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YEDİTEPE UNIVERSITY

INSTUTITE OF HEALTH SCIENCES

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INVESTIGATION OF RELATIONSHIP BETWEEN BODY MASS INDEX AND BREAKFAST HABITS OF UNIVERSITY STUDENTS

MASTER THESIS

AHSEN DİLEK KOMAR İKAN

İSTANBUL- 2018

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SUPERVISOR

Assist. Prof. Dr. Hülya DEMİR

İSTANBUL- 2018

TEZ ONAYI FORMU

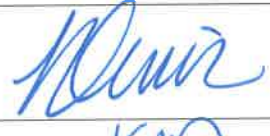Kurum   : Yeditepe Üniversitesi Sağlık Bilimleri Enstitüsü

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İndeksi ile İlişkisinin Araştırılması

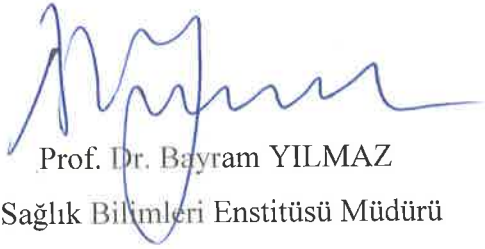Tez Sahibi   : Ahsen Dilek KOMAR İKAN

Sınav Tarihi   : 26.06.2018

Bu çalışma jurimiz tarafından kapsam ve kalite yönünden Yüksek Lisans Tezi olarak kabul edilmiştir.

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ONAY

Bu tez Yeditepe Üniversitesi Lisansüstü Eğitim-Öğretim ve Sınav Yönetmeliğinin ilgili maddeleri uyarınca yukarıdaki jüri tarafından uygun görülmüş ve Enstitü Yönetim Kurulu'nun 06./07./2018... tarih ve .2018.../12.03..... sayılı kararı ile onaylanmıştır.

Prof. Dr. Bayram YILMAZ

Sağlık Bilimleri Enstitüsü Müdürü

DECLARATION

I hereby declare that; this thesis is my own work, I did not show unethical behavior throughout the whole process from planning to writing, I obtained all knowledge in the thesis staying within academic and ethical rules, I cited and included all content that was not obtained by thesis work in the bibliography and I made no patent or copyright infringements.

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Signature

Ahsen Dilek KOMAR İKAN

ACKNOWLEDGEMENTS

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ABBREVIATIONS and SYMBOLS

BMI	**:**	Body Mass Index
cm	**:**	Centimeters
FFQ	**:**	Food Frequency Questionnaire
kg	**:**	Kilogram
Max.	**:**	Maximum Value
Min.	**:**	Minimum Value
mg	**:**	Milligram
SD	:	Standard Deviation
WHO	**:**	World Health Organization

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Appendix-1: Knowledge \ Data Collection Form

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ABSTRACT

Komar İkan, A.D. (2018). Investigation of the Relation of University Students' Breakfast Habits to Body Mass Index. Yeditepe University Institute of Health Sciences, Department of Nutrition and Dietetics, Master Thesis, Istanbul.

If the 18-24 age group, known as the transitional period of adulthood, is thought to be university students, their proper nutrition habits have a social significance in terms of their own health. In this study, it was aimed to investigate the relationship between nutritional habits and body mass index (BMI) of 3rd and 4th grade girls in Yeditepe University Faculty of Health Sciences Department of Nutrition Diabetic.

While study data were evaluated, variables without normal distribution in the comparison of descriptive statistical methods as well as quantitative data; Mann Whitney U test in two group comparisons; Pearson kikare test and Fisher Freeman Halton test have used in the comparison of quantitative data. $p<0.05$ has considered statistically significant. The BMI of the students varies between 16.3 and 25 kg / m2. The mean value was 19.91 ± 2.26 kg / m 2. It was observed that 30% of the students were weak and 70% were normal weight.

When we look at the girls participating in the research; 53% of the girls did not have breakfast, 40% did not eat lunch, and 7% did not eat dinner. According to these results, it was determined that breakfast meal was the most skipped meal of the day. In this scope; 34% had not woken up to the school because of the late morning wake, 17% had no appetite in the morning, 6% fear of weight gain, 3% do not like breakfast, 2% do not care and 9% do not have breakfast for other reasons. In the answers given by the girls who participated in the research, 92% of the students answered that breakfast is the most important meal of the day and also 91% of the students said that breakfast is improving the performance of the individuals in the school. 65% of the girls are having breakfast at home. 20% of them consume coffee, 19% milk, 18% Turkish coffee at the breakfast every day. In addition, 74% of them are newer consume the ready-made fruit juice, 54% acid drinks, 33% Turkish coffee at the breakfast. When the distribution of the consumption frequency of the consumed foods at breakfast is examined 35% is white bread, 42% is molasses / tahini, 37% is butter, 36% salami / sausage and 48% biscuits are not consumed. But whole grain bread is consumed by 36%, feta cheese 39%, eggs 30%, fresh vegetables / fruit 32% by the girls.

According to BMI levels; there was no statistically significant difference between the scores of the daily meal numbers of the students, the distribution of the main meal numbers, the distributions of the break meal numbers, the skipped meal distributions, the scores obtained from the questions about breakfast information, and the points they got about the adverse events during the day if they did not have breakfast ($p > 0,05$). Also according to what they have in their class, there was no statistically significant difference between the distributions of daily meal numbers of the students, the distributions of the main meal numbers, the distributions of the break meal numbers, the skipped meal distributions and the scores of breakfast related information questions ($p > 0,05$).

As a result; we can note that low BMI values may be related to body form anxiety and to the weakness of prevalence in our country in this age group (13-24 years). Institutions that mostly serve students need to prepare healthy, high quality, nutritious menus in their meals. At the same way, the students should eat breakfast regularly at breakfast and consume high nutrients for breakfast.

Key words: Body mass index, university students, breakfast, breakfast habits.

ÖZET

Komar İkan, A.D. (2018). Üniversite Öğrencilerinin Kahvaltı Alışkanlıklarının Beden Kitle İndeksi ile İlişkisinin Araştırılması. Yeditepe Üniversitesi Sağlık Bilimleri Enstitüsü, Beslenme ve Diyetetik ABD, Master Tezi, İstanbul.

Üniversite öğrencilerinin yetişkinliğe geçiş dönemi olarak bilinen 18-24 yaş grubu gençler oldukları düşünülürse, onların doğru beslenme alışkanlıklarına sahip olması kendi sağlıkları açısından toplumsal önem taşımaktadır. Bu çalışmada, Yeditepe Üniversitesi Sağlık Bilimleri Fakültesi Beslenme Diyetetik Bölümü 3'üncü ve 4'üncü sınıf kız öğrencilerinin beslenme alışkanlıkları ve bunun beden kitle indeksi (BKİ) ile ilişkisinin incelenmesi amaçlanmıştır.

Çalışma verileri değerlendirilirken tanımlayıcı istatistiksel metotların yanı sıra nicel verilerin karşılaştırılmasında normal dağılım göstermeyen değişkenlerin iki grup karşılaştırmalarında Mann Whitney U test ve nitel verilerin karşılaştırılmasında Pearson kikare test ve Fisher Freeman Halton test kullanılmıştır. $p<0.05$ istatistiksel olarak anlamlı kabul edilmiştir. Öğrencilerin BKİ ölçümleri 16,3 ile 25 kg/m2 arasında değişmekte olup, ortalama $19.91\pm2,26$ kg/m2 olarak saptanmıştır. Öğrencilerin %30'unun zayıf, %70'inin normal kilolu olduğu gözlenmiştir.

Araştırmaya katılan kız öğrencilerin %53'ünün sabah, %40'ının öğlen, %7'sinin akşam öğününü atladığı bulunmuştur. Bu sonuçlara göre, sabah kahvaltısının günün en çok atlanan öğünü olduğu saptanmıştır. Kız öğrencilerin %34'ü sabah geç uyanma nedeniyle okula yetişememe ve zaman bulamama, % 17'si sabahları iştahsız olma, %6'sı kilo alma korkusu, %3'ü kahvaltıyı sevmeme, %2'si önemsememe ve %9'u da diğer nedenlerden dolayı kahvaltı yapmamaktadır.

Araştırmaya katılan kız öğrencilerin, kahvaltıyla ilgili bilgi sorularına verdikleri cevaplar içinde kız öğrencilerin %92'si 'Kahvaltı, günün en önemli öğünüdür' cevabını seçmiş, aynı şekilde %91'i 'Kahvaltı yapan bireylerin okuldaki performansının arttığı' cevabını işaretlemişlerdir.

Kız öğrencilerin %65'i evde kahvaltı yapmaktadır. Her gün %20'si kahve, %19'u süt, %18'i Türk kahvesi tüketirken, %74'ü hazır meyve suyu, %54'ü asitli içecekler, %33'ü Türk kahvesi tüketmemektedir.

Kahvaltıda tüketilen yiyeceklerin tüketim sıklıklarının dağılımı incelendiğinde, %35'i beyaz ekmek, %42'si pekmez/tahin, %37'si tereyağı, %36'sı salam/sosis/sucuk, %48'i

biskitvi tüketmezken, %36'sı tam tahıllı ekmek, %39'u beyaz peynir, %30'u yumurta, %32'si taze sebze/meyve tüketmektedir.

BKİ düzeylerine göre öğrencilerin günlük öğün sayılarının dağılımları, ana öğün sayılarının dağılımları, ara öğün sayılarının dağılımları, atlanan öğün dağılımları, kahvaltıyla ilgili bilgi sorularından aldıkları puanlar arasında, kahvaltı yapmadıklarında gün içinde yaşadıkları olumsuz durumlara ilişkin aldıkları puanlar arasında istatistiksel olarak anlamlı farklılık saptanmamıştır (p>0,05). Okunan sınıfa göre öğrencilerin günlük öğün sayılarının dağılımları, ana öğün sayılarının dağılımları, ara öğün sayılarının dağılımları, atlanan öğün dağılımları, kahvaltıyla ilgili bilgi sorularından aldıkları puanlar arasında istatistiksel olarak anlamlı farklılık saptanmamıştır (p>0,05).

Sonuç olarak, BKİ değerlerinin düşük olmasını, bu yaş grubundaki (13-24 yaş) kız öğrencilerin vücut endişesine ve ülkemizde yaygınlaşan zayıf olma modasıyla bağlantılı olabileceğini belirtebiliriz. Çoğunlukla öğrencilere hizmet sunan kurumların, besin değeri yüksek, sağlıklı ve kaliteli menüler ile hizmet vermeleri önem arz etmektedir. Buna ilave olarak öğrenciler kahvaltıda besin değeri yüksek besinler tüketerek düzenli kahvaltı yapmalıdır.

Anahtar kelimeler: Beden kitle indeksi, üniversite öğrencileri, kahvaltı, kahvaltı alışkanlıkları.

1. INTRODUCTION and PURPOSE

What is inevitable for every living thing is to ensure that physiological activities are carried out normally, from birth to death. In every phase of life, it is of utmost importance that the nutrition items necessary for the prevention of chronic diseases such as obesity, cardiovascular diseases and diabetes are consumed in a balanced and sufficient amount in addition to being able to continue the healthy life of the individual in terms of physical and mental aspects (1).

Nutritional status differs according to region, season, socioeconomic level, rural-urban distinction. One of the most important reasons for inadequate and unbalanced feeding is lack of nutrition knowledge. Nutritional knowledge is one of the factors that influence nutritional status and habits of individuals, families and societies. Therefore, the place and the importance of nutrition education is great in preserving and improving health (2).

Changing nutritional habits positively is a key parameter in reducing the risk of chronic illness. Amendments regarding adequate and balanced nutrition habits, leads to positive or negative effects on health throughout life, positive changes play a key role in the prevention of many chronic diseases such as cardiovascular diseases that may occur at a later age, many cancers, obesity, hypertension, diabetes, allergic diseases, osteoporosis and dental caries, as well as maintaining the health status of individuals (2, 3).

Beginning a new day willingly and maintaining the day efficiently is also closely related to the amount and composition of the morning breakfast. In a study about the subject; it has been stated that having breakfast, by improving nutritional status, enhances development in learning and cognitive skills and has a positive influence on the education (4).

Differences in the nutritional requirements of individuals may be affected by age, gender, physical activity, disease status, and genetic factors (5). Insufficient and unbalanced nutrition in our country is a major problem in our country and university students is one of the most commonly seen groups of nutritional problems (6).

If the 18-24 age group, known as the transition period to adulthood, is considered to be university students, university students are the first group after childhood to be in the adult period stage. They have proper nutritional habits, are of social importance because of their health as well as the role of this group as an example

model (6). For this reason, individuals should be given the habit of regularly consuming main meals from the age of infancy and childhood. It is necessary to avoid health-damaging condition such as one-way nutrition, starvation, or over-nutrition (7).

