

Investigating Breakfast Consumption by Female Students of Herat University

Sahel Nasir Ahmad ^{1*}, Yosufi Monira ², Foshanji Ahmad Shafiq ¹, Masoumi Abdullah ¹ and Rahimi Basir Ahmad ¹

¹ Department of Food Technology, Faculty of Agriculture, Herat University, Herat, Afghanistan

² Department of Pediatric, Faculty of Medical, Herat University, Herat, Afghanistan

*Corresponding author email: N.sahel@yahoo.com

ABSTRACT

Background: One of the factors that has a strong and undeniable relationship with the learning and academic progress of students is proper nutrition, including eating breakfast. Consuming a suitable and nutritious breakfast provides enough energy and protein during the students' presence in the class and helps their concentration and learning power a lot.

Materials and Methods: This research was conducted with the aim of investigating the amount of breakfast consumed by female students of Herat University in the spring of 1401, and the data was collected by a standard questionnaire including two parts of demographic characteristics and specialized questions about the status of breakfast consumption. Using Cochran's formula software to select the sample size in the known population. Based on that 384 students from different faculties were randomly selected by stratified sampling methods and questionnaires were distributed, and the data were analyzed using Excel software.

Findings: The results of the research showed that the majority of female students of Herat University (67.97%) said that they did not eat breakfast every day, and only 32.03% of the students ate breakfast every day, which was very low, As the majority of students stated that unavailability of breakfast, waking up late, and the lack of variety of breakfast were the reasons for not consuming it. They also mentioned that bread and tea, dairy products, sweets and other items are used as their breakfast respectively.

Conclusion: According to the findings of this research, most of the students of Herat University did not eat breakfast even though it is considered as an important meal, so there is a need to raise the level of students' knowledge about the importance of this valuable meal.

Keywords: Breakfast, students, Herat University

INTRODUCTION

Nutrition plays an important role in people's quality of life, and their mental and physical ability is directly related to good nutrition. According to the advice of nutritionists, meals include three main meals: breakfast, lunch, dinner and two or three snacks. At the meantime, eating breakfast is very important for all people because it increases the body's metabolism in the morning and compensates for the decrease in brain blood glucose after a night's sleep. Considering that the most intellectual activity, especially in the educational ages, is in the first hours of the day, breakfast should include food items that can provide one third of the total daily energy requirement of about (600-700 calories) for boys and (500-600 calories) for girls (Hanson et al., 2003).

Incorrect eating habits in childhood can cause the spread of non-communicable diseases in adulthood. Many behavioral patterns of adults, especially their eating habits, are formed during childhood and are less

changeable in later life (Torabi et al., 2015). Breakfast is the first meal of the day and the most necessary meal for children (Damari et al., 2015). According to the recommendation of experts, breakfast should be enough to provide 25% of daily nutritional needs or nutrients (Karimi et al., 2015). Researchers have stated that the quantity and quality of breakfast is very important for the health and development of children and adolescents (Rahimi et al., 2012). The study showed that people who eat breakfast regularly had lower body mass index (BMI) and balanced weight compared to people who do not eat breakfast (Farshchi et al., 2011).

In today's world, the progress of education is one of the important issues that have attracted the attention of many scientists and researchers. Since students constitute a high percentage of the growing population, they are vulnerable due to their physical and mental characteristics, the quantity and quality of their education is affected by many factors, and it is extremely important to know the factors that cause their academic progress. One of these factors is food shortages, which have negative effects on their ability to use limited educational opportunities (Hamid et al., 2011). Research shows that malnourished students have less accuracy and concentration and have a significant drop in academic performance (Sadrzadeh et al., 2006).

Findings have shown that eating breakfast strengthens children's cognitive performance and strengthens their long-term memory and improves their short-term memory (Mahoney et al., 2008). Soleimani and Khani, (2013) in a research entitled the effect of breakfast consumption on the cognitive and academic performance of students, found that breakfast for various reasons, such as the calming feature at the beginning of the day and the elimination of hunger and thirst in body cells, especially brain cells, regulating blood sugar and influencing It is considered the most important meal directly on body weight.

