while 12.2% of them aged more than22 and 63.3% were male. According to students' parents education 44.4% of fathers and 27.9% of mothers had university and post graduate education. More over only (5.4%&7.3%) of them were read and write .Concerning occupation of their parents, the table estimated that 50% of student's fathers were employee, while 72.7% of their mothers were housewife and 61.1% of them live in rural area. the majority (93.8%) of them had owned housing, 41.5% of family had income ranged between 1000 - < 1800; but only (2.4%) of them had income < 300. Also the result illustrated that 52.9% of students had middle socioeconomic class.

Figure (1): Clears total score of studied sample knowledge regarding fast food; it was illustrated that 40.0% of students had fair score of knowledge and 33.7% of them had poor score of knowledge, while (26.3%)of them had good score of knowledge about fast food.

Figure (2): Reveals total score of studied sample attitude regarding fast food; it was cleared that 57.2% of students had positive attitude, while 42.8% of them had negative attitude toward fast food.

Figure (3): Clears that Correlation between the score of studied sample knowledge and attitude; which revealed a positive correlation among total score of student's knowledge and their attitude toward fast food (r=0.070 & p=0.014).

Table (2): Shows distribution of fast food consumption among students; it was illustrated that the majority (91.9%) of students having fast food and

39.2% of them consuming it from 1-3 meals per week; also 59.9% of students consume fried potato as a most common types of fast food followed by (59.4%&38.6%) of students consume pizza &Grills respectively. Regarding reasons for having fast food 69.8% of students having it for save time. On the other hand 27.1% of students have ready to stay without fast food; 80.3% of them stated that they are ready to stay away from it because it is considered un healthy and the majority (88.3%) of students eaten fast food with friends.

Table (3): Presents that relationship between studied sample knowledge, attitude and BMI regarding to fast food intake, which illustrated that there was statistical significant difference between students' knowledge, attitude and their having fast food (p value= (0.000). Moreover there was not statistical significant difference between student's BMI and their having fast food (p-value=0.310).

Table (4): Illustrated the relationship between the studied sample knowledge, attitude and BMI regarding to fast food intake per week; it was found that there was statistical significant difference between students' knowledge, attitude and number of fast food meals per week (p-value=0.000), while there was not statistical significant difference between student's BMI and their number of fast food meals per week (p-value=0.334).

Discussion

Eating fast food is one of the bad habits that have increased among children, adolescents, and adults during the past three decades. The number of fast food outlets has increased intensely worldwide. Fast food is "designed for ready, availability use, or consumption with little consideration given to the quality or significance of food**.** It is time constrains, ease of access, quick service and convenience **(Bailey et al., 2018).**

The present study revealed that age of students mean was ± SD 20.97±1.14 with range (18.0 – 25.0); this result similar with **(El-Gilany & Elkhawaga, 2012).** Who carried study in El-Mansoura governorate, Egypt among university students who found their mean age was 20.2 ± 1.7 years with range 17-25.

Regarding to students sex, in the present study more than three fifths of students were males. This is congruent with(**Al-Qahtani, 2016)** who found that more than half of the students were males. While disagree with **(Vibhute et al., 2018)** who mentioned that more than three fifths of students were females. Also the finding disagree with **(Mahmoud & Taha , 2017)** who stated that two thirds of their students were females.

Due to the fact that girls give more attention to the quality of food and due to girls care more about their body image than boys. while boys eating out the home with their peers more regularly because don't like to prepared food by themselves.

Regarding to the socioeconomic class of university students at the present study; more than half of students with middle socioeconomic class; this result disagreed with (**El-Gilany & Elkhawaga, 2012***)* who found that two thirds of the students have a high socioeconomic class.

Concerning fast food consumption among studied sample in the current study it was revealed that the majority of them had fast food and about more than one third consuming fast food meals between 1-3meals. This results similar with **(Shaban, & Alkazemi, 2019)** who mentioned that more than one third of them eat fast food meal (1-2) per week. This finding disagrees with **(Adams et al., 2015)** who reported that studied sample eats outdoor every day during their study period.

In addition more than half of the studied sample consume fried potato and pizza as most common types of fast food .In this line, **(Atinkut et al., 2018)** who Found that commonest fast food consumed by college students were potatoes sandwich and pizza. Also the report of **(El-Gilany & Elkhawaga, 2012)**, which cleared that fast food are common among adolescent student in Egypt, and consumed fast food as pizza and potatoes sandwiches between meals.

This due to the studied sample were unconscious of the nutritional requirements to maintain a healthy body weight subsequently they can take poor nutritional decisions, which can cause poor weight management**.**

Concerning the reasons for eating fast food, it was revealed that more than three fifth of students eating fast food for save time. This result agree with, (**Garcia et al., 2018)** who cleared that more than three fifth of participants eating fast food for their occupied time (save time).In addition this finding consistent with(**Goon, et al., 2014)** who stated that three fifth considered the main reason for choosing fast food was save time., also agreed with **(Hilger et al., 2017)** who reported that half of students eating fast food because it saving time. On the other hand, This results disagreed with **(Kanagamani, 2018)** who stated that more than two thirds of them eating fast food because it was tasty.

This could be due to the busy study schedule and many students may go to far places, so they had to take fast foods as their lunch.

As regards the total score of students' knowledge toward fast food, the current study illustrated that two fifths of students had fair score of knowledge and one third of them had poor score of knowledge. Which consistent with**(Abraham et al., 2016**). Who found

that the college students had a good level of knowledge regarding nutrition facts and health habits. The present study was cleared that more than half of studied sample had positive attitude toward fast food. This finding congruent with study by) **Hu et al., 2016)** who stated that university students had good attitude. Also, this finding was in the same line with **(Akhter, 2019)** who found that three fifth of the university students had a positive attitude toward fast food. However, **(Pelletier et al., 2013)** inconsistent with the current study who found that one third of the colleagues in USA had a low attitude level toward fast food.

The current study illustrated that there was statistical significant difference between student's knowledge and attitude with number of fast food meals per week. In this regard,) Lee **& Allen, 2020)** concluded that, gender, mother's education and the frequency of eating out for breakfast were statistically associated with the scores of (knowledge ,attitude and practice).

Conclusion:

The outcome of present study concluded that lack of students' knowledge and had positive attitude about fast food.

Recommendations:

1. Periodic health education programs regarding the effects of fast food on health.
2. Parents have to establish an example in front of their sons by not eating fast food and encourage home cooked food.
3. Communities, food companies and television should participate in promoting healthy food choices; the government should encourage advertisement of healthy food, which can generate interest among the people observers.
4. Further researches on effects of fast food on health.

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