



T.C YEDİTEPE UNIVERSITY
INSTITUTE OF HEALTH SCIENCES
DEPARTMENT OF NUTRITION AND DIETETICS

**RELATIONSHIP BETWEEN ULTRA-PROCESSED
FOOD CONSUMPTION CLASSIFIED BY NOVA
SYSTEM AND BODY MASS INDEX IN A PRIVATE
UNIVERSITY**

MASTER OF SCIENCE THESIS

BÜŞRA ÇELİK

Istanbul-2023



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Istanbul-2023

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APPROVAL

This thesis has been deemed by the jury in accordance with the relevant articles of Yeditepe University Graduate Education and Examinations Regulation and has been approved by Administrative Board of Institute with decision dated and numbered

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DECLARATION

I hereby declare that this thesis is my own work and that, to the best of my knowledge and belief, it contains no material previously published or written by another person nor material which has been accepted for the award of any other degree except where due acknowledgment has been made in the text.

03.07.2023

BÜŞRA ÇELİK

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LIST OF SYMBOLS AND ABBREVIATIONS

BMI	Body Mass Index
CVD	Cardiovascular Diseases
FAO	Food Agriculture Organisation
MPF	Minimally Processed Food
PF	Processed Food
SD	Standard Deviation
UPF	Ultra-Processed Food
WHO	World Health Organisation

ABSTRACT

Çelik, B. (2023). Relationship Between Ultra Processed Food Consumption Classified By Nova System And Body Mass Index In A Private University. Yeditepe University, Institute Of Health Science, Department of Nutrition and Dietetics, Master Thesis, İstanbul.

With the recent replacement of processed foods for meals at home, there is an increase in the frequency of consumption of ultra-processed food in nations and associated prevalences of overweight, obesity, Type-2 diabetes, cardiovascular and intestinal diseases. This study aimed to understand the relationship between ultra-processed food consumption, obesity, and body mass index among university students.

A total of 362 students studying at Yeditepe University were included. A Turkey-specific, validated, semi-quantitative food consumption frequency questionnaire containing 229 nutrients was administered to the students. The foods were classified according to NOVA system published by the Food and Agriculture Organization and developed by researchers at the University of São Paulo.

Students get almost a quarter of their daily energy from ultra-processed food and more than half from processed food. It was determined that men consumed more ultra-processed foods and had a higher body mass index ($p < 0.05$). Students studying in health-related faculties consumed less ultra-processed food compared to other faculties ($p < 0.05$).

“Ready-to-eat” and “affordability” were the most important factors determining food consumption for those with the highest consumption of ultra-processed food, “healthy” was the main factor for those that consumed the least amount of ultra-processed food ($p < 0.05$).

As a result, those have higher processed food consumption have significantly higher body mass index, and the faculty where the student is educated is one of the important factors determining this consumption. Students should be aware of ultra-processed foods, and health awareness should be created about their consumption.

Keywords: Ultra-processed Foods, NOVA, Obesity, University Students

ABSTRACT (TURKISH)

Çelik, B. (2023). Özel Bir Üniversitenin Öğrencilerinde Nova Sistemine Göre Sınıflandırılmış Ultra İşlenmiş Gıda Tüketim Sıklığının Beden Kütle İndeksi ile İlişkisi. Yeditepe Üniversitesi, Sağlık Bilimleri Enstitüsü, Beslenme ve Diyetetik Bölümü, Yüksek Lisans Tezi. İstanbul.

Son dönemde işlenmiş gıdaların evdeki yemeklerin yerini almasıyla birlikte, ulusların ultra-işlenmiş gıda tüketim sıklığında ve ilişkili olarak fazla kilo, obezite, Tip-2 diyabet, kardiyovasküler ve bağırsak hastalık preveleanslarında artış görülmektedir. Bu çalışmanın amacı, üniversite öğrencilerinde ultra işlenmiş gıda tüketimi, obezite ve beden kütle indeksi arasındaki ilişkiyi anlamaktır.

Çalışmaya Yeditepe Üniversitesi'nde lisans derecesinde öğrenim gören farklı fakültelerden 362 öğrenci dahil edilmiştir. Öğrencilere, Türkiye'ye özgü valide edilmiş, semi-quantitative, 229 besin içeren besin tüketim sıklığı anketi uygulanmıştır. Anketteki besinler, Gıda ve Tarım Örgütü tarafından yayınlanan ve São Paulo Üniversitesindeki araştırmacılar tarafından geliştirilen NOVA sistemine göre işlenmemiş ya da minimal işlenmiş, işlenmiş mutfak içerikleri, işlenmiş ve ultra-işlenmiş gıdalar olarak sınıflandırılmıştır.

Öğrenciler, günlük aldığı enerjinin nerdeyse çeyreği kadarını ultra-işlenmiş gıdadan alırken, yarıdan fazlası işlenmiş gıdalardan almaktadır. Erkek öğrencilerin kadınlara göre daha fazla ultra işlenmiş gıda tükettikleri ve beden kütle indekslerinin daha yüksek olduğunu saptanmıştır ($p < 0.05$). Ek olarak sağlıkla ilişkili fakültelerde okuyan öğrencilerin, diğer fakültelere göre daha az ultra işlenmiş gıda tükettiği gözlemlenmiştir ($p < 0.05$).

Ultra işlenmiş gıda tüketimi en yüksek olan grubun besin tüketimini belirleyen en önemli faktörler tüketime hazır ve erişilebilir olurken, ultra işlenmiş gıdayı en az tüketen grubun besin tüketimini belirleyen temel faktörler çoğunlukla sağlıklı olması olmuştur ($p < 0.05$). Sonuç olarak işlenmiş gıda tüketimi yüksek olanların beden kütle indeksi anlamlı olarak daha yüksek bulunmuş, öğrencinin eğitim gördüğü fakülte bu tüketimi belirleyen önemli faktörlerden biridir. Ultra işlenmiş gıdalar hakkında öğrencilerin farkındalığı sağlanmalı ve öğrencilerde bu gıdaların tüketimi hakkında sağlık bilinci oluşturulmalıdır.

Anahtar Kelimeler: Ultra-işlenmiş Gıdalar, NOVA, Obezite, Üniversite Öğrencileri

1. INTRODUCTION AND PURPOSE

Food processing is defined as any process that changes the natural form of food (1). The purpose of food processing is to eradicate food-related pathogenic bacteria for food safety and the inactivation of microorganisms and enzymes for prolonging shelf-life. Processing foods enhance the sensory qualities of food, such as; flavor, taste, smell, and texture, to make the food more edible and convenient by providing cost efficiency (2).

While food science experts and food manufacturers emphasize the benefits of methods such as refrigeration, freezing, non-alcoholic fermentation, pasteurization, and vacuuming applied from past to present, they also emphasize the health problems that can occur with the partial hydrogenation of fats and the addition of processed sugar to beverages (3). Since processed foods that are energy dense and high in sugar, salt, and fat replace home-made food and dishes, the Food and Agriculture Organisation (FAO) has published the processing classification system called NOVA developed by Sao Paulo University (4). NOVA classifies the foods according to the extent, purpose, and nature of the food processing by grouping them into unprocessed or minimally processed foods, processed culinary ingredients, processed foods, and ultra-processed foods (5). All these processes are used in the production of ultra-processed food rather than freshly prepared food, which includes other NOVA groups, as they are low-cost, ready-to-eat, high-taste products that extend the shelf life of the food (5).