The results of a research have shown that the average scores of students who ate breakfast were higher than students who ate breakfast sometimes or not at all (Gajre et al., 2008). The results of another research in Malaysia have shown a significant relationship between academic performance and nutritional status of students (Hamid et al., 2011). A research was conducted in one of the universities of England with the aim of accurately diagnosing the effect of breakfast on the behavior of 213 children aged 4 to 11 years from 153 families for 2 weeks and it was found that the consumption of breakfast helps children to be better prepared to go to school, attend class and they also pointed out that children who ate whole grains for breakfast had higher intellectual, physical and cognitive abilities (Leidy and Racki, 2010).

Therefore, since receiving meals and eating breakfast in school and university has a major contribution in providing the required nutrients and energy, this study was conducted to investigate the status of breakfast consumption by female students of Herat University.

MATERIALS AND METHODS

Study Area

This study is a descriptive-analytical type and the target society was the students of Herat University. The inclusion criteria included female students who studied at Herat University and were interested in participating to the interview. Lack of interest to participate in the interview and complete the questionnaire was considered as exclusion criteria.

Samples Size

According to the information provided by Herat University's students administration in 1401, 11, 981 students, including 6,053 male students and 5,928 female students, were studying in sixteen different colleges.

Cochran's formula software was used to select the sample size in the known population. Based on this, 384 students from different faculties were randomly selected by stratified sampling methods and questionnaires were randomly distributed among students of different classes in all faculties and collected after face-to-face interviews and completion of information.

Data Collection

Before data collection, participants were informed about the purpose of the study. Anonymity and confidentiality of responses were maintained. Collected data was stored securely. A researcher-made questionnaire was used to collect data on breakfast consumption status as well as social and demographic factors such as age, marital status, academic year, and mother's education. Content validity, clarity and understanding, relevance and appropriateness of the questionnaire were evaluated by a panel consisting of 5 professors from the Departments of food Technology and Pediatric.

Statistical Analysis

Before data entry, questionnaires were carefully check and cleaned for errors or anomalies. The data obtained from this questionnaire was analyzed using SPSS version 16 and Microsoft Excel.

RESULTS

Characteristics of the participants

Three hundred eighty-four students responded to the questionnaire. Most participants were between age of 20-22(38.28%), second year of education (31.51%), single (69.27) and their family were more than 8 people (44.53%). Most of the students' mothers had primary education (47.40%) (Table 1).

Table 1: The characteristics of the participants

Characteristics	Number	Percent	
Age in Year	17-19	118	30.73
	20-22	147	38.28
	23-26	112	29.17
	More than 26	7	1.82
Education's Year	First	97	25.26
	Second	121	31.51
	Third	85	22.14
	Forth	74	19.27
	Fifth	7	1.82
Marital Status	Single	266	69.27
	Married	118	30.73
Number of Family Members	3-5 People	115	29.95
	6-8 People	171	44.53
	More than 8 People	98	25.52
Mother's Education	illiterate	36	9.38
	Basic	182	47.40
	Diploma	148	38.54
	Bachelor's degree	18	4.69
	Above bachelor's degree	0	0.00

Frequencies of Breakfast Consumption

The results of this study show that the majority of Herat University female students did not eat breakfast every day. As it is seen in Figure 1, from the total of 384 cases of participants in this research, only 61 cases (15.89%) of female students of Herat University ate breakfast every day, while 200 cases (52.08%) ate breakfast some days but unfortunately, 123 cases (32.03%) stated that they never had breakfast.

