

Breakfast consumption patterns among the students at Ahfad University for women.

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Abstract

Background: Breakfast meal fuel the body with essential nutritious needs to function and helps the brain to concentrate during the day. People who eat breakfast will eat fewer calories throughout the rest of the day. Skipping breakfast makes the body goes into starvation mode, leading to compensate and overeat later in the day. This study was cross-sectional that had been conducted in the period at Ahfad University for Women School of Health Sciences, Department of Nutrition and Dietetics.

Objective: to assess breakfast consumption pattern among the students of health sciences, department of Nutrition and Dietetics at Ahfad University for Women.

Methodology: Sample size was 100 students, selected by systemic random sampling from School of health sciences department of nutrition and Dietetics at Ahfad University for women. Data was collected by using questionnaire including frequency of some types of food taken by the students.

Results: The results revealed that 80% of the students skipped their breakfast, reasons for not consuming breakfast included lack time to eat (32%), lack of appetite (18%), financial constraints (16%), stress and family eating patterns (6%), while only 2% of them stated that because they were dieting. The result showed, significant differences regarding difficulties facing the students when skipping breakfast ($P=0.000$), 56 of students faced many difficulties when skipping their breakfast like feeling hungry, lack their attention and not be active in their practical class. Significant differences was also detected regarding the time of breakfast consumption ($P=0.000$), only 8 students taking their breakfast between 6 to 8 o'clock. Significant differences was also found regarding number of food Items consumed by the students ($P=0.000$), 46 of the students consumed 1 items in their breakfast. Leaner regression model revealed when pocket of money increased, types of food consumed increased by 90% Positive significant relationship was detected between pocket money and the following types of food, Bread+Jam. Dairy products Cheese. Fruits, Cooked lentil, Burger, Showrma and Hot dog, (P value <0.05) and negative relationship was also detected between pocket money and the following types of food, Jam Cereal, Biscuits Whole fruits and Broad bean, (P value <0.05), while no significant differences was detected between pocket money and other types of foods like, Milk, Bread+Butter, Vegetable, Yogurt, Fruit juice, Egg boiled P value >0.05 . The study concluded that the majority of the student skipping their breakfasts and there was relationship between students pocket money and consumption of the breakfast pattern.

Keywords: Breakfast, Food frequency, Skipping.

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Introduction

Breakfast is an important part of the diet and consider an important contributor to daily nutrient intake. People who consume breakfast have a better intake of essential macronutrients and micronutrients, compared to those who skip breakfast.

Consumption of breakfast leads to positive health behavior, improved stress management, feeling energetic, and making less unhealthy snack choices. Conversely, the consequences of skipping breakfast include fatigue and suboptimal concentration levels, as well as an increased risk for developing obesity. Breakfast is the meal that keeps a student active for many hours prior to lunch meal break [1].

Due to skipping of breakfast meal the students find difficulty in attending their lectures, also their cognitive power is impacted which further leads to weak scholarly performance. Stated that

poor nutritional intake is major cause of poor academic performance and in worst case it leads to premature deaths among adults due to various metabolic disorders.

It is very important for university students to avoid junk foods instead, the students must have more fruits, vegetables and organic food. In a study conducted on college of female students, it was found that 44.1% of 145 women ate breakfast every day of the week, and 11% ate breakfast only on weekends. With more than half of the female students in the study skipping breakfast, there is concern that crucial nutrients not being consumed. Other studies show even higher incidence of breakfast skipping. Conducted a study that found 77.5% of college students skip breakfast meals, and breakfast was the most skipped meal of the day [2].

Statement of the Problem

Breakfast is thought to be the most important meal in the day, which provide energy for the brain and improve learning capacity. It is also known to contribute significantly to the total daily energy and nutrient intake.

Breakfast seems to provide an important source of nutrients including carbohydrates which subsequently contributes to energy intake. Those who either skip breakfast or consume it infrequently have an increased risk of developing metabolic syndrome.

Metabolic syndrome is a common medical condition, comprising of a cluster of symptoms including abdominal obesity, hypertension, dyslipidaemia and abnormal fasting blood glucose levels or insulin resistance. Several reasons for skipping breakfast have been suggested including financial constraints, habitual, unavailability of time to prepare breakfast among others.

In Lebanon, regular breakfast consumption was reported by 61.4% of the student population, while in a Saudi Arabian study the prevalence of daily breakfast consumption was only 49.9%. Similarly, at a Pakistani university, only 44.1% of female students consumed breakfast regularly, while at a Turkish university, only 35.6% of students consumed breakfast daily [3].

The reasons given for skipping breakfast are not different from what other studies reported. In a study among undergraduates in a public university in Kuala, the reasons the students gave for skipping breakfast were more of personal choice such as no time to eat, did not like to eat early, no appetite or oversleeping.