Many prospective and cross-sectional studies claim that ultra-processed food consumption is associated with cardiovascular diseases, obesity, type 2 diabetes mellitus (T2DM), hypertension, cancer, and all-cause mortality risks strongly due to ultra-processed foods higher salt, added sugar, trans and saturated fat content, and lower fiber and protein content (4, 6–12).

Ultra-processed foods with higher saturated fat, sugar, and sodium content, make them more palatable, convenient, and attractive for university students (13). It has been established that the period between high school and college or university is a crucial one for weight and fat accumulation due to dietary changes related to lifestyles such as poor cooking skills, meal skipping and replacement with indulgent products, migration, new social interactions, academic life intensity (14, 15).

Considering the studies on ultra-processed food consumption, there is no published study that determines the frequency of ultra-processed food consumption in any sample in Turkey in line with what is known. The aim of this study is to investigate the relationship between the frequency of ultra-processed food consumption, which is classified according to the NOVA system, and body mass index in university students and to contribute to the literature.



2. GENERAL INFORMATION

2.1. Food Processing

Food processing is an indispensable tool for meeting the needs of the growing world population (16). Food processing is defined as any process that changes the natural form of food (17). The aim of food processing is to transform fresh materials into edible and safe products by changing the chemical, physical and sensory properties of raw produce from agriculture. The advantage of the non-thermal processing techniques is controlling microbial growth (e. g bacteria, yeast) and chemical safeness (18).

Fire and salt are simply used for processing, such as drying and smoking foods, to remove water activity and anti-microbial growths from ancient times to today. Fermentation of dairy products (e.g., yogurt and cheese) and fruits (e.g., pickles) is another commonly used processing method to create lactic acid bacteria that increase the acidity level of food and help change the color, texture, and flavor by adding salt (19).

Today's food processing includes several processing units; each unit aims to win a different characteristic of food to increase food's edibility, such as heating, drying, and cooling. For instance, milk is produced from a couple of processed units. Milk is transferred to tanks to be filtered from the impurities, then milk and cream are separated, desired fat contents (2 % fat, light fat) arranged, and homogenization and pasteurization of milk to provide food safety is applied to have end product (20). Another example is bread. Flour is milled and refined from wheat, barley, or oats, then mixed with salt, water, and yeast to rise the dough as a chemical processing, baked, and cooled in huge amounts; some additives can be added to the bread to extend the shelf life. Many processing units are the same as the home cooking steps, such as kneading and baking; however, pasteurization and adding additives by the process can be differentiated from home cooking (21).

2.1.1 Food Processing and Food Safety / Security and Sustainability

According to FAO, food security is achieved when every individual has access to balance and adequate nutrition socially, economically, and physically to meet their nutrition requirements for healthy living (22). Consideration of 1.9 billion adults is overweight or obese, while 462 million adults are facing underweight World Health Organization (WHO), (23) 9 billion expected population growth in 2050, the requirement of agricultural production growth is 30% to % 40 by 2050 to feed the world population.

Although closing this gap can be managed by increasing agricultural productivity and decreasing food waste, they may not sustain to meet all the nutrition requirements of the expected population. Food processing is necessary to provide optimized nutrient availability, improved food sensorial qualities, and help prevent food waste with technological solutions to increase food safety today and in the future (24, 25).

2.2. The NOVA Food Classification and Its Four Groups

The NOVA classification system divides all foods into categories based on their level of processing (5). NOVA also consists of biological, physical, and chemical methods generally used in manufacturing foods with additives. NOVA classifies the foods according to the extent, purpose, and nature of the food processing by grouping them into unprocessed or minimally processed foods (MFP), processed culinary ingredients, processed foods (PF), and ultra-processed foods (UPF) (5).

2.2.1. Group 1: Minimally Processed Foods

MPFs are the first group of the NOVA classification system that contains unprocessed or little processing required foods. MPFs are derived from nature by removing the unwanted or inedible parts of plants and animal products by using pasteurization, drying, crushing, grinding, non-alcoholic fermentation, and freezing. Fresh fruits, vegetables, seeds, legumes, grains, plant roots, fungi, algae, meat, milk, egg, and water are placed in unprocessed food groups. It is not particularly significant to distinguish between minimally processed and unprocessed foods. These techniques used for MPF group procedures are intended to preserve natural foods, to make them more appropriate for storage, safer, more edible, and palatable. In addition, many MPFs are cooked and prepared with culinary components and served in homes, schools, and restaurants. These groups have different energy content and nutrition components such as carbohydrates, protein, fat, and fiber (5).

MPFs consist of both animal and plant-derived sources. Animal-derived foods are good sources of protein but contain little fiber; plant-derived foods are good sources of dietary fiber and have lower caloric content than animal foods. Therefore, MPFs contain a great variety of food sources to feed people balance. Though not often, MPFs may include additives that lengthen product shelf life, preserving natural qualities and preserving the growth of microbes (5).

In the details of the foods, fresh fruits, and their pasteurized juices without added sugar and flavors, fresh, frozen, or dried fruits and veggies, nuts and seeds without added salt and sugar, spices and herbs, plain yogurts without added sugar and salt, flavorings, pasteurized and powdered milk, wheat, oats, and corn flours without added sugar and salt. Tea, coffee, and water, and a combination of the two ingredients, such as; mixed fruits and vegetables, nuts, and cereal granola without added sugar, some nutrient fortification that made for filling the place of the nutrients lost that occurred in food processing, and also pasta, and couscous that made from a mix of flour and water without salt are placed in this group (5).

2.2.2. Group 2: Processed Culinary Ingredients

Processed culinary ingredients are the second group of the NOVA classification system. They are generally used for cooking, preparing, and seasoning MPFs. This group consists of lard, butter, oils, salt, and sugar that are usually used for cooking dishes rather than using on their own. The most commonly used processing methods are pressing, refining, centrifuging, and extracting. Their energy content is higher, and their nutrient profile is not evenly distributed, so their combination with other food is considered. They may include additives that make the product's shelf life longer and provide food security. Honey from combs, extracted vegetable oils, butter, lard from milk, iodized, mined, fortified, or seawater salt, sugar, and molasses made from beet and sugar cane are the main components of the processed culinary ingredients in detail (5).

2.2.3. Group 3: Processed Foods

Processed foods are the third group of the NOVA classification system (5). PFs include salted, canned or bottled vegetables, baked bread, freshly made cheeses, and salted, cured, or smoked dry meats by using canning, bottling, non-alcoholic fermentation, and curing methods adding salt, sugar, oil from group 2 to group 1 food. Processed foods have higher palatable qualities than foods generally eaten as a meal, dish, or snack. Canning, bottling, brining, and non-alcoholic fermentations are traditional and ancient techniques used domestically and industrially. However, by adding salt, sugar, and oil excessively, their nutrition profile and energy density become unbalanced. They may have additives shelf-life prolonging and preventing occurring pathogenic bacteria and spores (5).