In addition, students should be given the awareness that their health will be protected, away from diseases, physical and social peace will be ensured, quality of life will be increased by giving healthy nutritional habits to the students and in this subject nutrition education support should be given. In this context, it is very important to make breakfast and proper eating habits from childhood (8).

This research was conducted to determine the effect of breakfast habits on body mass index (BMI) among 100 female students over the age of 18 who are studying at Yeditepe University, Faculty of Health Sciences, Department of Nutrition and Dietetics between April and May 2018.

2. LITERATURE INFORMATION

2.1. Nutrition Habits and Meal Concept

The most important factor in the development of the eating habits of young people is the nutrition manner of the family, being model about the parents' choice of food, and the media and society norms (9). Eating behavior is central to the physical development, health and personality of the young. The increase in the interests of young people, self-determination authority, social life, and the concerns of integration with their peers leads them to spend most of their time outside. This leads to changes in eating habits and behaviors, excessive consumption of fast foods, inaccurate diet practices, skipping meals and break meals between meals (10). In addition, genetic predisposition, the proportion of food items that constitute energy, malnutrition behaviors such as skipping meals, consuming high fat carbohydrate foods at the meal breaks, eating fast food, food preparation, cooking, storing methods, alcohol consumption, inadequate water and fibre consumption is effective in the formation of obesity (11,12).

In Turkey, made to study the nutrition habits of university students in the studies, the majority of pupils have poor nutrition habits and nutritional problems were found to be at an advanced level. According to a research; it has been found that 38.1% of 59 university students eat breakfast, 53% lunch and 19.9% eat dinner inadequate and unbalanced (13). In a study conducted in the United States between 1977-1996 and in which investigate differences in energy intake among age groups were examined, it was reported that young people aged 19 to 39 were the most eating group in fast food restaurants in all age groups (14). Another study showed that from the time of adolescence to the period of adulthood, more breakfast meals were skipped with the increase in fast food consumption (15).

2.2. Skipping Meal and Most Skipped Meals

The skipping of breakfast meals in adults is changing according to the countries In one study, it was reported that young adults, was the most skipped group breakfast among all age groups and breakfast was also the most skipped lunch (16). In a study of breakfast-style, daily nutrient intake, and vitamin mineral status on French young

adults, it was found that skipping breakfast meals was more common in young adult women (17).

In a study evaluating nutrition knowledge and habits of university students; found that students skipped meals (%90.3) very high that the most skipped meals were morning meals (%65.8), and that more than half of the students (%51.3) skipped meals due to lack of time (18). Although students have adequate knowledge about foods, it was found that they often include unhealthy food in their diets, even if they are benefited from the main nutritional elements, they consume very little milk and eggs that would have a positive effect on their development, they prefer less from vegetable foods, they are fed inadequately and unbalanced with an unconscious skipping meal (19). According to the findings obtained from the research; it has indicated that;

- Increasing the nutritional possibilities of the places where the students live with inter-agency cooperation,
- Presentation of healthy food in the cafeteria and canteen in schools,
- It is important for the students to acquire the proper nutritional habits in order to protect their health in the later period of their life. For this, elimination of inadequacies in nutrition knowledge and habits with effective and continuous nutrition education,
- Organizing short-term conferences, panels and interviews on nutrition topics at universities regularly,
- Bringing into the habit of eating 3 meals a day in sufficient quantity According to the present-day living conditions of the people,
- İncreasing the quality of food and consuming less carbohydrate foods, at breakfast, because the presence of carbohydrate and fatty foods as well as proteins provides getting them hungry later, by slowing down the rate of blood sugar lowering,
- Encourage this young population to create a healthy lifestyle and to have a healthy diet.

2.3. The Importance of Breakfast

Along with research made for thirty years on the importance of breakfast, the benefits of starting with breakfast to day are assessed for all age groups (20). It is necessary for the individual to obtain daily energy and nutrient requirements adequately and balanced every meal and to have blood sugar in a certain level in order for the body to work regularly. The fact that the blood glucose level is lower or higher than normal values is bad for the body. If nutrition is adequate and regular, the blood glucose level in the body does not rise/fall, and the body works well (13). If the breakfast has

sufficient and balanced content in terms of carbohydrate, protein and fat, the starvation statement is delayed for a certain period of time, the blood sugar level normalizes and the body continues to produce the energy needed for daily life (20).

Our body continues to work even when we sleep. There is approximately a 12-hour period between dinner and morning. During this time, the body uses the whole of the food and when you get up in the morning, when you do not have breakfast, your brain will use less energy, a decrease in energy that the brain will use occurs, and the brain does not get enough energy. In this case, troubles such as tiredness, headache and lack of attention and perception are experienced. In the face of diseases, resistance to the body falls (21).

The relationship between breakfast and learning performance can be explained as follows: the breakfast improves the nutritional status of the student, meets the insufficient energy requirement in the case of hunger of the brain and increases the attendance to the course. Those who do not eat breakfast are less concentrated in the classroom, and the reminiscence performance later of given information falls (22).

However, breakfast prevents also to live adaptation problem by providing to start dynamic to day and to continue strong (23). Other studies have also support that regular breakfasts have a positive effect on adequate and balanced nutrition (24, 25). One of the most important benefits of a breakfast meal is the reduction of break meals consumed during the day and as a result of this, unnecessary energy intake in the body has been prevented (26). In a study conducted on adolescents, energy and nutrient intake in main and intermediate meals were compared. Accordingly, it has been found that breakfast is an important source of fibre, calcium and iron, which has an important role in preventing diseases (27).

In a study of the effect of breakfast on bone mineral density, the bone mineral density of women who have a habit of having breakfast was significantly better than those who did not. As a result; it is recommended to have breakfast for bone health (28). In another study found that breakfast was an important source for vitamins, riboflavin and calcium. Along with that; it is noted that breakfast meets more than 25% of the daily intake of vitamins and minerals except vitamins and zinc (29). In study on the students' having breakfast habits, was determined that those who did breakfast did better intake of micro and macro nutrients and higher nutritional qualities than those who did not breakfast (30).

2.4. Food Should Be Consumed at Breakfast and Those Consumed

Business efficiency and reaction rate of individuals consuming enough protein at breakfast is high. For individuals who do not have breakfast business efficiency and reaction rate is considerably lower (31). Individuals who do not have breakfast express complaints of dizziness, nausea and vomiting when they exercise. Between the second and third hours after low protein breakfast intake, blood sugar falls below the hunger level and people feel hungry. In a balanced breakfast, 1/4 of the daily energy or at least 1/5 of the daily energy needs to be met. Daily energy requirement differs according to age groups. When the energy to be taken daily is 2000-3000 calories, the amount to be taken at breakfast is 400-600 calories. 55-60% of this energy should be provided from carbohydrates, 25-30% from oils and 15-20% from proteins (31). A balanced morning breakfast should meet the mineral and vitamin needs of the individual, especially calcium, iron, fibre (32).

At least 15 grams of protein should be taken for breakfast, since the breakfast regulates blood glucose levels and thus prevents fatigue and hunger. The fruit or vegetables to be consumed at breakfast are important nutrients which ensure that the menus are balanced especially in terms of vitamin C and thus increase iron absorption. It is known that fruit or vegetable consumed at breakfast is also effective in lowering blood cholesterol level. Taking all these considerations into consideration, drinking a glass of milk for breakfast, consuming a vegetable or fruit such as an orange, tomato, cucumber etc. is the most important step that can be taken in terms of starting the day in a dynamic and healthy way (33). Care must be taken to ensure diverse group of foods for breakfast. Especially milk, cereal and fruit should be included. Combinations such as cheese slices or peanut butter on fried grain bread should be tried. Mixtures made from fresh fruit with milk or yoghurt or sliced fruit on cereal can be given (34). At the end of the night hunger and at breakfast time, while the individual is at hunger level, the blood sugar that provides brain energy is at the lowest level (35).

Protein need can be obtained from dairy products such as eggs, milk and cheese. Although the requirements vary from person to person, an average of 30-60 g of cheese and an egg meets the daily protein requirement of a healthy individual (23). Fibre allows the digestive system to work more efficiently and throws cancerous substances in intestines out by attach own structures and reduces the risk of cancer; therefore,

instead of white bread as a carbohydrate source, wholemeal, whole wheat or oat bread whose amount of fibre is high should be consumed (36).

The most important resources to meet the daily vitamin and mineral needs are fruits and vegetables. The consumption of fruits and vegetables such as oranges, apples, tomatoes, cucumbers, parsley, peppers etc. at breakfast increases the absorption of the iron in the body and decreases the blood cholesterol level. This is an important step in starting the day in a dynamic and healthy way. If the person does not have any health problems, molasses, honey, jam, marmalade, hazelnut paste can also be consumed at breakfast (37).

A survey conducted for the breakfast consumption among young adults in the United States, it was reported that what they consumed most in the morning breakfast was ready breakfast cereals and milk, bread and coffee (38). In another study in the United States, changes in breakfast consumption of young adults has examined and it has found that dietary fat decreased and consumption of fruit and whole grain products increased. In addition, it has been indicated that those who consume milk at breakfast have lowered their full fat milk consumption from 100 g to 50 g (38). It has been determined that young adult women in Europe have consumed mostly milk, vegetables, fruits, bread and other cereals in the morning breakfast (39).

In Turkey the university student young adults, in the morning breakfast , mostly the foods they consume, respectively; bread, bagels, patty, pogaca, toast, sandwiches; most of the students consumes tea, coffee as drinks and very few of them milk (40). In other studies, it was shown that university students in the morning breakfast consumed mostly cheese, olives, tea and bread (41).

2.5. Skipping Breakfast Causes

Studies were conducted to examine the breakfast habits of university students in Turkey and it was seen that there was no regular breakfast habits in this studies. Considering that breakfast meals are not even in younger people, only one of the four learners is a breakfast habit, it is understood that this habit is not earned at an early age (8). In a study that examined the eating habits of three generations of women, 63.8% of the daughters, 21.9% of the mothers and 10.6% of the grandmothers skipped the breakfast. Mother and grandmothers had more regular breakfast than the daughters and

the daughters and it was seen that they skipped the breakfast because of being late to the school (41).

In another research; 27% of working women and 34.5% of unemployed women have missed breakfast in the morning. In the same study, it was determined that breakfast was not done due to reasons such as late waking and accordingly no time, no appetite in the morning, no consideration of breakfast meal and no weight gain (42).

In a study conducted on the habit of breakfast by 300 female university students, 39.3% of the students did not have breakfast at all. It was determined that the reason for skipping breakfast in the morning was at most 48.3%, and there was a fear of being late for the school due to late morning departure (43).

2.6. Non-Breakfast and Insufficient Nutrition

In an American study, it was found that skipping breakfast for young adult women was one of the most important reasons for under nutrition. It has been seen that young women who constantly skip the breakfast have poor nutritional habits resulting in very low amounts of vitamin B, copper, iron, zinc, magnesium and calcium intake throughout the day. Therefore, the development of breakfast eating habits for the correction of the adult population in America is stated to be effective in a significant degree (44). Again in the USA, the intake of food at main and intermediate meals of young people over 20 years of age was investigated and it was determined that breakfast recipients had higher intake of micronutrient (excluding cholesterol, vitamin B6 and sodium) than those who did not eat breakfast (37).

It was also found that young adult women who do not eat breakfast in our country and abroad have lower levels of nutrient intake than calcium, phosphorus, zinc, magnesium, potassium, thiamine, riboflavin, niacin (38, 40). In addition, it has been determined that young adults engaged in high-energy breakfast are more likely to meet the Recommended Daily Allowance (RDA) values of food items such as vitamin B1 and beta-carotene than those who are low-energy or no-breakfast, and affirm that they are eating better (45).

Nutrition is important for all segments of society, and also has a different significance for the university youth. Many university students have to live away from the family environment for the first time in their lives. A new era in the nutrition of these students is beginning due to the start of university education, the separation from

the familiar environment of the time, the more openness to external influences and the fact that they are starting to make their own free choices more clearly. The decisive feature of this period is economic problems and efforts to adapt to a new era. New forms that may appear in their eating habits will be moved after their university studies (47).

For these reasons, it is very important for university students to identify nutritional information and habits they have and to develop appropriate recommendations for the situation (47). It is seen that researches about eating habits of university youth in our country have consumed more food such as sandwiches, bagels and bagels in the period that students have very serious problems related to nutrition in this period, students usually do not pay attention to their meals. It was determined that the economic difficulties were effective in the problem of inadequate and unbalanced nutrition, the students staying in the dorms were not well fed because of the bad conditions of the dorms, and they only ate food to feed their bellies (48,49,50).

