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# Determination breakfast habits of university students according to where they live

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## ABSTRACT

**Introduction and Aims:** Breakfast is one of the most important parts of a healthy diet. There is a relationship between remembering and blood glucose level, and having breakfast makes remembering easier This research is planned to determine the breakfast habits of students studying at Kırklareli University.

**Materials And Methods:** 51% of the students (n = 1200) are male and 49% are female. The research data were collected with the help of a questionnaire using face-to-face interview technique, and the questionnaire prepared by the researcher included information about demographic characteristics, place of residence, disease information, breakfast habits, water and food-beverage consumption frequency, and foods consumed at breakfast.

**Results:** No significant difference was found between male and female students in terms of Body Mass Indexes. It was determined that 49% of the students stayed in the dormitory/sorority, 28% stayed in the student house, 23% lived with their family. It was determined that 73% of students had breakfast and 27% did not have regular breakfast. Also, the habit of having irregular breakfast is the most common in staying in the student house, and the habit of having the most regular breakfast in the state dormitory/sorority.

**Conclusion:** Breakfast service should be offered in school cafeterias especially in the student house and soups should be sold in canteens, especially in winter.Educational activities such as seminars and conferences on nutrition should be organized and researches including cognitive and behavioral tests should be conducted to determine the effect of breakfast meal on students' cognitive performance.

## KEYWORDS

Nutritional Habbits, Breakfast Habbits, Breakfast Preferences, University Student,

## INTRODUCTION

Nutrition is to consume each of the nutrients necessary for growth, development, protection of health and maintaining a healthy life in a balanced and sufficient amount[1]. The fact that recommended amount of energy and nutrients to supply the requirements of individuals is of great importance for the individual to survive healthily, to maintain school success, and to prevent obesity-related chronic diseases such as cardiovascular diseases and diabetes[2-4]. Breakfast is one of the most important parts of a healthy diet. There is a relationship between remembering and blood glucose level, and having breakfast makes remembering easier[5,6]. This is because the blood glucose level decreases in the long period between dinner and breakfast and consequently, cognitive performance is negatively affected. In addition, low levels of insulin and glucose affect the stress response, attention and memory[7].

In the research conducted in Turkey, it has been reported that university students have serious problems with nutrition, students do not consume regular meals and especially breakfast meals are skipped[8,9]. As a result of their divergence from their families, it is thought that the eating habits of students may have changed due to economic reasons and staying in places like dormitories or apartments. In addition, with the increase of time spent outside due to social communication efforts, the food preparation habit and home food consumption have been replaced by more practical, easily accessible, unhealthy fast food foods. In addition, because young people give importance to aesthetic appearance,

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especially weakness and beauty among young girls are considered synonymous, unconscious nutrition and wrong diets applied cause eating behavior disorders such as anorexia and blumia[10-12].

This research was carried out to determine the breakfast habits of students studying at Kırklareli University.

## MATERIALS AND METHODS

1200 students were enrolled in the study from January 2019 to December 2019 at Kırklareli University. In the study, 588 (49%) are males and 612 (51%) are female students The research consists of healthy volunteers without any chronic illness and disability. Before starting the research, students were informed about the purpose and scope of the study, and they were voluntarily included in the study, and informed consent forms were obtained.

The research data were collected by face-to-face interviews with the students who participated in the study by the researcher. The study was carried out with the Decision of the Ethics Committee of Kırklareli University.

A questionnaire form was used as a data collection tool. In the survey form; demographic characteristics, place of residence, disease information, breakfast habit, water consumption, frequency of food and beverage consumption, information about the foods consumed at breakfast are included. Having breakfast at least four days a week is considered a regular breakfast. Individual height (cm) and body weight (kg), waist and hip circumference were measured. Body mass index (BMI) and waist / hip ratio (WHR) were calculated according to the data obtained. All the anthoropometric measurements were conducted by two differ-days, and thus any error involving intra observer variability was prevented. The measurements were obtained in light clothes, under fasting, standing, and bare foot conditions and at the end of expiration. Weight wasmeasured using a digital scaleto within 0.1kg with only undergarments, and height was determined using a portable stadiometer with an accuracy to with in 1mm in barefeet. WC was measured using anon-elastic tape with the subject in a standing position. The abdominal circumference mid-way between the lowest rib and the top of the iliac crest at the end of expiration was measured to obtain the WC. Hip circumference was measured at the level of the greater trochanters with the legs closed together. Owerveight was defined as ≥ 25 kg/m2. Central obesity was defined as waist circumference ≥ 94 cm for men and ≥ 80 cm for women or waist to hip ratio (W/H) ≥ 1 for men and ≥ 0.8 for women[3].

SPSS-21 package program was used in the statistical evaluation of the data. Mean (X), standard deviation (S) and percentage (%) distributions are given in tables. Independent t-test and Chi-Square significance test were used as statistical analysis.