The major reason for students skipping breakfast is that of availability of time to eat before the first lecture of the day, and 15% of the students stated financial reasons for skipping breakfast. For most of these, breakfast was not a priority in the management of their finances. There were commonly reported reasons for students skipping breakfast in multiple studies conducted worldwide.

This includes: a lack of appetite in the morning, a lack of time, do not like to eat too early, waking up late, inadequate money to purchase food and methods to lose weight and there are multiple factors that influence the decision to omit breakfast, particularly among university students, where the lack of breakfast is only one of many poor dietary choices [4].

Justification

There is a lack of current data regarding the consumption or skipping of breakfast, as well as the habitual foods or beverages that constitute a typical breakfast in a multicultural country like Sudan. It was observed that students skip breakfast meal or take it in late time which contributes to many health problems. Skipping breakfast may lead to an increased feeling of hunger, and thus to the consumption of larger portions in subsequent meals during the day [5].

General objective

To assess breakfast consumption pattern among the students of health sciences, department of Nutrition and dietetics at Ahfad University for women.

Results and Methodology

Sample size

The sample size was calculated by the following equation:

$$n = \frac{N}{1+n \times e^2}$$

Sample selection

The School of health sciences has 3 departments, the department of Nutrition and Dietetics was selected by simple random sampling technique. Systematic random sampling was used to distribute the sample among the student of the department of Nutrition and Dietetics, Health sciences, Ahfad University [6].

Total number of students in Health sciences are 713 students.

$$n = \frac{N}{1+n \times e^2} \\ = 713/713 \times (0.05 \times 0.05) + 1 = 256$$

Human nutrition and dietetics department

Total number=278 student

$$n = 278 \times 256/713 = 100$$

Sample size=100

Number of students in each class:

Second year is 63 students

Third year is 47 students

Fourth year is 68 students

Fifth year is 100 students

Number of students in each level \times sample size/Number of students' in the department

Sample size

$$\text{The second class} = 63 \times 100 \div 278 = 23 \text{ students}$$

$$\text{The third class} = 47 \times 100 \div 278 = 17 \text{ students}$$

$$\text{The fourth class} = 68 \times 100 \div 278 = 24 \text{ students}$$

$$\text{The fifth class} = 100 \times 100 \div 278 = 36 \text{ students}$$

The students were selected from each class by systematic random sample. The sampling frame was design (student lists) for class. The interval was calculated as below. The first student in class was selected randomly then the second student was selected by adding the interval and so forth till the sample was selected:

Interval=total student in class

Sample size

Data was collected directly from the students by using close ended questionnaire distributed and collected on the spot/face-to-face to the students. Data was analyzed by using SPSS version. Type of analyses used was descriptive statistics in form of frequency, in addition to chi-square test, crosstab correlation and leaner regression (Tables 1-6) [7].

Table 1. Breakfast is an important meal during the day when skipped.

Demographic data		
Age of the students	Frequency	%
16-20	8	8
>20	92	92
Total	100	100
Students' residency	Frequency	%
Hostels	35	35
With family	61	61
With relatives	4	4
Total	100	100
Breakfast consumption Pattern	Frequency	%
Skipping break fast	80	80
Yes	80	80
No	20	20
Total	100	100
Pocket money	Frequency	%
50-100	49	49
101-150	9	9
151-200	12	12
201-300	7	7
More than 300	2	2
Those who did not receive	21	21
	100	100

Table 2. Difficulties faced the students when skipping breakfast.

Variables	Observed N	Expected N	Residua
Feeling Hungry, Lack of attention, Not active in practical class	56	25	31
Feeling Hungry	28	25	3
Not active in practical class	12	25	-13

Cannot concentrate in exams	4	25	-21
Total	100		
Chi-Square 63.200a P value= .000			

Table 3. Time of breakfast consumption.

Variables	Observed N	Expected N	Residual
6-8am	8	33.3	-25.3
9-11 am	12	33.3	-21.3
Skipping breakfast	80	33.3	46.7
Total	100		
Chi-Square 98.240a P value =.000			

Table 4. Number of food Items consumed by the students.

Variables	Observed N	Expected N	Residual
1 item	46	25	21
2 items	44	25	19
3 items	8	25	-17
4items	2	25	-23
Total	100		
Chi-Square 64.800a P value =.00			

Table 5. Reasons for skipping of breakfast and breakfast consumption.

Reason for skipping breakfast	Skipping breakfast		
	Yes	No	Total
Lack of time	0.32	0.08	0.4
Family eating pattern	0.06	0	0.06
Lack of appetite	0.18	0.04	0.22
financial constraints	0.16	0	0.16
Stress	0.06	0.06	0.12
Dieting	0.02	0.02	0.04
Total	80	0.2	1
Spearman Correlation value 0.80 sig 0.004			

Table 6. Pocket-money and type of food consumed at breakfast.