2.7. Body Mass Index (BMI)

Body mass index (BMI), which is the result of dividing body weight in kg by body length square (m2), is the simplest method used by individuals to obtain data on body composition regardless of gender (BMI = Body weight (kg) / Length square (m2)) (51).

Table 2.1: International Classification of BMI by WHO (52)

Classification	BMI (kg/m2)
Weak	<18,50
Extremely Weak	<16,00
Medium Weak	16,00–16,99
Weak	17,00–18,49
Normal	18,50–24,99
Over-Weight	>=25,00
Obesity Candidate	25,00–29,99
Obese	>=30,00
Obese I	30,00–34,99
Obese II	35,00–39,99

Obese III	>=40,00

2.8. Obesity, Obesity Prevalence in the World and in the World

Obesity is a chronic condition that develops as a result of excessive energy uptake and inadequate energy expenditure due to the sedentary lifestyle or low metabolic rate, or as a result of the long-term energy imbalance, which is caused by both, and complex interactions between the person's genes and their surroundings (52). It is known that obesity has increased in the last 20 years during childhood and adulthood and reached remarkable dimensions. Today, urbanization, economic development and globalization, rapid changes in lifestyle and diet have caused significant health and nutritional problems such as obesity in both developed and developing countries (53).

Today, environmental conditions and lifestyle change rapidly, and as a result, the prevalence of some diseases changes. Both asthma and obesity affect millions of people all over the world. In recent years there have been large increases in the prevalence of both. The combination of these two conditions has led to the belief that obesity plays a role in the pathogenesis of asthma. However, it is suggested that asthma is not related to obesity and that both are influenced by various negative factors such as an immobile lifestyle, changing dietary characteristics (54).

While there were 200 million obese people in the world in 1995, it increased to 300 million in 2000. This increase is mostly in women. Despite the fact that most obesity is thought to be in modernized societies, it is estimated that there are 115 million obese people in developing countries.

The prevalence of obesity in developing countries, urbanization, income level, education and other socio-economic conditions are associated with. The World Health Organization (WHO) reports that obesity has become an increasingly common public health problem in recent years. As of 2010, 150 million adults, 15 million children and adolescents are thought to be obese in Europe (55). Early diagnosis and treatment approaches are important because obesity starting in childhood and adolescence poses an increased risk for obesity in adulthood and also causes respiratory, cardiovascular, hormonal, orthopedic and psychiatric disorders (56).

2.9. Control of Body Weight and Its Relationship with Breakfast

Regular physical activity is important as well as adequate and balanced nutrition for body weight control. For a long and healthy life, proper body weight must be balanced (53). When analyzed according to BMI young adult women in Turkey have been identified similarities with studies in some European countries (57). It has been assessed that female students have a high BMI at normal and below normal levels and that this age group is due to the body form anxiety and weakness that is widespread in our country (57). Obesity rates were observed to be below the American obesity rates (58).

According to a study conducted in our country, the eating habits of university students with low BMI were found to be poor. According to this, it is stated that nutritional problems are very high (59). Work done in the last 30 years shows a decrease in the habits of young adults having breakfast. There are also many studies showing that there is an inverse relationship between BMI and breakfast consumption of young adults (60). In these studies, it has been suggested that the habit of skipping a breakfast meal is associated with increased obesity frequency, which may lead to excessive energy intake for the rest of the day (60).

In a study conducted in the United States, during the transition from adolescence to adulthood, the increase in freedom was associated with an increase in the responsibility for preparing meals, leading to the skipping of breakfast meals and their shift to fast food. This has been found to cause fast food to be consumed in large portions and to increase energy intake, thus increasing body weight (61). In another study, it was found that young adults who skipped breakfast spent less energy than breakfasts. However, it is stated that more energy fields are physically more active (62).

3. MATERIALS and METHODS

3.1. The Universe of Research and Sampling

The study was carried out in March-April 2018. The universe of study was formed by the Faculty of Health Sciences within the Yeditepe University campus. Sampling; it consisted of 100 students who were randomly sampled from 3rd and 4th grade students in the Department of Nutrition and Dietetics. However, since the number of male students in the department was small, it was not included in the study because it was thought that it could negatively affect the comparison of anthropometric measurements.

3.2. Inclusion and Exclusion Criteria for Research

3.2.1. Inclusion Criteria

- Declaration of verbal consent to participate in the research,
- Being a 3rd and 4th grade female student in Yeditepe University, Faculty of Health Sciences, Department of Nutrition and Dietetics in 2017-2018 academic year.

3.2.2. Exclusion Criteria

- Not giving verbal consent to be included in the research,
- To be out of the group designated for the research,
- Being a 3rd and 4th grade male student in the Department of Nutrition and Dietetics,
- To be inconsistent with incomplete and contingent questions about information and data collection form questions.

3.3. Data Collection Tools

The data of the research were collected by the general information and data collection form prepared by the researcher. The general information and data collection form was prepared by the researchers by reviewing the relevant literature (64). Body mass index (kg / m2) was calculated (sensitive to 100gr with the Fakir Hercules Body Analysis Weighbridge) by taking the participants' height (m) and their weight (kg).

3.4. Evaluation of Data

In the evaluation, the data are grouped first and then the necessary coding is done. NCSS (Number Cruncher Statistical System) 2007 (Kaysville, Utah, USA) program was used for statistical analysis after obtaining the data for the sample group and the data collection forms and necessary data for the research.

Mann-Whitney U test was used in two group comparisons of the variables that did not show normal distribution in the comparison of quantitative data, in addition to descriptive statistical methods (average, standard deviation, median, frequency, ratio, minimum and maximum). Pearson Chi-Square Test and Fisher-Freeman Halton Test were used for comparison of qualitative data. Significance was evaluated at p <0,05 level when evaluating inter-variable relations (64).

3.5. Ethical Dimension of the Research

- Approval of the institution was taken. KAEK Resolution No: 842.
- Voluntary participation of individuals was deemed as the principle, their permissions were taken by explaining them the volunteering form and they were told that they can quit the research at any time without citing a reason.

4. FINDINGS

The study was carried out between March and April 2018 with a total of 100 students aged between 20 and 24 years, with an average of 22,08 ± 1,20 years, from the 3rd and 4th grade female students of Yeditepe University Department of Nutrition and Dietetics, Faculty of Health Sciences.

Table 4.1. Distribution of Demographic Characteristics

Age	Min-Max (Median)	20-24 (22)
	Average±Standard Deviation	22,08±1,20
Length (cm)	Min-Max (Median)	150-183 (166)
	Average±Standard Deviation	166,19±6,21
Weight (kg)	Min-Max (Median)	42-84 (53)
	Average±Standard Deviation	55,39±8,52
BMI (kg/m2)	Min-Max (Median)	16,3-25,0 (19,42)
	Average±Standard Deviation	19,91±2,26
	Weak	30% (30,0)
	Normal Weight	70% (70,0)
Class	**3rd**	62% (62,0)
	4th	38% (38,0)

In Table 4.1, the length of the students ranged from 150 to 183 cm and the average was 166,19 ± 6,21 cm. The weight measurements of the students ranged from 42 to 84 kg, with average of 55,39 ± 8,52 kg. The BMI measures of the students ranged from 16.3 to 25 kg/m2 with average of 19,91 ± 2,26 kg / m2. It was observed that 30% of the students (n = 30) were weak and 70% (n = 70) were normal weight.
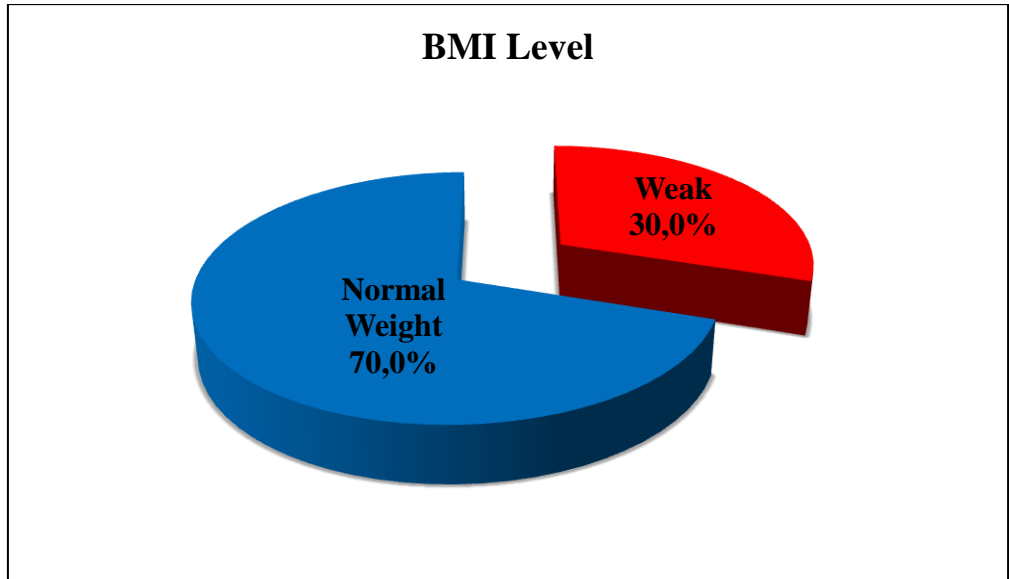
Figure 4.1. Distribution of BMI Levels

In Figure 4.2; 62% of the students who participated in the study were in the 3rd grade, 38% were in the 4th grade.
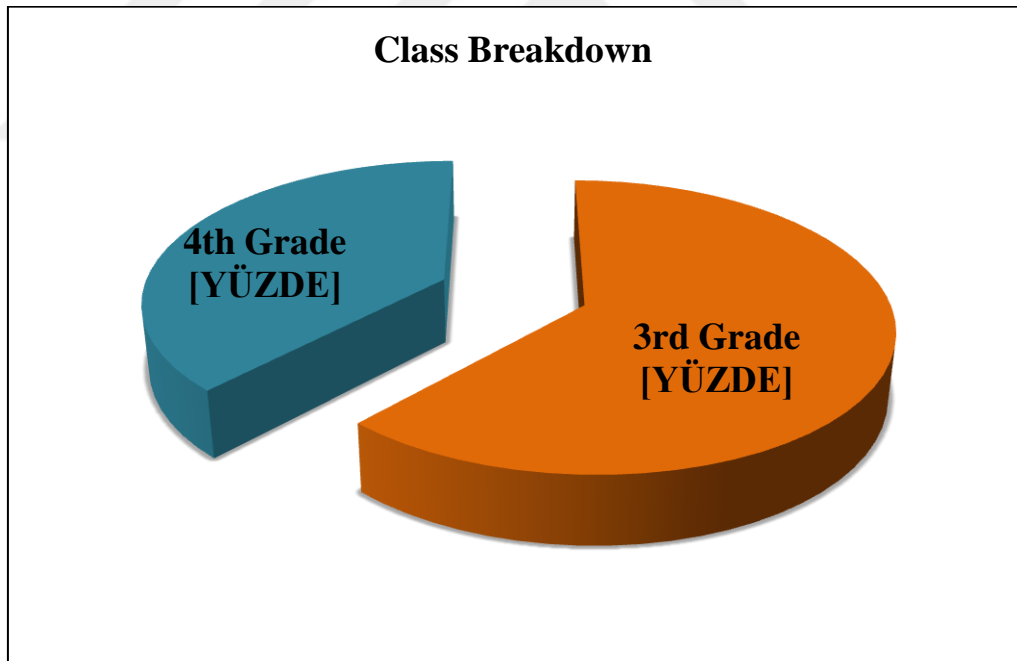
Figure 4.2. Class Breakdown

Table 4.2. Distributions Related to Nutritional Habits

Number of Daily Meals	≤2 meals	20 (20,0)
	3 meals	67 (67,0)
	≥4 meals	13 (13,0)
Number of Main Meals	1 meal	8 (8,0)
	2 meals	72 (72,0)
	≥3 meals	20 (20,0)
Break Meal	Not doing break meal.	28 (28,0)
	1 meal	57 (57,0)
	≥2 meals	15 (15,0)
Skipped Meal	Breakfast	53 (53,0)
	Lunch	40 (40,0)
	Dinner	7 (7,0)
If the Skipped Meal is Breakfast, What is the Reason?	Not getting to the school due to late morning wake-up	34 (34,0)
	Do not like to have breakfast	3 (3,0)
	Being without appetites in the morning	17 (17,0)
	Do not care	2 (2,0)
	Fear of weight gain	6 (6,0)
	Other	9 (9,0)
Where the Breakfast is Usually Done?	Do not breakfast	3 (3,0)
	At home	65 (65,0)
	At school	20 (20,0)
	On the way to school	9 (9,0)
	Other	3 (3,0)