## RESULTS

In male students enrolled in the study, the average age is 20,6 ± 1,5 years, the average weight is 71,9 ± 10,9 kg, the height is 176,6 ± 7,8 cm, the BMI is 21,7 ± 3,1 kg / $m^2$, waist circumference is 76,7 ± 9,8 cm, and WHR is 0,89 ± 0,10. In the female students enrolled in the study, the average age is 20,6 ± 2,5 years, the average weight is 61,9 ± 10,6 kg, the height is 168,4 ± 7,9 cm, BMI is 21,6 ± 2,9 kg / $m^2$ waist circumference is 76,5 ± 9,5 cm and WHR is 0,78 ± 0,9. The difference between the weight, height and WHR of male and female students was found statistically significant ($p < 0.05$) (Table 1).

20.1 % male and 22.5% female students were owerweight according to . And 16.8 % male and 19.1% female students have abdominal obesity according WC. Also 17.8 % male and 21.7% female students have abdominal obesity according to W/H. There is not any signifigance diffarance vetween male and female.

Out of 1200 students enrolled in the study, 588 (49%) are males and 612 (51%) are female students. Of the male students, 168 (28%) stay in the student house, 136 (23%) stay with their families, 152 (26%) stay in the state dormitory and 132 (22%) stay in the commercial dormitory. Of the female students, 167 (27%) stay in the student house, 146

**Table 1.** Demographic and anthropometric values of students.

| | Male | Female | P values |
|---|---|---|---|
| Age (year) | 20,6±1,5 | 20,6±2,5 | ,873 |
| Weight (kg) | 71,9±10,9 | 61,9±10,6 | <0.05 |
| Height (cm) | 176.6±7,8 | 168,4±7,9 | <0.05 |
| BMI (kg/m2) | 21,7±3,1 | 21,6±2,9 | ,745 |
| Waist circumference (cm) | 86,7±9,8 | 76,5 ±9,5 | <0.05 |
| WHR | 0,89±0,10 | 0,78±0,09 | <0.05 |

**Table 2.** The weight status of the students.

| | Male | Female | P values |
|---|---|---|---|
| Owerweight (according to BMI) | 121 (%20.1) | 144 (%22.5) | NS |
| Abdominal obesity (according to WC) | 99 (%16.8) | 117 (%19.1) | NS |
| Abdominal obesity (according to W/H) | 105 (%17.8) | 133 (%21.7) | NS |

NS: No Skor

(24%) stay with their families, 147 (24%) stay in the state sorority and 152 (25%) stay in the commercial sorority. There is no statistically significant difference in the housing status between male and female students (Table 3).

**Table 3.** Housing status of students according to their gender.

| | Male | Female | Total |
|---|---|---|---|
| Student House | 168 (%28) | 167 (%27) | 335 (%28) |
| Stay with Family | 136 (%23) | 146 (%24) | 282 (%23) |
| Dormitory/Sorority | 152 (%26) | 147 (%24) | 299 (%25) |
| Commercial Dormitory/Sorority | 132 (%22) | 152 (%25) | 284 (%24) |
| Total | 588 (%100) | 612 (%100) | 1200 (%100) |

$\chi 2=1.371$, $p>0.05$.

While 878 (73%) of 1200 students said they had regular breakfast (at least four days a week), 322 (27%) students said they did not have a regular breakfast. 227 (68%) of the 335 (100%) students staying at the student house stated that they had breakfast regularly, 108 (32%) students stated that they did not have a regular breakfast. While 207 (73%) of the 282 (100%) students staying with their families stated that they had regular breakfast, 75 (27%) students stated that they did not have a regular breakfast. In addition, 237 (79%) of 299 (100%) students staying in the state dormitory/sorority and 207 (73%) of the 284 (100%) students staying in the commercial dormitory/sorority stated that they had regular breakfast, while respectively 62 (21%) and 77 students (27%) stated that they did not have a regular breakfast. This is statistically significant ($\chi 2 = 10.667$, $p <0.05$). The habit of having an irregular breakfast was found most frequently in students staying at the student house. Regular breakfast habits were mostly found in the state dormitory/sorority (Table 4)

The breakfast preferences of the group, which stated that they had a regular breakfast and that they did not have a regular breakfast, were also examined. Except for the group that states that they never have breakfast, both the group who has a regular breakfast and the group who do not have a regular breakfast stated that they would prefer to sitting down to eat if possible (Table 5).

## DISCUSSION

It has been reported in the researches about nutrition habits of university students that the students in Turkey have serious problems in terms of nutrition, students do not consume regular meals, especially they skip breakfast meals[8]. In the literature, the number of studies examining the nutritional status of students according to their location is very low. However, the students' housing significantly affects their nutritional status. In some studies, it was determined that the students staying at the student house did not have any nutritional problems compared to the students staying at the dormitory/sorority, and the students staying at the dormitory/sorority were fed more irregularly and poorly[13]. Similarly, the results of the study of Aytekin[5] and Durmaz[14] show that students stay in the dormitory/sorority have serious nutritional problems.