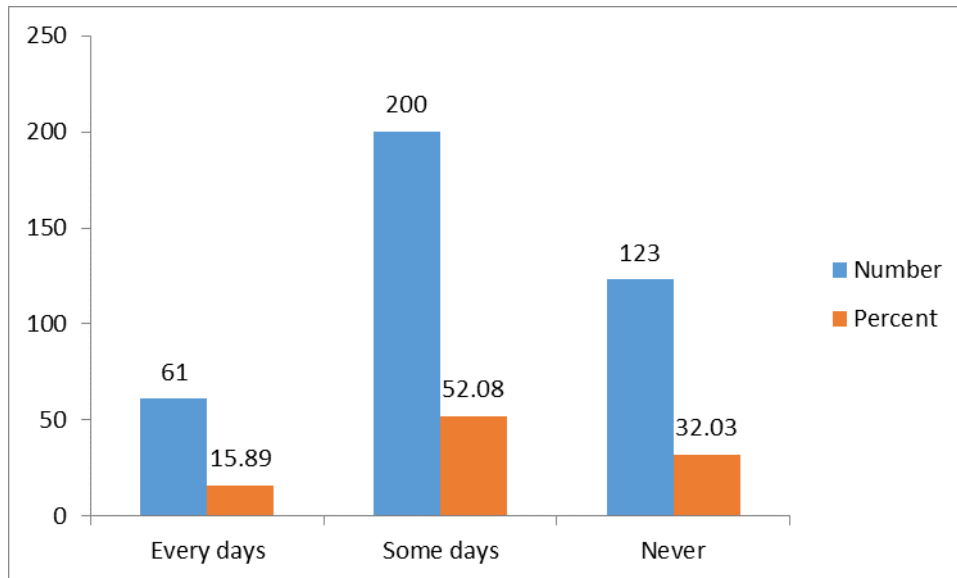


Figure 1. Frequencies of Breakfast Consumption

Reasons for Not eating Breakfast by Female Students of Herat University

Based on the findings of Figure 2, it is clear that most of the participants, 170 cases (44.27%) stated that waking up late and unavailability of breakfast, 122 and (31.77%) and 92 cases (23.96%) had mentioned the lack of variety of breakfast and lack of interest in eating breakfast as the reason for avoiding consumption.

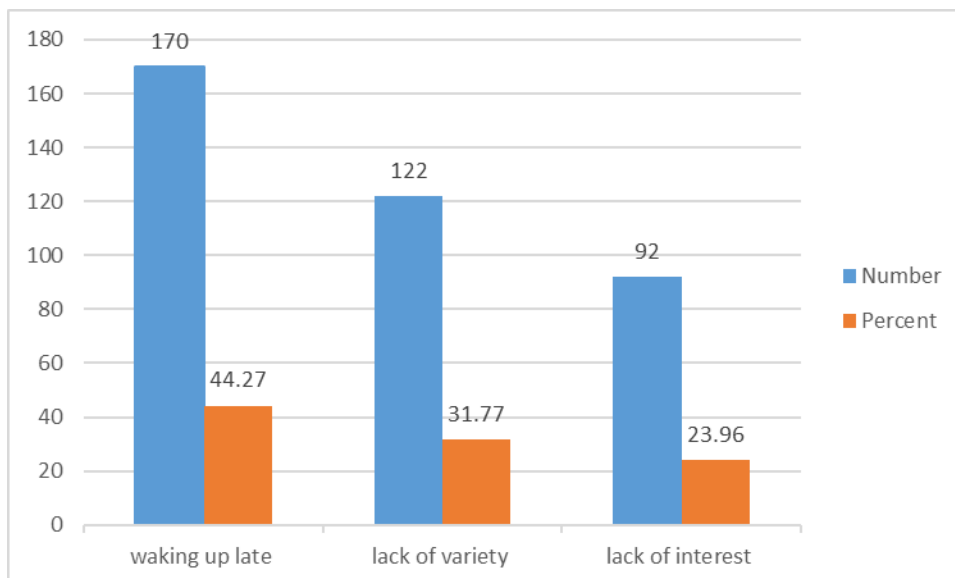


Figure 2. Reasons for Not Eating Breakfast.

Type of Breakfast Consumed by Female Students of Herat University

The findings of Figure 3 shows that among the 384 participants in the research, 134 cases (34.90%) had bread and tea as breakfast, and 91 cases (23.70%) consumed dairy products such as milk, cream, cheese, and butter and 82 cases (21.35%) mentioned that sweets such as cakes and cookies are consumed in breakfast, and 77 cases (20.05%) said that other foods such as eggs, chips, fruits and vegetables are used as breakfast.