As shown in Figure 4.3; it was observed that 20% of the students participating in the study had a daily number of meals of 2 and below, 67% of the students had 3 meals and 13% had 4 and over meals.
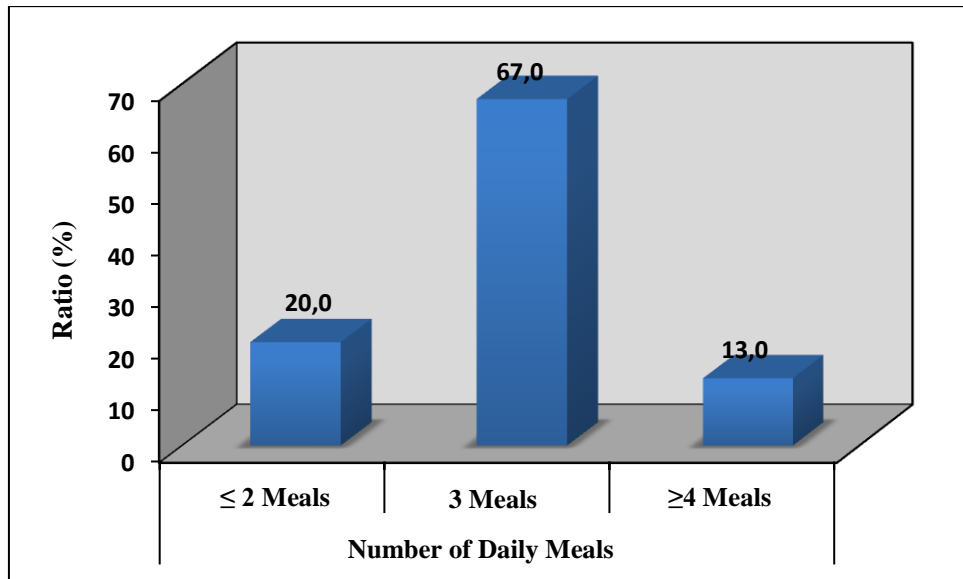
Figure 4.3. Distribution of the Number of Daily Meals

As shown in Figure 4.4; it was observed that 8% of the students participating in the study had 1 main meal, 72% of the students had 2 main meals and 20% had 3 and over main meals.
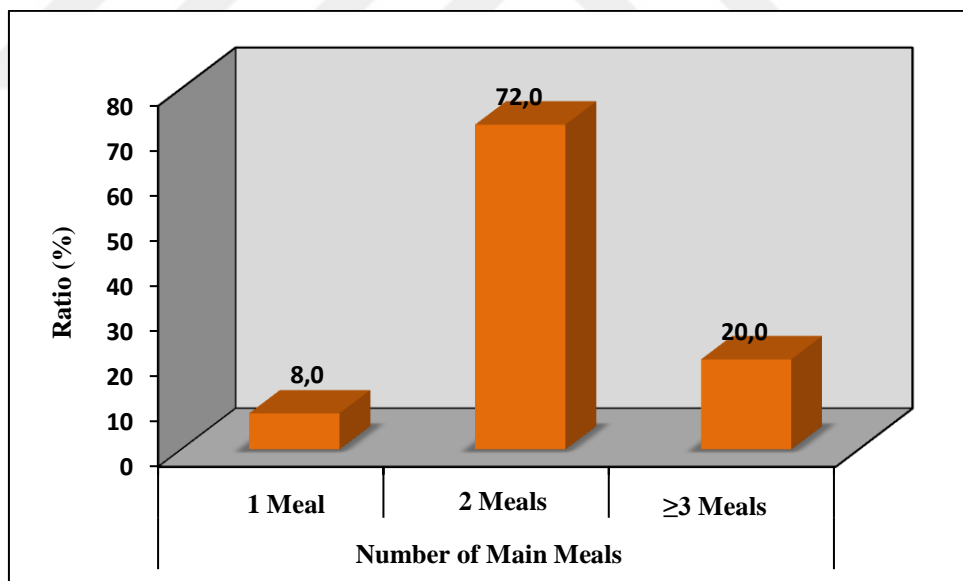
Figure 4.4. Distribution of the Number of Main Meal

As shown in Figure 4.5; it was observed that 28% of the students participating in the study have not do break meal, 57% of the students had 1 break meal and 15% had 2 and over break meals.
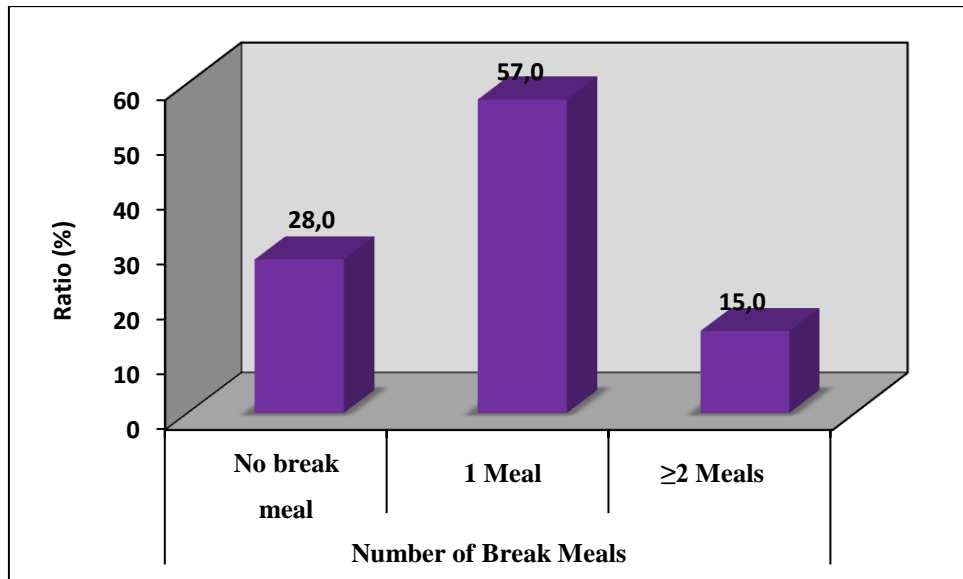
Figure 4.5. Distribution of the Number of Break Meal

As shown in Figure 4.6; it was observed that 53% of the students participating in the study have skipped 1 meal, 40% of the students have skipped 2 meals and 7% have skipped 3 meals.
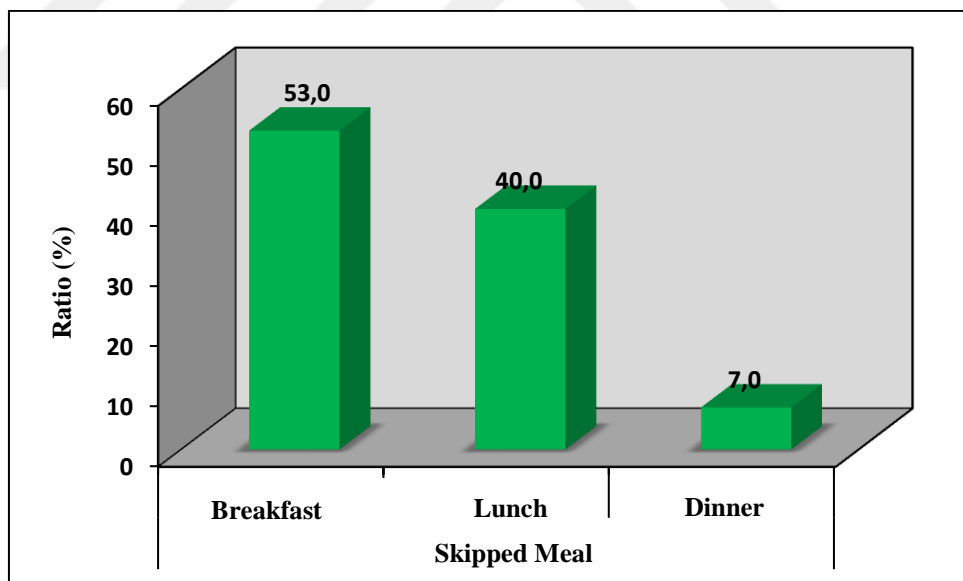
Figure 4.6. Number of Skipped Meals

As shown in Table 4.2; it was observed that 34% of the students participating in the study skipped the breakfast because of being late to the school due to late morning wake-up. In addition, 3% of the students don't like to have breakfast, 17% been without appetites in the morning, 2% do not care the breakfast, 6% have a fear of weight gain and 9% of the students have the others reasons.

As shown in Figure 4.7; it was observed that 3% of the students participating in the study do not breakfast, 65% do breakfast at home, 20% do breakfast at school, 9% do breakfast on the way to school and 3% of the students have breakfast at the other places.
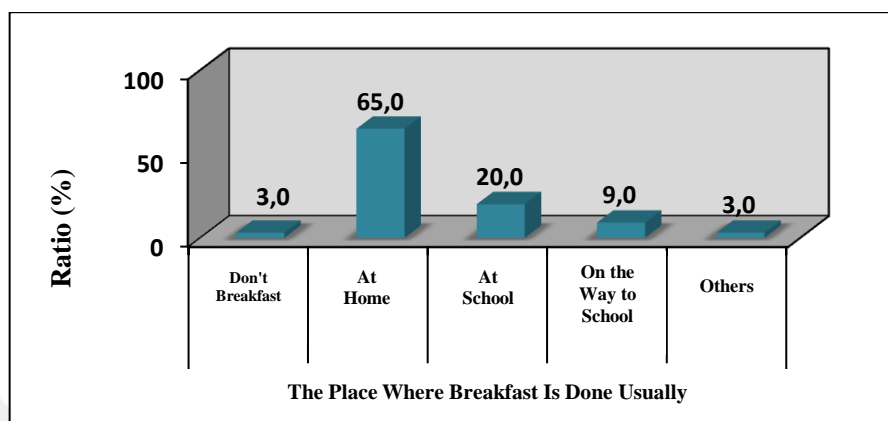
Figure 4.7. Distribution Relating to the Place Where Breakfast is Done

Table 4.3. Distributions Related to Situations Encountered During the Day in Case of No-Breakfast

	Yes	No
	n (%)	n (%)
Tiredness	65 (65,0)	35 (35,0)
Weakness	68 (68,0)	32 (32,0)
Feel hungry	82 (82,0)	18 (18,0)
Dizziness	48 (48,0)	52 (52,0)
Decrease in attention	66 (66,0)	34 (34,0)
Blurred in the eyes	40 (40,0)	60 (60,0)
Palpitation	22 (22,0)	78 (78,0)
Restlessness	53 (53,0)	47 (47,0)
Chills	28 (28,0)	72 (72,0)
Headache	53 (53,0)	47 (47,0)

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As shown in Table 4.3; when the problems that the students encounter if they do not eat breakfast analyzed, it observed that 65% of the students get tiredness, 68% get weakness, 82% feel hungry, 48% have dizziness, 66% decrease in attention, 40% blurred in the eyes, 22% have palpitation, 53% get restlessness, 28% have chills and 53% have headache cases.
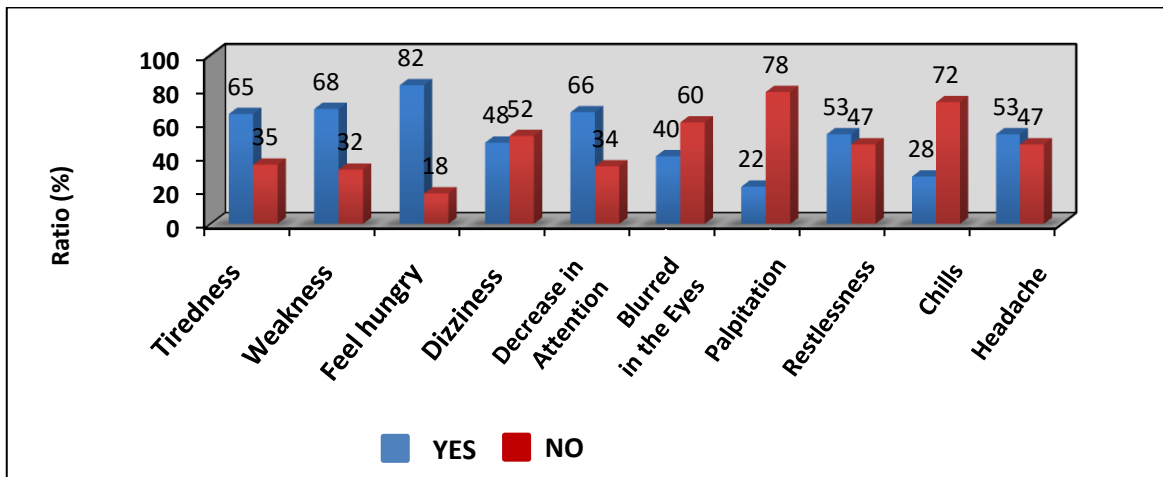
Figure 4.8. Distributions of Negativities Situations Encountered During the Day in Case of No-Breakfast

There are 10 cases about the negativities situations encountered during the day in case of no-breakfast at Figure 4.8. In the answers given to the situations, it was tried to measure the negativities experienced by the participants. The situation is evaluated as 'Yes' answer 1 point, 'No' answer 0 point. The points are shown below.