In a study conducted on first grade students of the Faculty of Medicine, they reported that 71.7% of the students stayed

**Table 4.** Breakfast Habits of Students According to Their Housing.

| | Having a Regular Breakfast n:878 (%73) | Having an Irregular Breakfast n:322 (%27) | Total n:1200 (%100) |
|---|---|---|---|
| Student House | 227 (%68) | 108 (%32) | 335 (%100) |
| Stay with Family | 207 (%73) | 75 (%27) | 282 (%100) |
| Dormitory/Sorority | 237 (%79) | 62 (%21) | 299 (%100) |
| Commercial Dormitory/Sorority | 207 (%73) | 77 (%27) | 284 (%100) |

$\chi 2=1.371$, $p>0.05$.

**Table 5.** Statement of Breakfast Preferences of Students.

| | Standing snack | Sitting down to eat | Never having breakfast | Total |
|---|---|---|---|---|
| I Have a Regular Breakfast | 36 | 842 | 0 | 878 |
| I Do Not Have a Regular Breakfast | 57 | 254 | 11 | 322 |

in the dormitory/sorority and about half of them did not have breakfast[14]. Although the frequency of not having breakfast is quite high compared to our study, it is in line with our study that students staying in dormitory/sorority and student house have more regular breakfast than those who stay with their families. On the contrary[15] stated that those who stayed with family had more regular breakfast than students staying at the dormitory/sorority. Result differences in studies may be due to differences in education level, differences of cities surveyed and differences between dates of research.

In another study examining the nutritional status of students at Erzincan University (in Turkey), the housing conditions of the sample were evaluated. 46.4% of the female and 35.8% of the male stated that they shared a room in the dormitory/sorority. While 32.1% of female students stay in their own homes with their families, 9.1% stay in rent with their friends. Whereas 25.6% of male students stay with their friends, 20.9% stay with their families in their own homes. The results of this study are similar to our study. Although the group with the worst breakfast habit was the students staying at the student house, the worst BMI values were found in the students staying at the dormitory/sorority[7]. In a study carried out in Artvin Coruh University Health Services Vocational High School (in Turkey), 35.8% of students reside at student house, 30.7% are state dormitory/sorority, 46.5% are commercial dormitory/sorority and 1.6% are residing elsewhere. Similar to our study, it was reported that the group having the most regular breakfast was the group staying in the state dormitory/sorority[16].

In a study conducted on 2665 undergraduate students in Kuala Lumpur, the frequency of skipping breakfast was found to be 29% and the lowest percentage of breakfast meal skipping was found to be the group remaining in their own home[17]. In another study conducted in Malaysia, it was reported that 24.4% of students did not have regular breakfast[18]. The frequency of having breakfast and the percentage of skipping breakfast meals vary between countries. In a study conducted on 317 medical school students in Ghana, it was stated that the percentage of skipping breakfast was 71.92%[19], while in another study on university students in Lebanon, this percentage was found to be 52.7%[20]. In another study conducted on 6038 medical students in China, the percentage of skipping breakfast meals was 41.7% and 23.5% in men and women, respectively[21]. In a study conducted on 1665 people in Spain, the rate of adults without regular breakfast habits was found to be only 17.7%[22]. According to the results of the research conducted on 500 undergraduate university students from 5 different universities in Ankara, the percentage of breakfast skipping was found to be 47.7%[23].

While it is easier and less labor-intensive for students to adapt to the breakfast offered at the dormitory/sorority, it is more difficult and labor-intensive to adapt to the breakfast meal especially for students staying at the student house. Unlike the fast breakfast habits of western countries such as cereals or croissants, consumption of soup for breakfast is quite common in Turkey due to its nutritious and satisfying properties[24]. In this context, serving various soups in school cafeterias and canteens can be an important move in terms of avoiding the problem of skipping breakfast among students. In our study, it is clearly a result of the increasing service quality of the state dormitory/sorority that the students staying in the state dormitory/sorority show more frequent breakfast than the students staying in the commercial dormitory/sorority.

The strength of our study is that the number of students participating in the study is balanced in terms of sample size, gender and housing style. The weakness of our study is that it does not reflect the breakfast habits of the whole country, as it is conducted only on the students of Kırklareli University, and it represents only the breakfast meal, although healthy eating is a whole with all meals.

## CONCLUSION

In conclusion, breakfast is one of the most important meals of the day. Starting from an early age, childrens should be regularized the habit of having regular breakfast by their parents. In order to facilitate access to breakfast especially for students living away from their families, collective nutrition systems that provide breakfast services in the university and dormitories should continue and be developed. For students staying at the student house, breakfast service should be offered in school cafeterias and soups should be sold in canteens, especially in winter. Likely in our investigation the habit of having an irregular breakfast was found most frequently in students staying at the student house. Regular breakfast habits were mostly found in the state dormitory/sorority.

Education activities such as seminars and conferences on nutrition for university students should be organized and researches including cognitive and behavioral tests should be conducted to determine the effect of nutrition on students' cognitive performance.

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