2.2.4. Group 4: Ultra-Processed Foods

UPFs are the latest group of the NOVA classification system which are made of a combination of chemical and physical industrial processing methods by using additives, isolates of proteins, high fructose corn syrup, flavor enhancers, thickeners, emulsifiers, anti-foaming, raising, carbonated, colorants, sweeteners, gelling and brightening agents and hydrogenated oils which rarely used home kitchens. Processed ingredients are added in UPFs, such as added sugar, salt, fat, or oil, making the products hyper-palatable and desirable using a series of industrial processes. A practical way to classify the product as ultra-processed is to have at least one of the abovementioned ingredients. UPFs include pre-ready or ready-to-consume products such as packaged bread, breakfast cereals, energy bars, energy and milk drinks, chocolate, ice-cream and sweet snacks, instant soups, ready-to-heat pizza products, nuggets, noodles, sausages, fruits, yogurts with added sugar, the formula for infants, pastry products such as cakes, biscuits, meal replacer powders such as slimming products and margarine (5).

For example, bread, classified as processed food, is made of water, salt, flour, and yeast. However, the background reason for classifying industrial bread as UPFs is the flavors, colors, and emulsifiers added to basic bread dough. Gluten, whey, casein, protein isolates, sugar inverts, lactose, dextrose, and high fructose corn syrup are not used in home kitchens separately; they are generally mechanically separated from food substances with a variety of combination of the processing used in industry. Therefore, Products containing these substances are counted in UPF. Products using additives that increase the shelf life durability and control food safety are not the issue. However, using these additives with a combination of other additives, such as colorings, emulsifiers, artificial sweeteners, and bulking agents, make the food ultra-processed (5).

2.3. Nutrition Profile of Ultra-Processed Foods in National Diet Surveys

UPFs consumption and its relation to the total nutrition quality of the diet was investigated in national diet surveys. In a Brazilian household survey (n= 13 848) UPFs purchasing increased in households with lower and higher income. The nutritional profile of the UPF had higher energy, added sugar, and saturated fat, poorer in dietary fiber, and richer in sodium than the unprocessed or minimally processed group investigated (26). The research that was made in Canada with a dietary intake of 33.694 attendees was investigated. The foods were classified according to their processing level by the NOVA system, and the total energy intake from each group was calculated. %48 of the total

energy intake comes from UPFs founded in the Canadian population regardless of socioeconomic status. Significant and positive associations were found between dietary proportions of UPF and levels of carbohydrates, free sugars, total and saturated fat, and energy density, whereas protein, fiber quality, and inverse associations with dietary levels of vitamin A were observed, C, D, B6, B12, niacin, thiamine, riboflavin, as well as zinc, iron, magnesium, calcium, phosphorus, and potassium (27).

The United States National Health and Nutrition Examination Survey has 9317 participants from 1 year of age contribution of UPF consumption to total added sugar intake was investigated. %57.9 of the total daily energy intake came from UPF, and 87% of the energy from added sugar was from UPF were the main findings of the study. In addition, The added sugar content in UPF was found to be five times higher than unprocessed or minimally processed foods. Consumption of added sugar intakes, when the level of processing level increased linearly, was another outcome of the study (28).

Another study made in Belgium (n= 3146) has considered that the increase in UPF consumption is highly related to the higher amount of dietary share of saturated fat and sodium considering age and sex (29).

Furthermore, including 10.087 participants 1+ older age in Mexico, the relation of dietary share of UPFs and nutrition profile of the diet of the attendees was investigated. The relation between UPF consumption and higher energy, saturated fat, sodium, and lower protein and fiber intake was found to be correlated (30).

2.4. Ultra-processed Food Intake and Relation to Non-Communicable Diseases

Non-communicable diseases (NCDs), also called chronic diseases, are long-lasting and generally growing slowly. Cardiovascular disease, cancer, chronic respiratory disease, and diabetes are the main types of NCDs, and obesity/overweight, raised blood pressure, hyperlipidemia, and hyperglycemia are the main risk factors for NCDs (31).

In recent years, there has been an increase in childhood and adult NCDs worldwide (32). The main reasons for this increasement is life lifestyle and eating habits changes resulting in obesity and overweight (33).

Among the non-communicable diseases, obesity and its related factors (weight, body mass index, waist circumference thickness, subcutaneous fat thickness, body total fat percentage), cardiovascular diseases (hypertension, metabolic syndrome, coronary

heart disease, dyslipidemia, and cerebrovascular disease), cancer derivatives (breast, prostate, and colorectal cancer), depression, gastrointestinal diseases, and asthma are associated with a higher frequency of ultra-processed food consumption (5).

2.4.1. Obesity

The definition of obesity and overweight is excessive accumulation of fat in the body that may affect health negatively and can be preventable diseases. According to WHO, Body Mass Index (BMI) is the most relevant indicator for obesity and overweight for both sexes and adults. Equal to 25 BMI and greater than 25 is claimed to be overweight, equal to 30 BMI and greater than 30 as obesity. Elevated BMI is a great risk factor for NCDs. Obesity can be preventable by limiting energy intake mainly from fats and sugar, replacing energy intake with fruit, vegetable, grains, and legumes, and regularly doing physical activity (34).

High consumption of UPFs leads to an unbalanced diet which is the main cause of obesity conducted in National Dietary Surveys of Canada, Brazil, the United States, Belgium, and Mexico (26–30).

UPFs nutrition profile is highly related to higher energy, saturated fat, added sugar, and sodium intake, while the UPF nutrition profile is highly related to higher fiber and protein sourced by fruits, vegetables, and meat (12, 26–30).

In a prospective cohort study which is 348.748 participants, including from 25 to 70 age UPFs consumption and weight gain relation investigated. 9 European country's UPF consumption (g/day) is collected with the food questionnaires. As a result, the highest consumption of the UPFs was highly related to weight gain (0.12 kg) for 5 years-follow up. With the comparison to the highest and lowest consumption of the UPF group, the highest UPF consumed group had a 15 % risk of becoming overweight and obese normal-weight people at the baseline of the study (35).

An ecological, cross-sectional study involving 19 European countries between 1991 and 2008 aimed to assess the availability of NOVA food groups in households and analyze the relationship between the availability of ultra-processed foods and the prevalence of obesity. Across 19 countries, total dietary energy was purchased by households; it was determined that 33.9% of the total energy intake was for MPFs, 20.3% for processed culinary ingredients, 19.6% for PF, and 26.4% for UPF. UPF was observed to account for 10.2% of total dietary energy purchased in Portugal and 13.4% in Italy,

46.2% in Germany, and 50.7% in the United Kingdom. During these years, the prevalence of obesity ranged from 7.1% in France and 8.2% in Italy to 22.4% in Finland and 24.5% in the United Kingdom. Each percentage increase in the household availability of ultra-processed foods resulted in a 0.25 percentage point increase in the prevalence of obesity (36).