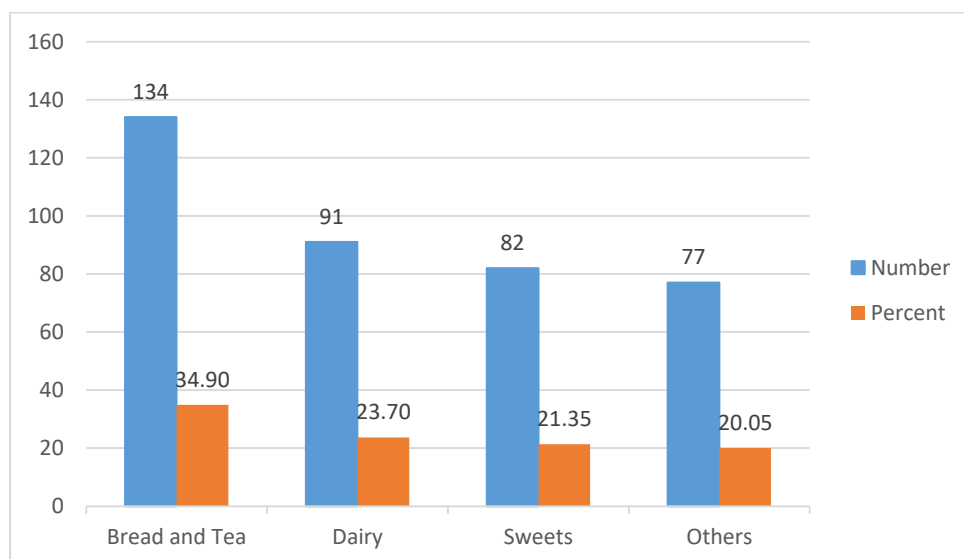


Figure 3. Type of Breakfast Consumed by Female Students.

DISCUSSION

Since health and proper nutrition are among the criteria of comfort and societies whose people have access to these blessings are considered civilized societies. Therefore, eating breakfast at the beginning of the day is very important, especially before going to class, it will help students in reducing fatigue and increasing learning power. Not consumption of breakfast permanently not only reduces the power of concentration and learning, but also reduces people's intake of daily nutrients and thus endangers people's health. This research was conducted to investigate the status of breakfast consumption by female students of Herat University and a total of 384 female students participated.

The findings of this research regarding the frequency of breakfast consumption showed that most of the female students of Herat University do not eat breakfast every day. Less consumption of breakfast by students may be due to lack of awareness of its importance, lack of breakfast preparation, poverty, etc. The results of this research are in accordance with the findings of (Davoudi et al., 2013), as they also found that 17 percent of students did not eat breakfast, while the majority of scientists have stated that eating breakfast is very useful in increasing learning potential. As (Gail, 2010) has found in a research, eating breakfast increases students' understanding potential.

Regarding the reasons for not eating breakfast, the majority of students stated that waking up late and unavailability of breakfast was the reason for not eating. The repetitiveness and lack of variety of breakfast also made the female students of Herat University less interested in eating breakfast. These findings are consistent with the results of (Rezakhani et al., 2011), as they also found in a similar study in Qazvin, Iran, that waking up late and unavailability of breakfast made students less interested in eating breakfast.

This research clearly states that if parents work on getting their children to sleep early, preparing breakfast and diversifying it, none consumption of breakfast will be reduced, especially by students who need enough energy to study and understand course material.

The majority of students have stated that they mostly use bread and tea for breakfast, which may not have been able to have a varied breakfast due to the poor economy, some students also have milk and its products such as cream, cheese, and butter in their breakfast. 23.70 percent of students consumed milk and its products such as cream, cheese, butter in breakfast, 21.35 percent said cakes, cookies, and jam, and 20.05 percent said other items such as chips, eggs, etc. has used as breakfast. More consumption of tea and bread by female students of Herat University may be due to earlier preparation and lack of access to other food items. The results of this research with the findings of (Soheili et al., 2007) which found that 45.7 percent of students use conventional food such as bread, cheese, and tea, and about 42 percent use milk and cocoa milk for breakfast. Dawoodi et al. (2013) were in agreement, as they also found that a variety of food, including bread and cheese, is consumed as breakfast in Iran due to easier access.

CONCLUSION

Prosperity and comfort will be achieved when the expert and skilled workforce is trained with extraordinary abilities in meeting the needs of the society. University students can solve society's problems when they have the ability to learn and have high intelligence, and this has a direct relationship with healthy eating, including eating a proper breakfast. The results of this research showed that the majority of female students of Herat University do not eat breakfast. Therefore, considering the important effectiveness of nutrition, especially breakfast, in improving health and increasing students' ability to learn and focus, it is suggested to increase the level of knowledge of the society about proper nutrition, compliance with diversity and balance, and food hygiene through organizing workshops, Magazines, publications, television programs should be taken up so that we can become the owner of a noble and dynamic society.