Option	Given Points
Yes	1
No	0

In our questionnaire, we got total points for the negativity of the day in 10 cases. In the questionnaire, the lowest score from 10 cases was accepted as 0, the highest score was 10. In order to make this point more clear, the total score of each case has been converted to a scale of hundreds. According to this; the resulting score ranges from 0 to 100.

Table 4.4. Points Table of the Distributions Related to Situations Encountered During the Day in Case of No-Breakfast

	Numbers of Items	Min-Max. (Median)	Average±SD
Negative Points in a Day	10	0-100 (50)	52,50±27,90

As can be seen in Table 4.4, the scores of the students who did not have breakfast during the day vary from 0 to 100, with an average of 52.50 ± 27.90.

Table 4.5. Distribution of Answers to Questions about Breakfast

	I AGREE	I DO NOT AGREE	NO IDEA
	n (%)	n (%)	n (%)
Breakfast is the most important meal of the day.	92 (92,0)	4 (4,0)	4 (4,0)
Breakfast does not help to weaken.	11 (11,0)	83 (83,0)	6 (6,0)
Breakfast provides an energetic start to the day.	95 (95,0)	2 (2,0)	3 (3,0)
Breakfast helps to regulate blood sugar.	95 (95,0)	2 (2,0)	3 (3,0)
Do not have breakfast cause unrest.	73 (73,0)	21 (21,0)	6 (6,0)
The work performance of the individuals who have breakfast increases.	91 (91,0)	6 (6,0)	3 (3,0)
Breakfast is not effective in regulating blood pressure.	8 (8,0)	76 (76,0)	16 (16,0)
One of the reasons for headache is not having breakfast.	66 (66,0)	17 (17,0)	17 (17,0)
Breakfast is not effective in regulating body temperature	75 (75,0)	7 (7,0)	18 (18,0)
Breakfast is an important factor in the concentration	89 (89,0)	7 (7,0)	4 (4,0)
Individuals who have breakfast are less stressed at work	71 (71,0)	17 (17,0)	12 (12,0)

As shown in Table 4.5, when the answers of the students who participated in the study to the information questions about breakfast were examined; in "Breakfast is the

most important meal of the day" statement, 92% of the students agree, 4% do not agree and 4% have no idea. For "Breakfast does not help to weaken" statement, 11% of the students agree, 83% do not agree and 6% have no idea. In "Breakfast provides an energetic start to the day" statement, 95% of the students agree, 2% do not agree and 3% have no idea.

It was observed that in questionnaire; for "*Breakfast helps to regulate blood sugar*" statement, 95% of the students agree, 2% do not agree and 3% have no idea. In "*Do not have breakfast cause unrest*" statement, 73% of the students agree, 21% do not agree and 6% have no idea. For "*The work performance of the individuals who have breakfast increases*" statement, 91% of the students agree, 6% do not agree and 3% have no idea. In "*Breakfast is not effective in regulating blood pressure*" statement 8% of the students agree, 76% do not agree and 16% have no idea. In "*One of the reasons for headache is not having breakfast*" statement, 66% of the students agree, 17% do not agree and 17% have no idea.

For "*Breakfast is not effective in regulating body temperature*" statement 75% of the students agree, 7% do not agree and 18% have no idea. In "*Breakfast is an important factor in the concentration*" statement 89% of the students agree, 7% do not agree and 4% have no idea. And in the last question that "*Individuals who have breakfast are less stressed at work*" 71% of the students agree, 17% do not agree and 12% have no idea.

As noted above, 11 questions were asked about breakfast. The correct answers to the questions are thought to be able to measure participants' knowledge levels in this area. Correct answers to the questions were rated 1 point, wrong answers were rated 0 points. The points are shown below.

Option	Given Points
Correct	1
Wrong	0

In data collection form, we got total points for the information level related to breakfast in 11 questions. In the questionnaire, the lowest score from 11 questions was accepted as 0, the highest score was 11. In order to make this point more clear, the total score of each case has been converted to a scale of hundreds. According to this; the resulting score ranges from 0 to 100.

Table 4.6. Distribution of Information Points about Breakfast

	Numbers of Items	Min-Max (Median)	Average±SD
Information Points About Breakfast	11	27,27-100 (90,91)	82,36±18,40

As can be seen in Table 4.6, the scores of the students about breakfast vary from 27,27 to 100, with an average of 82,36 ± 18,40.

Table 4.7. Distribution of Consumption Frequency of Consumed Beverages at Breakfast

	Any	Once a Month	1 Time in 15 Days	1-2 Times in Week	3-4 Times in Week	5-6 Times in Week	Every Day
	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)
Milk	19 (19,0)	4 (4,0)	12 (12,0)	25 (25,0)	15 (15,0)	6 (6,0)	19 (19,0)
Tea	7 (7,0)	1 (1,0)	11 (11,0)	15 (15,0)	11 (11,0)	13 (13,0)	42 (42,0)
Herbal Teas	24 (24,0)	13 (13,0)	13 (13,0)	21 (21,0)	12 (12,0)	8 (8,0)	9 (9,0)
Nescafe	36 (36,0)	5 (5,0)	6 (6,0)	13 (13,0)	10 (10,0)	10 (10,0)	20 (20,0)
Turkish Coffee	33 (33,0)	8 (8,0)	6 (6,0)	12 (12,0)	9 (9,0)	14 (14,0)	18 (18,0)
Fresh Fruit Juice	41 (41,0)	28 (28,0)	17 (17,0)	11 (11,0)	1 (1,0)	1 (1,0)	1 (1,0)
Ready Fruit Juice	74 (74,0)	13 (13,0)	6 (6,0)	2 (2,0)	2 (2,0)	3 (3,0)	0 (0,0)
Buttermilk	42 (42,0)	12 (12,0)	13 (13,0)	16 (16,0)	12 (12,0)	3 (3,0)	2 (2,0)
Acidic Drinks	54 (54,0)	16 (16,0)	14 (14,0)	4 (4,0)	5 (5,0)	4 (4,0)	3 (3,0)

As shown in Table 4.7 and Figure 4.9; 19% of the students said they never consume **milk** at breakfast., 4% of the students are once a month, 12% are once in 15 days, 25% are 1-2 times a week, 15% are 3-4 times a week, 6% are 5-6 times a week and 19% gave the answer to every day.

7% of the students said they never consume **tea** at breakfast. Besides, 1% of the students are once a month, 11% are once in 15 days, 15% are 1-2 times a week, 11% are 3-4 times a week, 13% are 5-6 times a week and 42% gave the answer to every day.

24% of the students said they never consume **herbal teas** at breakfast. Besides, 13% of the students are once a month, 13% are once in 15 days, 21% are 1-2 times a week, 12% are 3-4 times a week, 8% are 5-6 times a week and 9% gave the answer to every day.

36% of the students said they never consume **Nescafe** at breakfast. Besides, 5% of the students are once a month, 6% are once in 15 days, 12% are 1-2 times a week, 10% are 3-4 times a week, 10% are 5-6 times a week and 20% gave the answer to every day.

33% of the students said they never consume **Turkish coffee** at breakfast. Besides, 8% of the students are once a month, 6% are once in 15 days, 12% are 1-2 times a week, 9% are 3-4 times a week, 14% are 5-6 times a week and 18% gave the answer to every day.

41% of the students said they never consume **fresh fruit juice** at breakfast. Besides, 28% of the students are once a month, 17% are once in 15 days, 11% are 1-2 times a week, 1% are 3-4 times a week, 1% are 5-6 times a week and 1% gave the answer to every day.

74% of the students said they never consume **ready fruit juice** at breakfast. Besides, 13% of the students are once a month, 6% are once in 15 days, 2% are 1-2 times a week, 2% are 3-4 times a week and 3% gave the answers to 5-6 times a week.

42% of the students said they never consume **buttermilk** at breakfast. Besides, 12% of the students are once a month, 13% are once in 15 days, 16% are 1-2 times a week, 12% are 3-4 times a week, 3% are 5-6 times a week and 2% gave the answer to every day.

54% of the students said they never consume **acidic drinks** at breakfast. Besides, 16% of the students are once a month, 14% are once in 15 days, 4% are 1-2 times a week, 5% are 3-4 times a week, 4% are 5-6 times a week and 3% gave the answer to every day.

Figure 4.9. Distribution of the Frequency of Consumed Beverages at Breakfast

As shown in Table 4.8 and Figure 4.10 below; 7% of the students said they never consume **Full-Grain Bread** at breakfast. In addition, 3% of the students are once a month, 4% are once in 15 days, 11% are 1-2 times a week, 16% are 3-4 times a week, 23% are 5-6 times a week and 36% gave the answer to every day.

42% of the students said they never consume **Rye Bread** at breakfast. In addition, 5% of the students are once a month, 16% are once in 15 days, 12% are 1-2 times a week, 10% are 3-4 times a week, 7% are 5-6 times a week and 8% gave the answer to every day.

45% of the students said they never consume **Wholemeal Bread** at breakfast. In addition, 6% of the students are once a month, 11% are once in 15 days, 16% are 1-2

times a week, 6% are 3-4 times a week, 10% are 5-6 times a week and 6% gave the answer to every day.

35% of the students said they never consume **White Bread** at breakfast. In addition, 13% of the students are once a month, 12% are once in 15 days, 16% are 1-2 times a week, 10% are 3-4 times a week, 6% are 5-6 times a week and 8% gave the answer to every day.

9% of the students said they never consume **Feta Cheese** at breakfast. In addition, 3% of the students are once a month, 3% are once in 15 days, 12% are 1-2 times a week, 19% are 3-4 times a week, 15% are 5-6 times a week and 39% gave the answer to every day.

18% of the students said they never consume **Cheddar Cheese** at breakfast. In addition, 12% of the students are once a month, 15% are once in 15 days, 25% are 1-2 times a week, 13% are 3-4 times a week, 6% are 5-6 times a week and 11% gave the answer to every day.

15% of the students said they never consume **Jam/Honey** at breakfast. In addition, 14% of the students are once a month, 17% are once in 15 days, 29% are 1-2 times a week, 11% are 3-4 times a week, 7% are 5-6 times a week and 7% gave the answer to every day.