In a randomized controlled trial, hospitalized patients (n=20) were given a diet high in UPF and a diet high in unprocessed foods for 2 weeks. The energy density, protein, fat, carbohydrate, fiber, and sodium amounts of the foods on the menus are planned to be equal, and the patients are informed that they can eat as much as they want. At the end of 2 weeks, with increased carbohydrate and fat intake in the group consuming UPF, weight gain (0.9 ± 0.3) in the group consuming UPF was directly proportional to energy intake, and calorie intake was higher (508 ± 106 kcal/day) compared to the group consuming unprocessed food has been observed (37).

One of the other prospective studies is French Nutri-Net which had 110,260 participants followed from 2009 to 2019. The consumed UPF was calculated with percentages of grams/day rather than energy/day due to the lack of energy content of artificial sweetener added products are still UPF with lower energy content. This study found that intake of UPF had a higher risk of obesity and overweight and was directly associated with weight gain during follow-up years (6).

This association may be explained by the poorer nutrition quality of the UPF due to higher energy, saturated fat, and added sugar content (38–41). The nutrition profile of the food may not be the only reason behind the weight gain with overconsumption of UPF; food structure changed by processing with bioavailability and non-nutritional bioactive components of the products, which may cause weight gain. Exposure to the Endocrine-disrupting properties from packaging for a long-term staying causes insulin dysfunction, obesity, and disruption of sex-related hormones (42).

Another reason for higher UPF intake is the availability and affordability of the products in markets to create an obesogenic environment. This needs to be added to the actions to be taken to decrease obesity and to have more healthy products in the markets (43).

2.4.2. Type 2 Diabetes

One of the most common chronic diseases is diabetes which occurs when the dysfunction of the insulin metabolism is incapable of producing insulin by the pancreas or improper insulin usage by the body. Dysfunction of the insulin, hyperglycemia, which is elevated blood glucose, occurs and may devastate nerves, kidneys, and vessels for the long term if it is not controlled (44).

The data from 2019 claimed that 1.5 million deaths were caused by direct diabetes. In addition, diabetes, which occurs before 70 years, is also responsible for 48 % of the death (44). Being a healthy body weight and following a healthy diet with a lack of saturated fat and sugar can prevent the onset of T2DM (44).

In a prospective cohort study in the United Kingdom where the consumption of UPF and the incidence of diabetes were investigated, for 5.4 years of follow-up, including 21.730 attendees, 305 newly diagnosed diabetes cases were identified. Furthermore, the highest intake of the UPF group had a 44% risk of onsetting T2DM than the lowest intake of the UPF group, and an increased risk of T2DM incidents is 12% for every 10-percentage point increase in UPF intake was found (45). The poor nutritional quality of UPF may explain the potential reason for this result (5, 26–30).

In a study where the relation between glycemic response, satiety level, and processing level was investigated in 98 ready-to-consume foods when the processing level of the food increased, the satiety level was decreased, and the glycemic glucose equivalent level was increased (46).

Another prospective cohort study that consists of 70.421 participants from 35 to 70 years analyzed the UPF intake with a food frequency questionnaire and found that the risk of developing T2DM increased by 25% for every 10% increase in UPF intake. High consumption of snacks such as sweet and savory and pastry products is highly associated with the onset of T2DM (47).

Another pillar of the French NutriNet-Sante prospective cohort study was investigating the relationship between UPF consumption and diabetes incidence. The main finding of this study is that a higher intake of UPF per gram/day was significantly associated with the risk of T2DM development. Replacing vegetables, fruits, grains, and legumes with processed foods had a higher glycemic response and could have a relation to diabetes. In addition, additives also play roles in developing diabetes, such as

carrageenan, a thickening agent that is used in a huge amount of products in France, which may inhibit insulin signaling (48).

BPA is found as an endocrine disrupter used in the packaging of products and may cause diabetes. Acrylamine and acrolein metabolites had an association with insulin resistance. They occur processing at high-temperature, especially acrylamide which is found in cakes, biscuits, and fried potatoes; this may be another reason for diabetes mellitus (49).

2.4.3. Cardiovascular diseases

Cardiovascular diseases (CVDs) are caused by dysfunction of the heart and blood vessels. Coronary heart disease, cerebrovascular disease, congenital heart diseases, peripheral heart diseases, thrombosis, and embolism are the group of CVDs which responsible for 32% of global deaths.

An unhealthy diet with a huge amount of salt, physical inactivity, and usage of tobacco and alcohol are the risk factors for CVDs caused to elevated blood pressure, elevated blood sugar and blood lipids, and obesity (50).

Higher consumption of UPF was related to a higher risk of cerebrovascular diseases and cardiovascular and coronary heart diseases were reported in the French NutriNet-Sante Study. The association between CVD risk and UPF consumption may come from the lower consuming unprocessed or MPFs (9). If the dietary intake of sodium is more than needed, it is strongly associated with the risk of hypertension, while the higher potassium intake is associated with the opposite. Since UPF has excessive sodium and MPF are vegetables, fruits, and milk which are primary sources of potassium (51). In addition, In the Navarra follow-up study, the highest intake of tertile of UPF consumption versus the lowest was highly related to greater incident hypertension (8).

A wide range of additives used in UPF affect heart health negatively. For instance, higher dosages of the Monosodium glutamate used in noodles and instant soup cause oxidative stress that causes atherosclerosis in rats (52). Long-term consumption of artificial sweeteners without caloric-specific acesulfame K can cause atherosclerosis also (53).

During the 18-year follow-up in Framingham Offspring Study, while the daily serving of the UPF was increasing was associated with a 7 % increased risk of CVDs, and a 9 % increased risk of CVD mortality. The highest quintile of the UPF group had higher

fat, sodium, sucrose, and lower protein and fiber intake compared to the lowest quintile of the UPF-consumed group. Potential biological mechanisms underlying the association between ultra-processed foods and CVD is the greater intake of saturated and trans-fat, added sugar, sodium/potassium ratio, and processed carbohydrates cause dyslipidemia, replacement of heart-friendly foods with UPF, cause hypertension, poor nutrition quality of UPF-rich feeding cause obesity, diabetes that have also impact of onsetting CVDs (54).

2.4.4. Mental Disorders and Gastrointestinal Disorders

The human gut microbiota consists of over 10^{14} networks. Microorganisms, including bacteria, viruses, fungi, and other single-celled organisms, live in the digestive tract. Metabolic pathways occur in the gastrointestinal system with the help of gut microbiota in terms of digestion and producing metabolites (55).

Diet is the core element that influences the composition of the intestine function. Gut microbiota digests food and ferments it to produce metabolites that directly or indirectly affect brain function. Therefore, microbiota and gut-brain axes are directly affected by the diet. High in added sugar and fat affect the microbiota negatively (56).

UPF nutrition profile can alter the gut microbiota and cause intestinal permeability, which increases the risk of inflammation. In a meta-analysis study, excessive consumption of UPF was associated with anxiety and depression (57).

UPF consists of saturated fats, added sugars, salt, and additionally food additives. Diets rich in UPF induce dysbiosis, damage intestinal barrier capabilities, and change the metabolism of neurotransmitters in both the gut and brain, altering brain function and behaviors (58).

Some food additives used as a colorant, emulsifiers, and sweeteners in UPFs alter the gut microbiome and cause intestinal permeability (59).