Reason for skipping breakfast	Skipping breakfast		
	Yes	No	Total
Lack of time	0.32	0.08	0.4

Family eating pattern	0.06	0	0.06
Lack of appetite	0.18	0.04	0.22
financial constraints	0.16	0	0.16
Stress	0.06	0.06	0.12
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Total	80	0.2	1
Spearman Correlation value 0.80 sig0.004			

Discussion

The study was conducted among Students studying at Ahfad University for women, School of Health sciences, Department of Nutrition and Dietetics, the number of the students in the present study was 100 and their age group range between 16- >20, 35% of the students lived in hostels, 61% with their family while 10 of them were living with their relatives [8]. The results also revealed that 80% of the students skipped their breakfast while 20% did not skip their breakfast, this result is higher than result reported in Iranian study, 52% of females at the University of Medical Sciences skipped their breakfast, and also higher than Among three different universities in India were the average prevalence of breakfast skipping was 42.23%. As for difficult that face the students when skipped breakfast, the result showed that statistically significant differences between the observed and expected distributions of the sample on difficulties facing the students when skipping breakfast ($p=.000$), 56 of students faced many difficulties when skipping breakfast like feeling hungry, lack their attention and not active in practical class (Table 1). Breakfast is an important meal during the day when skipped, students will not be able to pay attention and accommodate their lessons in the class. It was reported that taking breakfast regularly on it's right time, improve alertness, ability to concentrate and general feelings of happiness and wellbeing [9]. Significant differences between observed and expected number of the sample regarding time of breakfast consumption ($p=.000$) (Table 2). Only 8 out of 100 students in the present study took their breakfast between 6-8:00am which is lower than result reported among south African university students who commonly consumed their breakfast between 7:00 to 8:00 (43.6%; $n=120$) ($p<0.05$) and between 6:00 to 7:00 (28.7%; $n=79$) ($p<0.05$), which considers the right time of having breakfast. It was observed that, people in Sudan take their breakfast very late, often at one o'clock which consider too late for taking breakfast meal [10].

Table 3 shows, significant differences between the observed and expected distributions of the sample regarding number of food Items consumed by the students (.000), 46 of the students consumed 1 items in their breakfast, one item might not provide all the recommended nutrients needed by the body, it may only constitute one or two nutrients and the students in this period of life need well balance meal with variety of valuable foods, which give macronutrients for provision of energy and micro nutrients in form of vitamin and minerals

that need for the body protection from many disease [11]. Table 4 Reasons for not consuming breakfast by the students, included, lack time to eat(32%), lack of appetite (18%), financial constraints (16%), stress and family eating patterns (6%), while only 2% of them stated that because they were dieting. lack of appetite in the morning and a lack of time has been widely reported in previous studies. It was observed that most of Sudanese private university classes start lectures at 7:30am and many students living far away from the universities so they have to leave home early to find transportation to arrive on time, moreover, there is no break between the morning lectures to eat breakfast [12].

No statistically significant relationship was detected between receiving pocket money and skipping breakfast by students (Table 5). The money students received may be insufficient for breakfast. In Sudan there is every day new prices for all food commodities in groceries, supermarkets and restaurants. Merchants in Sudan are free to determine the prices of their commodities, which negatively affect people's income, and thus their health [13].

Leaner regression model in Table 5 shows that R value is 0.949 which indicates the relationship between R square and the variables (with value of 0.90) that provide the expected change with significance differences of (0.000). Pocket money was the independent variable and type of food consumed during breakfast was the dependent variables. Positive significant relationship was detected between pocket money and the following types of food. Bread+Jam. Dairy products Cheese. Fruits, Cooked lentil, Burger, Showrma and Hot dog, (P value<0.05). When the pocket money increases these types of food increases, negative relationship was also shows in Table 6 detected between pocket money and the following types of food, Jam Cereal, Biscuits Whole fruits and Broad bean, (P value<0.05) when the pocket money increases the consumption of these types of food decreases, while no significant differences was detected between pocket money and other types of foods like, Milk, Bread+Butter, Vegetable, Yogurt, Fruit juice and Egg boiled P =value>0.05, these type of foods provide the body with essential nutrients for energy protein, vitamins and minerals [14].

Conclusion

The study concluded that the majority of the student skipping their breakfasts and there was relationship between students pocket money and consumption of the breakfast significant differences was found regarding number of food Items consumed by the student and Significant differences regarding students time of breakfast consumption, only 8 out of 100 students in the present study took their breakfast between 6-8:00am

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