42% of the students said they never consume **Molasses/Tahini** at breakfast. In addition, 20% of the students are once a month, 15% are once in 15 days, 12% are 1-2 times a week, 8% are 3-4 times a week, 1% are 5-6 times a week and 2% gave the answer to every day.
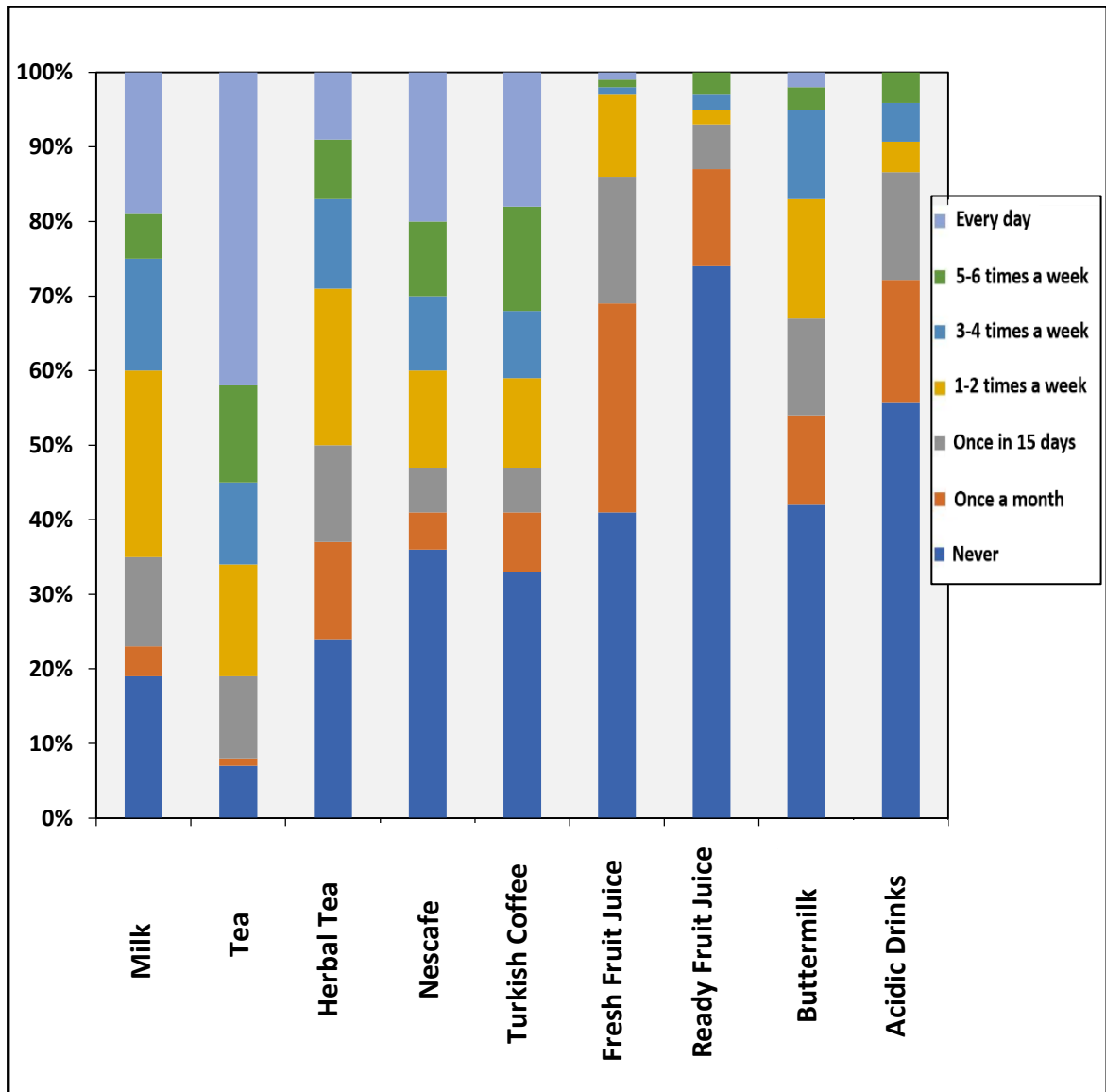
37% of the students said they never consume **Butter** at breakfast. In addition, 18% of the students are once a month, 9% are once in 15 days, 19% are 1-2 times a week, 9% are 3-4 times a week, 1% are 5-6 times a week and 7% gave the answer to every day.

24% of the students said they never consume **Green olive** at breakfast. In addition, 5% of the students are once a month, 12% are once in 15 days, 21% are 1-2 times a week, 17% are 3-4 times a week, 9% are 5-6 times a week and 12% gave the answer to every day.

23% of the students said they never consume **Black olive** at breakfast. In addition, 7% of the students are once a month, 6% are once in 15 days, 19% are 1-2 times a week, 17% are 3-4 times a week, 11% are 5-6 times a week and 17% gave the answer to every day.

1% of the students said they never consume **Egg** at breakfast. In addition, 3% of the students are once a month, 6% are once in 15 days, 18% are 1-2 times a week, 23% are 3-4 times a week, 19% are 5-6 times a week and 30% gave the answer to every day.

3% of the students said they never consume **Fresh Vegetables/Fruits** at breakfast. In addition, 9% of the students are once a month, 3% are once in 15 days, 16% are 1-2 times a week, 17% are 3-4 times a week, 20% are 5-6 times a week and 32% gave the answer to every day.

36% of the students said they never consume **Salami/Sausage** at breakfast. In addition, 22% of the students are once a month, 18% are once in 15 days, 12% are 1-2 times a week, 9% are 3-4 times a week, 20% are 5-6 times a week and 3% gave the answer to every day.

36% of the students said they never consume **Cereals** at breakfast. In addition, 19% of the students are once a month, 16% are once in 15 days, 18% are 1-2 times a week, 7% are 3-4 times a week, 3% are 5-6 times a week and 1% gave the answer to every day.

13% of the students said they never consume **Pogaça/Bagel** at breakfast. In addition, 27% of the students are once a month, 31% are once in 15 days, 12% are 1-2 times a week, 13% are 3-4 times a week, 3% are 5-6 times a week and 1% gave the answer to every day.

6% of the students said they never consume **Toast** at breakfast. In addition, 17% of the students are once a month, 27% are once in 15 days, 26% are 1-2 times a week, 15% are 3-4 times a week, 6% are 5-6 times a week and 3% gave the answer to every day.

28% of the students said they never consume **Patty** at breakfast. In addition, 32% of the students are once a month, 28% are once in 15 days, 6% are 1-2 times a week, 5% are 3-4 times a week and 1% gave the answer to 5-6 times a week.

48% of the students said they never consume **Biscuit** at breakfast. In addition, 14% of the students are once a month, 16% are once in 15 days, 14% are 1-2 times a week, 4% are 3-4 times a week, 2% are 5-6 times a week and 2% gave the answer to every day.

Table 4.8. Distribution of Consumption Frequency of Consumed Food at Breakfast

	Never	Once a Month	Once in 15 Days	1-2 Times a Week	3-4 Times a Week	5-6 Times a Week	Every Day
	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)
Full-Grain Bread	7 (7,0)	3 (3,0)	4 (4,0)	11 (11,0)	16 (16,0)	23 (23,0)	36 (36,0)
Rye Bread	42 (42,0)	5 (5,0)	16 (16,0)	12 (12,0)	10 (10,0)	7 (7,0)	8 (8,0)
Wholemeal bread	45 (45,0)	6 (6,0)	11 (11,0)	16 (16,0)	6 (6,0)	10 (10,0)	6 (6,0)
White bread	35 (35,0)	13 (13,0)	12 (12,0)	16 (16,0)	10 (10,0)	6 (6,0)	8 (8,0)
Feta cheese	9 (9,0)	3 (3,0)	3 (3,0)	12 (12,0)	19 (19,0)	15 (15,0)	39 (39,0)
Cheddar cheese	18 (18,0)	12 (12,0)	15 (15,0)	25 (25,0)	13 (13,0)	6 (6,0)	11 (11,0)
Jam / Honey	15 (15,0)	14 (14,0)	17 (17,0)	29 (29,0)	11 (11,0)	7 (7,0)	7 (7,0)
Molasses / Tahini	42 (42,0)	20 (20,0)	15 (15,0)	12 (12,0)	8 (8,0)	1 (1,0)	2 (2,0)
Butter	37 (37,0)	18 (18,0)	9 (9,0)	19 (19,0)	9 (9,0)	1 (1,0)	7 (7,0)
Green olive	24 (24,0)	5 (5,0)	12 (12,0)	21 (21,0)	17 (17,0)	9 (9,0)	12 (12,0)
Black olive	23 (23,0)	7 (7,0)	6 (6,0)	19 (19,0)	17 (17,0)	11 (11,0)	17 (17,0)
Egg	1 (1,0)	3 (3,0)	6 (6,0)	18 (18,0)	23 (23,0)	19 (19,0)	30 (30,0)
Fresh Vegetables / Fruits	3 (3,0)	9 (9,0)	3 (3,0)	16 (16,0)	17 (17,0)	20 (20,0)	32 (32,0)
Salami / Sausage	36 (36,0)	22 (22,0)	18 (18,0)	12 (12,0)	9 (9,0)	0 (0,0)	3 (3,0)
Cereals	36 (36,0)	19 (19,0)	16 (16,0)	18 (18,0)	7 (7,0)	3 (3,0)	1 (1,0)
Poğaça/Bagel	13 (13,0)	27 (27,0)	31 (31,0)	12 (12,0)	13 (13,0)	3 (3,0)	1 (1,0)
Toast	6 (6,0)	17 (17,0)	27 (27,0)	26 (26,0)	15 (15,0)	6 (6,0)	3 (3,0)
Patty	28 (28,0)	32 (32,0)	28 (28,0)	6 (6,0)	5 (5,0)	1 (1,0)	0 (0,0)
Biscuit	48 (48,0)	14 (14,0)	16 (16,0)	14 (14,0)	4 (4,0)	2 (2,0)	2 (2,0)
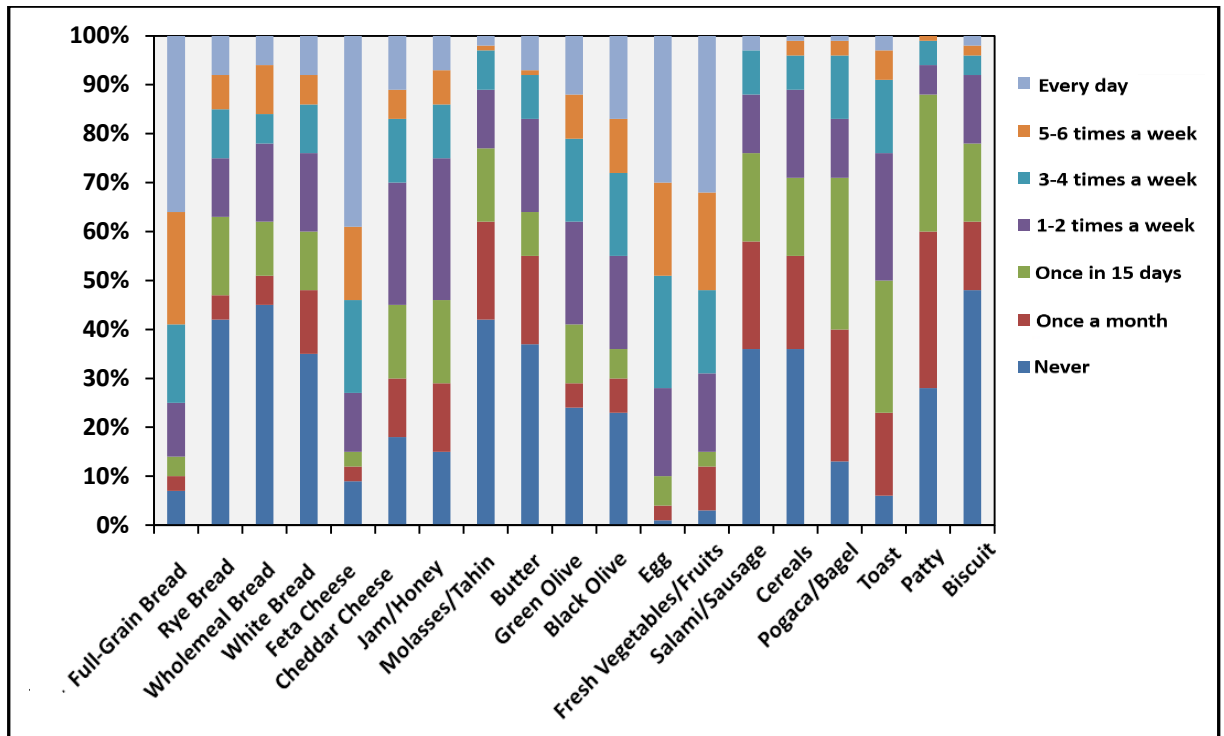
Figure 4.10. Distribution of the Frequency of Consumed Foods at Breakfast

Table 4.9. Comparisons of Meals According to BMI Levels

		BMI Level		Test Value
		Weak (n=30)	Normal (n=70)	*p*
Number of Daily Meals	≤2 Meals	7 (23,3)	13 (18,6)	χ2:2,536
	3 Meals	17 (56,7)	50 (71,4)	[a]*0,281*
	≥4 Meals	6 (20,0)	7 (10,0)	
Number of Main Meals	1 Meal	2 (6,7)	6 (8,6)	χ2:2,685
	2 Meals	19 (63,3)	53 (75,7)	[a]*0,261*
	≥3 Meals	9 (30,0)	11 (15,7)	
Number of Break Meals	No meal	11 (36,7)	17 (24,3)	χ2:5,307
	1 Meal	12 (40,0)	45 (64,3)	[a]*0,070*
	≥2 Meals	7 (23,3)	8 (11,4)	
Skipped Meals	Breakfast	16 (53,3)	37 (52,9)	χ2:0,096
	Lunch	12 (40,0)	28 (40,0)	[b]*1,000*
	Dinner	2 (6,7)	5 (7,1)	
Information Points About Breakfast	*Min-Max (Median)*	45,45-100 (81,82)	27,27-100 (90,91)	Z:-0,717
	Average±SD	81,52±16,28	82,73±19,34	[c]*0,473*
Negative Point in a Day	*Min-Max (Median)*	0-100 (40)	0-100 (50)	Z:-0,565
	Average±SD	51,33±27,26	53,00±28,35	[c]*0,572*

[a]*Pearson Chi-Square Test* [b]*Fisher Freeman Halton Test* [c]*Mann Whitney U Test*

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As seen in Table 4.9;

A significant difference statistically between the distributions of the daily meal numbers of the students according to BMI levels has not been determined (p>0,05)

A significant difference statistically between the distributions of the mean meal numbers of the students according to BMI levels has not been determined (p>0,05)

A significant difference statistically between the distributions of the break meal numbers of the students according to BMI levels has not been determined (p>0,05).