2.4.5. Cancer

Cancer is characterized by the rapid formation of abnormal cells that grow beyond normal limits and can invade nearby parts of the body and spread to other organs. The latter process is called metastasis. Widespread metastasis is the leading cause of death from cancer. Nearly one-third of deaths caused by cancer are due to tobacco and alcohol usage, increased BMI, low fruit and vegetable consumption, and lack of physical activity (60).

To investigate the intake of UPF and risk of onsetting cancer in the French NutriNet-Sante study, 2228 first incident cases of cancer, including breast (739), prostate (281), and colorectal (153) were obtained. A 10 % increase in the proportion of UPFs in the diet was associated with a crucial increase of more than 10% in risks of onsetting overall cancers. Moreover, drinks and products with excessive sugar content and UPF fat and sauces were related to the risk of onsetting breast, prostate, and colorectal cancers. More specifically, high sugar UPF was related to the risk of breast cancer onset (11).

In a meta-analysis that searched the relationship between processed meat and the risk of cancer, the study claimed that 100 g of red meat increment daily could increase the risk of multiple cancer onset by 11–51% (61).

2.5. University Students' Eating Habits

In a study conducted to investigate the prevalence of obesity and overweight in university students in 22 countries, including Turkey, it was reported that 22% of students were overweight or obese (62).

The risk of being obese and overweight undergraduate students is high due to their eating habits considering low fruit and vegetable consumption, snacking, and skipping meals (63). In a research conducted with Turkish young adults, 25.72% of the participants skipped their meals, and 44.2 % snacked twice a day with chocolate and cookies, the most consumed snacks among university students (64).

In a study that determined dietary behavior during the Covid-19 pandemic through a food consumption frequency questionnaire, 30.5% of participants consumed more PF and UPF because they felt anxiety and suffering due to the pandemic, and 53.7% of students gained weight (65). In another research conducted with 2.039 university students in Chile, UPFs are categorized into sugary beverages, sweet and salty snacks, and consumption of equal and higher than sugary beverages (1 serving/day) significantly related to obesity in undergraduate students (66).

University students are a vulnerable group that faces food insecurity due to their income; most are economically dependent. Food prices and affordability are key determinants of food security (67). The reasons for consuming UPF are their wide availability, low cost, and hyper-palatable taste (5).

In a study conducted in Turkey to investigate the factors affecting the health-related quality of life of university students in Turkey, place of residence, smoking status,

pocket money received, and BMI were determined as the factors that most affect students' healthy quality of life(68).

To investigate the relationship between consumption MPF and UPF with adiposity and to eat time-related patterns in Greek adults, 346 university students attended the study. The relation between the higher amount of UPF consumption and adiposity is highly significant in male students. Women intend to consume more processed cereals and sweets than men. Men consumed much more ultra-processed meat, sausages, fast foods, and processed beverages than females. Late eating patterns were found to correlate with the highest UPF consumption, while early eating had the opposite effect among students (13).

In a survey that covered 161 university students to investigate the intake of the UPF, their nutrition-related perception and knowledge about Nutri-score on the label of the products. The intake of UPF was not significantly different from public and private universities. Although the university students assumed they had the knowledge to determine whether the food was UPF, the opposite of their assumption was founded in the study. For instance, Nutella, oat flakes, ham, and canned lentils are the most misclassified products from the questionnaire. Women had a better understanding of UPF than men, and the students living outside the family claimed to drink sugary beverages significantly (69).

3. MATERIALS AND METHOD

3.1. Time of The Study and Sample Selection

The study was conducted on Yeditepe University undergraduate students with the approval of Yeditepe University Ethics Committee decision number 202202149. A total of 15,348 undergraduate students in fourteen faculties at Yeditepe University were identified. The minimum number of samples calculated according to the 95% confidence interval, whose population was accepted as 15,348, was calculated as 375. The faculties included in the sample were stratified and weighted according to the number of students, according to this: Faculty of Dentistry (n=12), Faculty of Pharmacy (n=12), Faculty of Education (n=14), Faculty of Arts and Sciences (n=39), Fine Arts Faculty (n=24), Faculty of Law (n=16), Faculty of Economics and Administrative Sciences (n=38), Faculty of Communication (n=31), Faculty of Architecture (n=32), Faculty of Engineering (n=72), A total of 375 undergraduate students from the Faculty of Health Sciences (n=24), the Faculty of Medicine (n=17), the Faculty of Commercial Sciences (n=38), and the School of Applied Sciences (n=6) were included in the study. However, the faculty of dentistry was excluded from the study because it was outside the campus, and the number of samples was reduced to 362.

Yeditepe University undergraduate degree students, students aged 18 and over, and volunteering to participate in the study will be included in the research. Research exclusion criteria are preparatory, graduate, and doctoral students, and all students under the age of 18.

3.2. Data Collection and Evaluation

In this study, the first food consumption frequency questionnaire (FFQ) developed in Turkish, which was prepared by Güneş, İmeryüz, Akalın, et al. (70) which is an adequate and valid scale to evaluate the nutritional habits of the local population used. This questionnaire was created to assess the food intake of Turkish adults included in the Probable Urban and Rural Epidemiological (PURE) study involving 154,000 healthy adults from 17 countries.

The survey covers 229 foods consumed most frequently by Turkish society; milk and dairy products, meat and meat products, cereals, sweets and sugar, oil and margarine, fruits and vegetables, and the consumption frequency of the past year is >6/day, 4-5/day, 2-3/day, 1/day, 5-6/week, 2-4/week, 1/week, 1-3/month, 1-never/month. While

evaluating the data, the consumption frequency coefficient is 1= 1.0 per day, 2= 2.0 per day, 3= 3.0 per day, 4= 4.0 per day, 4-5= 4.5 per day, 5= 5.0 per day, 6 = 6.0 per day, 4-6= 5.0 per day, per week 1= 0.143, 2= 0.286 per week, 2-3= 0.358 per week, 2-4 = 0.43 per week, 3= 0.425 per week, 4=0.541 per week, 5= 0.714 per week, 5-6= 0.7855 per week, 6= 0.857 per week, never = 0, 1 = 0.033 per month, 2 = 0.067 per month, 3 = 0.1 per month, 1-3 = 0.0665 per month, 1-2 = 0.05 per month. A food atlas is used in the questionnaire to determine the portion size of the food consumed. The food images in the food atlas used in the survey have been prepared online and applied to university students online and face-to-face. The amount of portion consumed was determined by presenting the images of the foods in the survey to the participants, and at the same time, how often they consume these foods was determined with the consumption frequency questions.

In the study, height and weight were taken from the students according to their own statements in the demographic information section of the questionnaire. After the data collection phase of the study was completed, 229 foods whose consumption frequency and portion were questioned in the survey were determined according to the NOVA processed food guide published by the Food and Agriculture Organization (FAO), unprocessed or minimally processed, processed culinary ingredients, processed foods, and ultra-processed foods. It has been divided into 4 classes, including processing level. The caloric value calculations of the foods included in the survey were made with reference to TURKOMP (71), the National Food Composition Database of Turkey, and the contribution of calories from ultra-processed foods to total calories taken per day has been investigated. Cultural meals, which are not included in the TURKOMP national database, and the calorie values of standard Turkish meals were obtained from the BEBIS nutrition software program. The height (cm) and weight (kg) data obtained in line with the participants' declarations were used to calculate the body mass index according to the kg/m^2 formula, and the data obtained were classified according to the body mass index classification determined by the WHO (72) was appropriately classified.