Acknowledgment: Many thanks from all the female students of Herat University who patiently participated in our research.

Conflict of Interest: All authors express no conflict of interest in any part of the research.

Funding: This research received no external funding.

Authors Contributions: SNA contributed to conceptualization, methodology and original draft preparation; YM and FAS contributed to Data collection and data analysis; MA and RBA contributed to review, editing, supervision and project administration. All authors have read and agreed to the published version of the manuscript.

REFERENCES

- Damari, B, Riazi, I. S., Hajian, M. and Rezazade, A. (2015). Assessment of the situation and the cause of junk food consumption in Iran and recommendation of interventions for reducing its consumption. *J. Community Health*; 2 (3):193-204.
- Dawoodi, Z., Fanadi, F., and Arablou, K. h. (2013). Examining the pattern of breakfast and snack consumption in first grade elementary school students in Qamiyeh city, the first national snack conference.

- Farshchi, R., Taylor, A., and Macdonald, I. (2011). "Deleterious effects of omitting breakfast on insulin sensitivity and fasting lipid profiles in healthy lean woman". *American Journal of Clinical Nutrition*, 21(141): 176-61.
- Gail, C. (2010). "Benefits of Breakfast for Children and Adolescents". Update and Recommendations for Practitioners. *American Journal of Lifestyle Medicine*. 3(2):86-103.
- Gajre, N. S., Fernandez, S., Balakrishna, N., and Vazir, S. (2008). Breakfast eating habit and its influence on attention-concentration, immediate memory and school achievement. *Indian Pediatr*; 45 :824-828.
- Hamid, J. J., Amal, M. K., Hasmiza, H., Pim, C. D., Ng, L.O., and Wan, M. W. (2011). Effect of gender and nutritional status on academic achievement and cognitive function among primary school children in a rural district in Malaysia. *Malays, J. Nutr*, 17:189-200.
- Hanson, T. L., Austin, G. and Lee-Bayha, J. (2003). *Student Health Risks, Resilience, and Academic Performance: Year 1 Report*. Los Alamitos, CA: WestEd.
- Karimi, H., Shirinkam, F., Sajjadi, P., Sharifi, M., and Bayandari, M. (2015). Dietary pattern, breakfast and snack consumption among middle school students. *Holist Nurs Midwifery*; 25 (2):73-83
- Leidy, H. J., and rackie, M. (2010). The correlation between eating breakfast and school performance. Department of arts and science loyola university new orlean.
- Mahoney, C. R., Tylor, H. A., Kanarek, R. B., and Samuel, P. (2008). "Effect of breakfast composition on cognitive processes in elementary school children. *Physiol Behav*".; 7:85(5): 635-450.
- Rahimi, T., Dehdari, T., Ariaeian, N., and Gohari, M. R. (2012). "Survey of breakfast consumption status and its predictors among Qom students based on the Pender's healthpromotion model constructs". *Iranian Journal of Nutrition Sciences & Food Technology*. Summer:7(2):84-75.
- Rezakhani, H., Soheili Azad, A., Razaghi, M., and Nemati, A. (2011). "Pattern of Breakfast and Snack Consumption and Their Effective Factors among Primary School Students, Qazvin". *Journal of Ardebil University of Medical Sciences*. 2 (4): 67-60.
- Sadrzadeh, Y. H., Angoorany, P., Keshavarz, S. A., Rahimi, A., and Ahmady, B. (2006). "Comparison of two nutrition education techniques on breakfast-eating practice in primary school girls", Tehran. *journal of school of public health and institute of public health research*; 4(1): 65-72.
- Soheili Azad, A., Nourjah, N., and Norouzi, F. (2007). Survey the eating pattern between elementary students in Langrood. *J Guilan Univ Med Sci*; 16 (62):36- 41
- Soleimani, N. and Khani, S. (2013). The effect of eating breakfast on the cognitive and academic performance of fourth grade students in Garmsar city, academic year 1389-1390. *Research in Curriculum Planning*, 2:13, 139-150.
- Torabi, M., PourEslami, H. R., Sajadi, A., and Karimi, M. A. (2015). Evaluation of type and frequency of snacks consumption in 3-6-year-old children in Rabor and Baft cities, *J. Health Based Res.*; 1 (2):145-53.