A significant difference statistically between the distributions of the skipping meal numbers of the students according to BMI levels has not been determined (p>0,05).

A significant difference statistically between Information Point Related Breakfast of the students according to BMI levels has not been determined (p>0,05).

A significant difference statistically between getting points about the adverse events they have experienced during the day of the students when they do not have breakfast according to BMI levels has not been determined (p>0,05).

Table 4.10. Comparisons of Meals According to Their Classes

		Class		Test Value
		3rd Class (n=62)	**4th Class** (n=38)	***p***
Number of **Daily Meals**	≤2 Meals	15 (24,2)	5 (13,2)	χ2:2,517
	3 Meals	38 (61,3)	29 (76,3)	*a0,284*
	≥4 Meals	9 (14,5)	4 (10,5)	
Number of **Main Meals**	1 Meal	6 (9,7)	2 (5,3)	χ2:1,833
	2 Meals	46 (74,2)	26 (68,4)	*b0,451*
	≥3 Meals	10 (16,1)	10 (26,3)	
Number of **Break Meals**	No Meal	18 (29,0)	10 (26,3)	χ2:5,338
	1 Meal	31 (50,0)	26 (68,4)	*a0,069*
	≥2 Meals	13 (21,0)	2 (5,3)	
Skipped Meals	**Breakfast**	32 (51,6)	21 (55,3)	χ2:0,315
	Lunch	25 (40,3)	15 (39,5)	*b0,949*
	Dinner	5 (8,1)	2 (5,3)	
Information Points **About Breakfast**	*Min-Max (Median)*	27,27-100 (90,91)	27,27-100 (90,91)	Z:-0,601
	Average±SD	82,99±18,59	81,34±18,30	*c0,548*

[a]*Pearson Chi-Square Test*   [b]*Fisher Freeman Halton Test*   [c]*Mann Whitney U Test*

As seen in Table 4.10;

A significant difference statistically between the distributions of the daily meal numbers of the students according to the class they were in has not been determined ($p>0,05$)

A significant difference statistically between the distributions of the mean meal numbers of the students according to the class they were in has not been determined ($p>0,05$)

A significant difference statistically between the distributions of the break meal numbers of the students according to the class they were in has not been determined ($p>0,05$).

A significant difference statistically between the distributions of the skipping meal numbers of the students according to the class they were in has not been determined ($p>0,05$).

A significant difference statistically between Information Points about Breakfast of the students according to the class they were in has not been determined ($p>0,05$).

5. DISCUSSION and CONCLUSION

Every human being has to carry out his physiological activities normally in the process from birth to death. Sufficient and balanced nutrition seems to have an important place for the individual to have a healthy and quality life. One of the most important reasons for inadequate and unbalanced feeding is lack of nutrition knowledge. Nutritional knowledge is one of the factors that influence nutritional status and habits of individuals, families and societies. Therefore, the protection and development of health is a great asset to nutrition education (18).

One of the most important factors directly affecting the physical, emotional development and social behavior of the individual is adequate and balanced nutrition in accordance with age, gender and activity. For this reason, individuals should be given the habit of regularly consuming main meals from the age of infancy and childhood. By giving healthy eating habits to the students, students should be educated that their health will be protected, they will stay away from diseases, physical and social comfort will be provided and life quality will increase. In addition, nutrition education support should be given to them.

It is very important to do breakfast and proper eating habits since childhood. It takes about 12 hours between dinner and breakfast. During this time, the body uses all of its nutrients. When you do not have breakfast in the morning, your brain will use less energy. In this case, problems such as tiredness, headache, lack of attention and perception are experienced and school success falls (65). Breakfast is the most important among the meals. Adequate and balanced breakfast menu is extremely important to begin to be willing and able to spend conveniently.

It has been determined that the nutritional information of the young people is insufficient and therefore the inadequate information cannot turn into habits and behavior. Even if the available nutrients and economic resources are sufficient, the inadequacy of nutrition knowledge leads to the misuse of these resources. In formal and non-formal education programs; basic nutrition, food safety, health and similar issues, dissemination of programs for these issues, monitoring, evaluation and development of the implemented education programs are required. This will be useful in educating and raising awareness of healthy nutrition among individuals. Effective and sustained adequate-balanced nutrition education will help to change bad habits and behaviors, and turn the acquired knowledge into habituation (18).

A total of 100 female students from the 3rd and 4th classes of the Department of Nutrition and Dietetics between the ages of 20 and 24 participated in this research. The BMI measures of the female students ranged from 16.3 to 25 kg / m2 with a mean of 19,91 ± 2,26 kg / m2. This makes us think that girls are more careful about their physical appearance. In some studies related to university students, it was generally determined that girls were weaker than boys (66, 67).

It was observed that 20% of the participants in this study had 2 or less daily meals, 67% of them had 3 meals, 13% of them were 4 or more. Also, it was observed that 8% of the students who participated in the study had 1 main meal, 72% of them had 2 meals and 20% of them had 3 or more. While 28% of the students stated that they did not have break meals, 57% of them stated that they had 1 break meal, 15% of them had 2 and more break meals. According to the survey, 53% of the students skipped 1 meal, 40% of them skipped 2 meal and 7% of them skipped all 3 meals. It was observed that 34% of the students participating in the study skipped the breakfast because of being late to the school due to late morning wake-up. Besides that 3% of the students don't like to have breakfast, 17% been without appetites in the morning, 2% do not care the breakfast, 6% have a fear of weight gain and 9% of the students have the others reasons. Skipping meals will lead to irregular feeding. Inadequate, unbalanced and unhealthy nutrition is one of the most important causes of diseases. Looking at the results, it can be said that the rate of skipping meals is increasing today. In one study, 36.8% of women participating in the study were reported to have always skipped meals, 34.2% sometimes skipped meals, and 29.0% had never skipped meals (68). In another study done on women, these percentages are; 37,8% always, 40,5% sometimes and 21,7% never (69). In the study conducted on a total of 401 university students aged 18-31, the majority of the students (72.5%) were in normal range of body weight. 50.1% of these students eat three meals a day, 84.5% of them skip main meals (70).

In another study, the most skipped meal was breakfast and at the beginning of the reasons for skipping breakfast is "having no time" (71). Students given the necessary training related to nutrition at Nutrition and Dietetics Department in this study, it is interesting to note that much of the students skip breakfast rate. In a study on girls in higher education, the nutritional status and the effect of nutrition education on the students were examined and the most irregular consumed meals were reported as breakfast. It was found that 42.7% of students who took nutrition education and 52% of those who did not have nutrition education skipped breakfast (69). In another study, it

was found that 67% of university students receiving nutrition education did not have breakfast (70). The results we achieve in our work are parallel to these results. Despite the fact that university students learn to get adequate and balanced nutrition, it can be said that the rate of morning breakfast is high because the rate of realizing this is very low.

When the problems that the students encounter if they do not eat breakfast analyzed, it observed that 65% of the students get tiredness, 68% get weakness, 82% feel hungry, 48% have dizziness, 66% decrease in attention, 40% blurred in the eyes, 22% have palpitation, 53% get restlessness, 28% have chills and 53% have headache cases. In a study on university students, the students who had breakfast at least 5 days a week stated that when they did not have breakfast they met with tiredness, feeling hungry, dizziness, headache, decreased severity and uneasiness (72). Breakfast is a meal that is effective in improving the nutritional status of the development of cognitive functions. It has been found that eating breakfast facilitates remembering, which is related to blood glucose level. In one study, it was stated that the students who do not have breakfast have decreased performance, coldness and trembling (65). In our study, the students' scores for the problems they encountered during the day because they did not have breakfast ranged from 0 to 100, with an average of 52.50 ± 27.9430.

According to our study; 92% of the students agree with "Breakfast is the most important meal of the day" statement, 11% of the students agree with "Breakfast does not help to weaken" statement, 95% of the students agree with "Breakfast provides an energetic start to the day" statement, 95% of the students agree with "Breakfast helps to regulate blood sugar" statement, 73% of the students agree with "Do not have breakfast cause unrest." statement, 91% of the students agree with "The work performance of the individuals who have breakfast increases." statement, 8% of the students agree with "Breakfast is not effective in regulating blood pressure." statement, 66% of the students agree with "One of the reasons for headache is not having breakfast." statement, 75% of the students agree with "Breakfast is not effective in regulating body temperature" statement, 89% of the students agree with "Breakfast is an important factor in the concentration" statement and 71% of the students agree with "Individuals who have breakfast are less stressed at work" statement.

In a survey conducted, 83.6% of males and 94.7% of females said breakfast is the most important meal of the day. While the majority of students state that breakfast is important in situations such as starting good to the day, regulating blood sugar,

weakening, performance, attention collection, 35% of students think that breakfast does not have a role in regulating body temperature (18).

The scores of the students about breakfast vary from 27,27 to 100, with an average of 82,36 ± 18,40. In the studies conducted, it was seen that regular breakfasters were successful in weakening. It was suggested that the breakfast prevented the feeling of starvation later in the day and therefore removed the desire to eat excessively. It was also found that those who had breakfast had lower energy content for the rest of the day, and that this was lower than the other BMI's (73).

In our study; 19% of the students never consume milk, 4% once a month, 12% once in 15 days, 25% 1-2 times in week, 15% 3-4 times a week, 6% 5-6 times a week and 19% of them consume milk every day at the breakfast. In one study, it is stated that the regular milk consumption of students is very low every day (19). In addition, 7% of the students never consume tea, 1% once a month, 11% once in 15 days, 15% 1-2 times in week, 11% 3-4 times in week, 13% 5-6 times in week and 42% of them consume tea every day at the breakfast. In one study, 85% of male students and 68.4% of women had the most tea at breakfast (8). 24% of the students never consume herbal tea, 13% once a month, 13% once in 15 days, 21% 1-2 times in week, 12% 3-4 times in week, 8% 5-6 times in week and 9% of them consume herbal tea every day at the breakfast. It can be said that plant teas are not preferred much among young people. The similar results were found in Turkey at the studies with university students. Studies show that drinking tea during meals is a decline in iron absorption. Especially when consuming animal nutrients, it is recommended not to drink tea during or immediately after eating. The results of tea consumption have been supported by studies (8). Another study reported that breakfast is a very good source of vitamins, riboflavin and calcium, and provides more than 25% of daily intake of all other vitamins and minerals except zinc and vitamin A (26).

According to our study; 36% of the students never consume Nescafe, 5% once a month, 6% once in 15 days, 13% 1-2 times in week, 10% 3-4 times a week, 10% 5-6 times a week and 20% of them consume Nescafe every day at the breakfast. 33% of the students never consume Turkish coffee, 8% once a month, 6% once in 15 days, 12% 1-2 times in week, 9% 3-4 times a week, 14% 5-6 times a week and 18% of them consume Turkish coffee every day at the breakfast. In a study conducted, about 94% of participants in the "coffee" test responded positively. This has also shown that the participants often consume coffee (74). 41% of the students never consume fresh fruit

juice, 28% once a month, 17% once in 15 days, 11% 1-2 times in week, 1% 3-4 times a week, 1% 5-6 times a week and 1% of them consume fresh fruit juice every day at the breakfast. Also, 74% of the students never consume ready fruit juice, 13% once a month, 6% once in 15 days, 2% 1-2 times in week, 2% 3-4 times a week and 3% 5-6 times a week at the breakfast. 42% of the students never consume buttermilk, 12% once a month, 13% once in 15 days, 16% 1-2 times in week, 12% 3-4 times a week, 3% 5-6 times a week and 2% of them consume buttermilk every day at the breakfast. 54% of the students never consume acidic drinks, 16% once a month, 14% once in 15 days, 4% 1-2 times a week, 5% 3-4 times a week, 4% 5-6 times a week and 3% of them consume acidic drinks every day at the breakfast. A survey also found that while male students drink Turkish coffee, fresh fruit juice and buttermilk for breakfast, women consumed at least 1,2% of fresh fruit juice for breakfast (65,73).