3.3. Statical Evaluation of Data

Statistical evaluation was conducted by using Statistical Package for the Social Sciences (IBM® SPSS®) 25.0 package program. Quantitative variables were presented via mean, standard deviation (SD), median, lower and upper values, and qualitative variables were shown as numbers (n) and percentages (%). The Kolmogorov-Smirnov test was conducted to check the normal distribution of the quantitative variables. Student t-test was used to evaluate differences between two groups for parametric data, and the Mann-Whitney U test for non-parametric data. The comparison of 3 or more groups for parametric data was conducted via the one-way Analysis of variance (ANOVA) and the Kruskal-Wallis test for non-parametric data. A Tukey post hoc test was done to confirm the differences between groups for parametric data, and the Kruskal-Wallis post hoc paired comparisons test was done for non-parametric data. Spearman rank correlation (rho) was performed to analyze the correlation between variables for non-parametric data, and Pearson correlation (r) coefficient was calculated for parametric data. All the results were considered statistically significant for the 95% confidence interval and $p < 0.05$.

4. RESULT

As shown in Figure 4.1., the mean BMI of the population was 22.6 kg/m², and the mean age was 21.2.

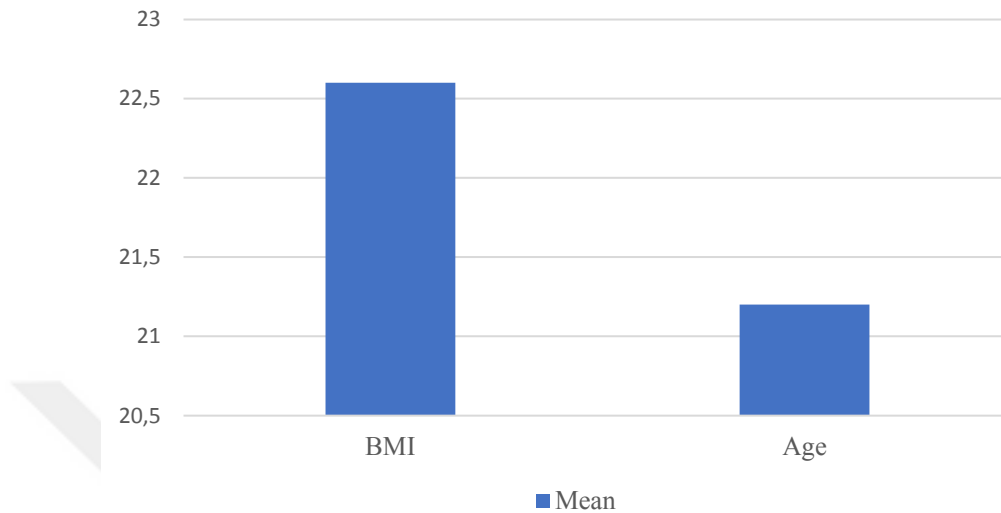


Figure 4.1. Mean Body Mass Index (BMI) and Age of Population

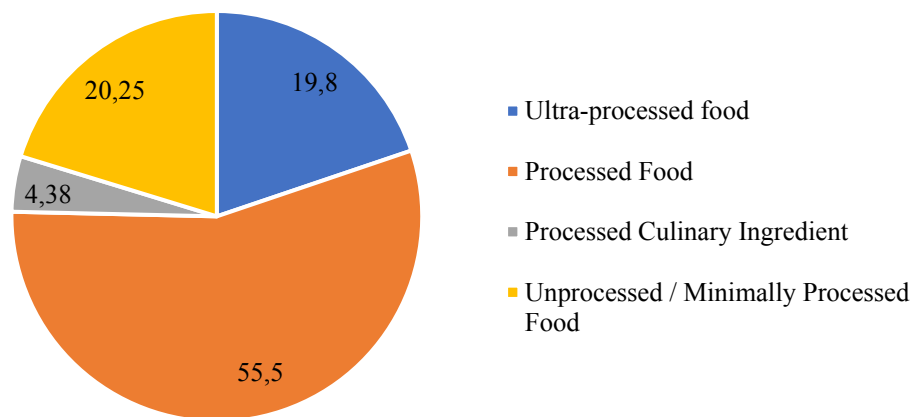


Figure 4.2. Distribution of Daily Energy Intake of (%) Foods Classified by NOVA System

In Figure 4.2., the energy contribution of NOVA food groups was presented as daily dietary energy intake (kcal) from each group and its relative contribution to daily energy intake (%). The mean percentages of daily energy intake from unprocessed and MPF, Processed Culinary Ingredients, PF, UPF were examined. Total daily energy was

taken 20.2 % from unprocessed and MPF, 4.3 % from processed culinary ingredients, 55.5 % from PF, and 19.8 % from UPF in university students.

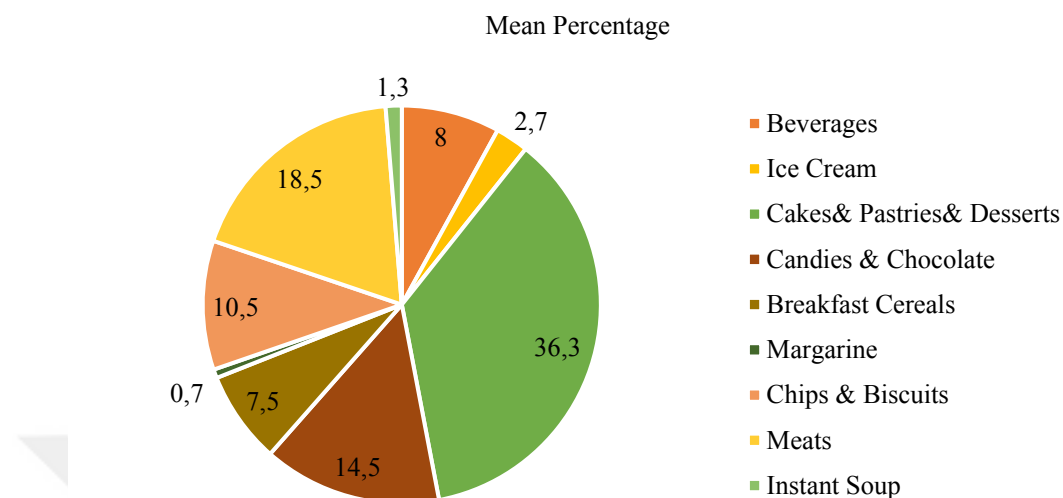


Figure 4.3. Distribution of percentage of consumed categories of ultra-processed products

In Figure 4.3., the product categorization of UPF distribution was shown. Top contributing food groups to the consumption of ultra-processed foods (UPF) (energy of UPF from each food group (kcal) divided by the total energy of UPF (kcal)). 8 % of daily energy intake from UPF was from beverages such as fruit juice, lemonade, instant coffee, coke, and diet coke. 2.7 % of daily energy intake from UPF was Ice-cream. 36.3 % of daily energy intake from UPF was cakes, pastries, and desserts such as puff pastry, pogaca and acma. 14.5 % of the daily energy of UPF was from candies and chocolates, while 7.5 % of the daily energy intake of UPF was from breakfast cereals such as oat muesli and corn flakes. 0.7 % from margarine, 10.5 % of daily energy of UPF was from chips and biscuits such as potato and corn chips and diet biscuits. 18.5 % of the daily energy of UPF comes from ultra-processed meats such as sucuk, salami, and pastrami. 1.3 % of the daily energy of UPF was from instant soup.

Table 4.1. UPF consumption (% g/ day) and BMI

		UPF	UPF	UPF	UPF	Significance p
		consumption	consumption	consumption	consumption	
		(% g/ day)	(% g/ day)	(% g/ day)	(% g/ day)	
		Quartile 1	Quartile 2	Quartile 3	Quartile 4	
		(90)	(90)	(91)	(91)	
BMI	Min	15.9	15.6	16.2	15.2	0.334*
	Max	32.2	35.0	32.8	35.0	
	Mean $\pm$ SD	21.9 $\pm$ 3.4	22.6 $\pm$ 3.9	22.7 $\pm$ 3.9	23.0 $\pm$ 4.2	

* p value calculated via Kruskal-Wallis test.

In Table 4.1., the total number of students (n=362) were divided into quartiles according to UPF consumption percentage in gram. Quartile 1 referred to the least consumption of UPF, while quartile 4 referred to the most consumption of UPF. To investigate the relationship between UPF consumption and BMI, Even though in the most UPF-consumed quartile, the mean BMI of 23.0 $\pm$ 4.2 was higher compared to quartiles 1, 2, and 3, this increase did not indicate a significant difference ($p > 0.05$).

Table 4.2. PF consumption (% g/ day) and BMI

		PF	PF	PF	PF	Significance p
		consumption	consumption	consumption	consumption	
		(% g/ day)	(% g/ day)	(% g/ day)	(% g/ day)	
		Quartile 1	quartile 2	quartile 3	quartile 4	
		(90)	(90)	(91)	(91)	
BMI	Min	16.1	16.7	15.2	15.6	0.012*
	Max	35.0	33.3	32.8	30.9	
	Mean $\pm$ SD	21.8 $\pm$ 4.2	23.2 $\pm$ 3.8	22.5 $\pm$ 3.8	22.8 $\pm$ 3.3	

* p value calculated via Kruskal-Wallis test.

In Table 4.2., the total number of students (n=362) were divided into quartiles according to PF consumption percentage in gram. Quartile 1 referred to the least consumption of PF, while quartile 4 referred to the most consumption of PF. Consequently, those have higher PF consumption have significantly higher BMI ($p < 0.05$).

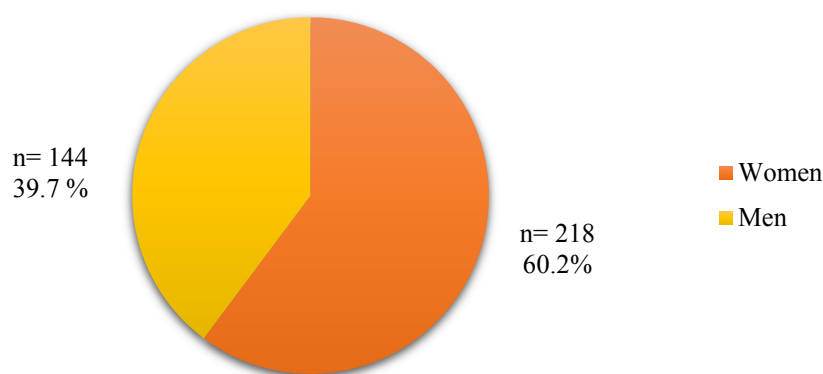


Figure 4.4. Gender distribution of the total population

As presented in Figure 4.4., 60.2 % of the total population was women, and 39.7% of the total population was men.

Table 4.3. BMI, UPF consumption adjusted by gender.

		Women (n=218)	Men (n=144)	Significance p
BMI	Min	15.24	17.3	
	Max	35.01	35.01	
	Mean $\pm$ SD	21.02 $\pm$ 3.3	24.6 $\pm$ 3.4	< 0.01*
UPF consumption (% g/ day)		11.2 $\pm$ 10.0	14.4 $\pm$ 10.4	< 0.01*
PF consumption (% g/ day)		47.1 $\pm$ 15.2	52.9 $\pm$ 13.2	< 0.01*
Energy from PF (% energy/day)		52.8 $\pm$ 13.8	59.5 $\pm$ 12.6	< 0.01*
Energy from UPF (% energy/day)		19.5 $\pm$ 10.8	20.3 $\pm$ 10.1	0.332*

* ; p value calculated via Mann Whitney U test.

Table 4.3. compares BMI, daily UPF consumption percentage in grams and energy and daily PF consumption percentages in gram and energy between gender. 60.3 % of the students were women (n=218), and 39.7% were men (n=144). The mean BMI was 21.02 $\pm$ 3.3 in women and the mean BMI was 24.6 $\pm$ 3.4 in men. According to gender, the mean BMI value of men is significantly higher than women (p < 0.01). Women get 11.2 % of their daily consumed food gram from UPFs and 47.1 % of their daily consumed gram from PFs, while men get 14.4 % of their daily consumed gram from UPFs and 52.9 % of their daily consumed gram from PFs. The daily UPF and PF consumption

percentages in both grams were significantly higher in men ($p < 0.01$). Women get 52.8 % of their daily energy from processed foods, while men get 59.5 % of their daily energy from processed foods. The daily energy contribution of PF is significantly lower in women was found ($p < 0.01$). Women get 19.5 % of their daily energy from UPFs, while men get 20.3 % of their daily energy from UPFs. Even though the percentage of daily energy from UPF was slightly higher in men, this increase did not indicate a significant difference ($p > 0.05$).

Table 4.4. Distribution of UPF consumption (% g/day) between students who are studying health-related faculties and non-health-related faculties

		UPF consumption (% g/ day) Quartile 1 (90)	UPF consumption (% g/ day) quartile 2 (90)	UPF consumption (% g/ day) quartile 3 (91)	UPF consumption (% g/ day) quartile 4 (91)	Significance p
Health-related Faculty (n=52)	n	21	10	9	12	0.041*
	%	40.4	19.2	17.3	23.1	
Non-health- related Faculty (n=310)	n	69	80	82	79	0.041*
	%	22.3	25.8	26.5	25.5	

*; p value calculated via Chi-Square Test.

Table 4.4, shows the distribution of students who are studying health-related faculties (n=52) such as; medicine, pharmacy, and health sciences and non-health faculties (n=310). While 40.4 % of the health-related faculty students consumed the least UPF, which occurred in quartile 1, 22.3 % of the non-health-related faculty students consumed the least UPF.

Table 4.4., shows the comparison UPF consumption in grams between the students who are studying in health-related faculties and non-health-related faculty. It has been observed that students in health-related faculties consume less UPF than expected, and students in non-health-related faculties consume more UPF than expected ($p < 0.05$).