According to the questionnaire; 7% of the students said they never consume Full-Grain Bread at breakfast, 3% of the students are once a month, 4% are once in 15 days, 11% are 1-2 times a week, 16% are 3-4 times a week, 23% are 5-6 times a week and 36% gave the answer to every day. 42% of the students said they never consume Rye Bread at breakfast, 5% of the students are once a month, 16% are once in 15 days, 12% are 1-2 times a week, 10% are 3-4 times a week, 7% are 5-6 times a week and 8% gave the answer to every day. 45% of the students said they never consume Wholemeal Bread at breakfast, 6% of the students are once a month, 11% are once in 15 days, 16% are 1-2 times a week, 6% are 3-4 times a week, 10% are 5-6 times a week and 6% gave the answer to every day. 35% of the students said they never consume White Bread at breakfast, 13% of the students are once a month, 12% are once in 15 days, 16% are 1-2 times a week, 10% are 3-4 times a week, 6% are 5-6 times a week and 8% gave the answer to every day. 9% of the students said they never consume Feta Cheese at breakfast, 3% of the students are once a month, 3% are once in 15 days, 12% are 1-2 times a week, 19% are 3-4 times a week, 15% are 5-6 times a week and 39% gave the answer to every day. 18% of the students said they never consume Cheddar Cheese at breakfast, 12% of the students are once a month, 15% are once in 15 days, 25% are 1-2 times a week, 13% are 3-4 times a week, 6% are 5-6 times a week and 11% gave the answer to every day. 15% of the students said they never consume Jam/Honey at breakfast, 14% of the students are once a month, 17% are once in 15 days, 29% are 1-2 times a week, 11% are 3-4 times a week, 7% are 5-6 times a week and 7% gave the answer to every day. In another study, it was determined that up to 66% of female

students consumed white bread, 44% consumed white cheese and 24.6% consumed fresh vegetables. (61) Again, in a similar study, they reported that they consumed the most cheese (86%) and bread (79%) at breakfast (74).

In addition; 42% of the students said they never consume Molasses/Tahin at breakfast, 20% of the students are once a month, 15% are once in 15 days, 12% are 1-2 times a week, 8% are 3-4 times a week, 1% are 5-6 times a week and 2% gave the answer to every day. 37% of the students said they never consume Butter at breakfast, 18% of the students are once a month, 9% are once in 15 days, 19% are 1-2 times a week, 9% are 3-4 times a week, 1% are 5-6 times a week and 7% gave the answer to every day. In our survey, it is seen that consumption of tahin / molasses and butter is low.

24% of the students said they never consume Green olive at breakfast, 5% of the students are once a month, 12% are once in 15 days, 21% are 1-2 times a week, 17% are 3-4 times a week, 9% are 5-6 times a week and 12% gave the answer to every day. 23% of the students said they never consume Black olive at breakfast, 7% of the students are once a month, 6% are once in 15 days, 19% are 1-2 times a week, 17% are 3-4 times a week, 11% are 5-6 times a week and 17% gave the answer to every day. 1% of the students said they never consume egg at breakfast, 3% of the students are once a month, 6% are once in 15 days, 18% are 1-2 times a week, 23% are 3-4 times a week, 19% are 5-6 times a week and 30% gave the answer to every day. 3% of the students said they never consume Fresh Vegetables / Fruits at breakfast, 9% of the students are once a month, 3% are once in 15 days, 16% are 1-2 times a week, 17% are 3-4 times a week, 20% are 5-6 times a week and 32% gave the answer to every day. In this scope; it has been determined that students generally prefer vegetables and fruit and this result is satisfactory for the students. Fruits and vegetables contain folic acid, beta-carotene, a vitamin A pre-ingredient, vitamins E, C and B2, calcium, potassium, iron, magnesium, fiber and other antioxidant compounds. They help to remove harmful substances from the body (75).

36% of the students said they never consume Salami/Sausage at breakfast, 22% of the students are once a month, 18% are once in 15 days, 12% are 1-2 times a week, 9% are 3-4 times a week, 20% are 5-6 times a week and 3% gave the answer to every day. 36% of the students said they never consume Cereals at breakfast, 19% of the students are once a month, 16% are once in 15 days, 18% are 1-2 times a week, 7% are

3-4 times a week, 3% are 5-6 times a week and 1% gave the answer to every day. In our questionnaire, consumption of salami, sausage and cereals seems to be low.

13% of the students said they never consume Pogaca/Bagel at breakfast, 27% of the students are once a month, 31% are once in 15 days, 12% are 1-2 times a week, 13% are 3-4 times a week, 3% are 5-6 times a week and 1% gave the answer to every day. 6% of the students said they never consume Toast at breakfast, 17% of the students are once a month, 27% are once in 15 days, 26% are 1-2 times a week, 15% are 3-4 times a week, 6% are 5-6 times a week and 3% gave the answer to every day. 28% of the students said they never consume Patty at breakfast, 32% of the students are once a month, 28% are once in 15 days, 6% are 1-2 times a week, 5% are 3-4 times a week and 1% gave the answer to 5-6 times a week. 48% of the students said they never consume Biscuit at breakfast, 14% of the students are once a month, 16% are once in 15 days, 14% are 1-2 times a week, 4% are 3-4 times a week, 2% are 5-6 times a week and 2% gave the answer to every day. In the studies conducted, 32.7% of the students who had a regular breakfast consumed pogaca and 26.5% of them consumed bagel. In another study, it was observed that students who had regular and irregular breakfast consumed the most white bread, pogaca, bagel and biscuit in the cereal group at the breakfast (58).

According to BMI levels; there was no statistically significant difference between the scores of the daily meal numbers of the students, the distribution of the main meal numbers, the distributions of the break meal numbers, the skipped meal distributions, the scores obtained from the questions about breakfast information, and the points they got about the adverse events during the day if they did not have breakfast (p> 0,05). Also according to what they have in their class, there was no statistically significant difference between the distributions of daily meal numbers of the students, the distributions of the main meal numbers, the distributions of the break meal numbers, the skipped meal distributions and the scores of breakfast related information questions (p> 0,05).

Some suggestions can be made within the scope of this research. Mostly businesses that provide services to students should serve with high nutritional value, healthy and high quality menus. Students should make regular breakfast in the morning and consume high nutrients for breakfast. In addition, in the afternoon and evening, there should be a time and a balanced diet. As a result; it has been evaluated that giving seminars and conferences to some basic subjects such as foods, nutritional values, and food items are important for the students.

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7. APPENDICES

7.1. APPENDIX 1: Knowledge\Data Collection Form

BİLGİ EDİNME VERİ TOPLAMA FORMU

1. Yaş   :

2. Bölüm   :

3. Sınıf   :

4. Cinsiyet   :

    a) Kadın   b) Erkek

5. Ailenin Aylık Ortalama Geliri:

    a) 2000 TL altı   b) 2000 TL-4000 TL   c) 4000 TL üzeri

6. Antropometrik Ölçümler
    a) Boy Uzunluğu   :………..……………..cm
    b) Vücut Ağırlığı   :……………………….kg

7. Beslenme Alışkanlığı
    a) Günlük Öğün Sayısı :……………. ana öğün …..…………… ara öğün.
    b) En sık hangi ana öğünü atlarsınız?   Sabah   ☐
                                                                        Öğle   ☐
                                                                        Akşam ☐

8. Atladığınız ana öğün kahvaltı ise kahvaltıyı atlama nedeniniz?
    a) Sabah geç uyanma nedeniyle işe yetişememe-zaman bulamama.
    b) Kahvaltı yapmayı sevmeme.
    c) Sabahları iştahsız olma.
    d) Önemsememe.
    e) Kilo alma korkusu.
    f) Diğer (Lütfen açıklayınız)…………………………………………………
    ……………………………………………………………………………….

9. Kahvaltıyı genellikle nerede yaparsanız ?
    a) Evde
    b) Okulda
    c) Okula giderken yolda
    d) Diğer (Lütfen açıklayınız)…………………………………………………..

10. Sabah kahvaltı yapmadığınız zaman gün içerisinde karşılaştığınız durumlar nelerdir?

KARŞILAŞILAN DURUM	EVET	HAYIR
Yorgunluk		
Halsizlik		
Açlık hissi		
Baş dönmesi		
Dikkatte azalma		
Göz kararması		
Çarpıntı		
Huzursuzluk		
Üşüme		
Baş ağrısı		

11. Aşağıdaki kahvaltıyla ilgili bilgi sorularını cevaplayınız.

SORU	KATILIYORUM	KATILMIYORUM	FİKRİM YOK
Kahvaltı günün en önemli öğünüdür.			
Kahvaltı yapmak zayıflamaya yardımcı olmaz.			
Kahvaltı güne zinde başlanmasını sağlar.			
Kahvaltı yapmak kan şekerinin düzenlenmesine yardımcı olur.			
Kahvaltı yapmamak huzursuzluğa neden olur.			
Kahvaltı yapan bireylerin işteki performansı artar.			
Kahvaltı, tansiyonun düzenlenmesinde etkili değildir.			
Baş ağrısının sebeplerinden biri kahvaltı yapılmamasıdır.			
Kahvaltı, vücut ısısının düzenlenmesine yardımcı olur.			
Kahvaltı, dikkatin toplanmasında önemli bir etmendir.			
Kahvaltı yapan bireylerin işteki stresi daha azdır.			

12. Öğrencilerin kahvaltıda tükettikleri **içecek** çeşitlerinin tüketim sıklığı.

İçecekler	Hergün	Haftada 5-6 kez	Haftada 3-4 kez	Haftada 1-2 kez	15 günde 1 kez	Ayda 1 kez	Hiçbir Zaman
Süt							
Çay							
Bitki Çayları							
Nescafe							
Türk kahvesi							
Taze Sıkılmış Meyve Suyu							
Hazır Meyve Suyu							
Ayran							
Asitli İçecekler							

13. Öğrencilerin kahvaltıda tükettikleri **yiyecek** çeşitlerinin tüketim sıklığı.

Yiyecekler	Hergün	Haftada 5-6 kez	Haftada 3-4 kez	Haftada 1-2 kez	15 günde 1 kez	Ayda 1 kez	Hiçbir Zaman
Tam Tahıllı Ekmek							
Çavdar Ekmeği							
Kepek Ekmek							
Beyaz Ekmek							
Beyaz Peynir							
Kaşar Peyniri							
Reçel/Bal							
Pekmez/Tahin							
Tereyağ							
Yeşil Zeytin							
Siyah Zeytin							
Yumurta							
Taze Sebze							
Salam/Sosis/Sucuk							
Kahvaltılık Gevrek							
Poğaca/Simit							
Tost							
Börek							
Bisküvi							

7.2. APPENDIX 2: Ethics Board Approval Form

T.C. YEDİTEPE ÜNİVERSİTESİ

Sayı : 37068608-6100-15-1482
Konu: Klinik Araştırmalar
Etik kurul Başvurusu hk.

19/04/2018

İlgili Makama (Ahsen Dilek Komar İkan)

Yeditepe Üniversitesi, Kimya Mühendisliği Bölümü Doç. Dr. Hülya Demir'in sorumlu olduğu **"Yeditepe Üniversitesi Sağlık Bilimleri Fakültesi Beslenme ve Diyetetik Bölümü 3. Ve 4. Sınıf Öğrencilerinin Sabah Kahvaltı Yapma Alışkanlıklarının Beden Kitle İndeksi Üzerine Etkisi"** isimli araştırma projesine ait Klinik Araştırmalar Etik Kurulu (KAEK) Başvuru Dosyası (**1458** kayıt Numaralı KAEK Başvuru Dosyası), Yeditepe Üniversitesi Klinik Araştırmalar Etik Kurulu tarafından **18.04.2018** tarihli toplantıda incelenmiştir.

Kurul tarafından yapılan inceleme sonucu, yukarıdaki isimi belirtilen çalışmanın yapılmasının etik ve bilimsel açıdan uygun olduğuna karar verilmiştir (**KAEK Karar No: 842**).

Prof. Dr. Turgay ÇELİK
Yeditepe Üniversitesi
Klinik Araştırmalar Etik Kurulu Başkanı

7.3. APPENDIX 3: Curriculum Vitae

Personal Information

Name	AHSEN DILEK	Surname	KOMAR İKAN
Place of Birth	TRABZON	Date of Birth	29.11.1990
Nationality	Turkey	Turkish Id no	54628559914
E-mail	ahsenkomar@gmail.com	Phone	05377376797

Educational Status

Degree	Field	Graduated from	Graduation Year
Ph.D			
Master			
Bachelor	Nutrition and Dietetics	Yeditepe University	2014
High school	Sayısal (Science)	Tevfik Serdar Anatolian High School	2008

Foreign Languages	Foreign Language Exam Grade#
English	
German	

#If more than one, (KPDS, ÜDS, TOEFL; EELTS vs), all results must be noted.

Computer Knowledge

Software	Skill level*
Microsoft Office	Very good

*Write very good, good, average, poor

Scientific Work

Articles published in journals in SCI, SSCI, AHCI indexes

Articles published in other journals

Publications presented in international scientific meetings and published in proceedings

Publications in proceedings of peer-reviewed conference/symposiums

Other (Projects Participated/Certificates/Awards)