General population n= 362

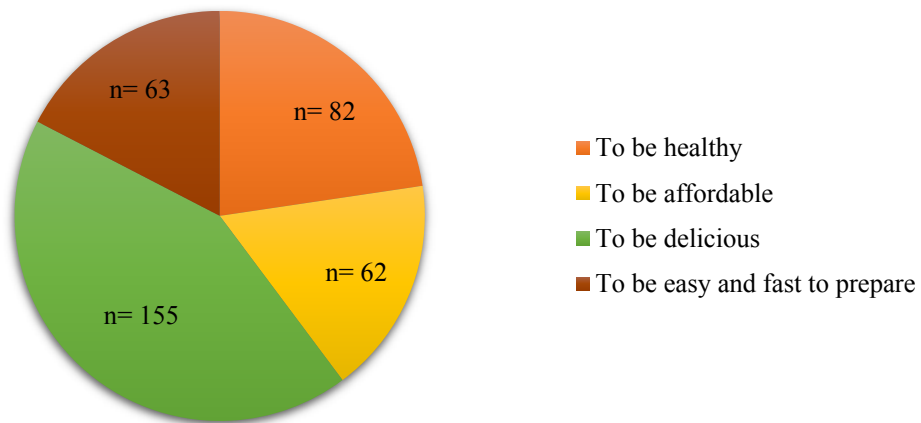


Figure 4.5. Distribution of the main factors that determine food consumption

When students were asked which factor determines eating behavior mostly, 155 of them answered to be delicious, 82 to be healthy, 63 to be easy and fast to prepare, and 62 to be affordable (Figure 4.5).

Table 4.5. Relationship between UPF (% g/day) and main factors that determine food consumption

		UPF consumption (% g/ day) Quartile 1 (90)	UPF consumption (% g/ day) quartile 2 (90)	UPF consumption (% g/ day) quartile 3 (91)	UPF consumption (% g/ day) quartile 4 (91)	Sig. p
To be healthy (n= 82)	n	34	27	14	7	< 0.01
	%	37.8	30	15.4	7.7	
To be affordable (n=62)	n	7	15	17	23	< 0.01
	%	7.8	16.7	18.7	25.3	
To be delicious (n= 155)	n	37	34	46	38	< 0.01
	%	41.1	37.8	50.5	41.8	
To be easy and fast to prepare (n= 63)	n	12	14	14	23	< 0.01
	%	13.3	15.6	15.4	25.3	

* ; p value calculated via Chi-Square Test.

In Table 4.5. shows the relationship between the determination of food consumption of the students and the percentage of UPF consumption. When the percentage of UPF consumption in grams increased from quartile 1 to quartile 4, the number of students who answered the main factor determining food consumption to be healthy decreased significantly from quartile 1 to quartile 4 ($p < 0.01$). In addition, When the percentage of UPF consumption in grams increased from quartile 1 to quartile 4, the number of students who answered the main factor determining food consumption to be affordable, easy, and fast to prepare increased significantly from quartile 1 to quartile 4 ($p < 0.01$). In quartile 4, the number of people who respond to the fact that food is healthy is less likely than expected, while the number of people who respond to the fact that food is affordable, easy, and fast to prepare is more than expected ($p < 0.01$).

Table 4.6. Relationship between living status and BMI, UPF consumption (%g/day-%kcal/day), PF consumption (%g/day- %kcal/day).

	Living with family (n=195)	Living without family (n=167)	Significance
	Mean $\pm$ SD	Mean $\pm$ SD	p
BMI	22.5 $\pm$ 3.6	22.6 $\pm$ 3.9	0.971*
Ultra-processed food consumption (% g/ day)	11.4 $\pm$ 6.8	13.7 $\pm$ 12.2	0.429*
Energy from ultra-processed food (% energy/day)	18.6 $\pm$ 9.0	21.1 $\pm$ 12.0	0.178*
Processed food consumption (% g/ day)	50.3 $\pm$ 14.6	48.2 $\pm$ 15.6	0.513*
Energy from Processed food (% energy/day)	56.7 $\pm$ 12.8	54.1 $\pm$ 14.6	0.215*

* ; p value calculated via Mann Whitney U test.

In Table 4.6 , the relationship between the living status of students and their BMI, UPF, and PF consumption was examined. Although the BMI of the students who is living without family is higher than those who is living with family, this increase did not indicate a significant difference adjusted to living status of students ($p > 0.05$).

In addition, percentages of UPF and PF consumption in gram and percentages of energy from UPF and PF was higher in students who lives without family but this increase

did not indicate a significance difference between living with family and living without family also ($p > 0.05$).



5. DISCUSSION

The aim of this study was to investigate the frequency of UPF consumption in university student population and to determine whether there is a relationship between UPF consumption and students' BMI.

In our study, it was found that approximately one-fourth of the daily energy consumption of students came from UPF, and more than half of the daily energy consumption of students came from PF. The reason why the contribution of PFs to daily energy intake is higher than other NOVA groups is that most frequently consumed food items was traditional foods and the number of the recipes of the traditional food that located in food frequency questionnaire were mostly classified as a PF as the 3rd group of NOVA.

Guidelines on collecting information on food processing through food consumption surveys published by FAO, face-to-face or phone-administered 24-hour recall give much more accurate processed food consumption data than FFQs. The detail of the FFQ is also another subject that needs to be considered (73). FFQs used in this study were detailed to consider processed or raw meat, milk, and dairy products. However, bread was asked whether white, whole grain, rye, or cornbread, but the details about products were not questioned due to the lack of additives information and brand-related differences in the bread category. Therefore, all bread consumption was classified as processed food by referencing the NOVA. Adding brand-related questions and the frequency of consuming packaged bread with additives into the questionnaire would help determine whether ultra-processed. It was observed that bread constitutes approximately 25% of the total daily energy intake in Turkish people (74). Therefore, considering the eating habits of Turkish society more consistently focusing on eating bread, the contribution of bread to UPF would be higher in the present study.

In NOVA, honey consumption was counted as a processed culinary ingredient in the 2nd group due to sugar content, while raw milk and pasteurized milk or reduced fat milk were counted as MPF in the 1st group of NOVA (5). Honey is not subject to any processing process produced by bees. NOVA claims to classify food according to processing level, not the nutritional quality of the food (5). Therefore, honey evaluation under unprocessed food would not have deviated from the NOVA classification's purpose.

Another discussion is classifying UPF due to adding one of the items ingredients listed into food, such as; high fructose corn syrup, flavor enhancer, sweeteners, bulking, carbonating agents, gelling, and anti-foaming agents (5). Some researchers claim that NOVA classification is based on added ingredients more than the processing unit level of the foods (75). This is another discussion for the food industry and researchers working on UPF.

Traditional Turkish desserts such as rice pudding and baklava are counted as PF due to their standard recipe content with ingredients; sugar, butter, and milk. Packaged desserts can be classified as ultra-processed due to the colorant and emulsifier-bulking agent generally used for texture in pastry (5). Some people may consume packaged desserts, and some pastries shops may add glucose-fructose syrup into baklava out of the standard recipe, so deciding whether desserts are processed, or ultra-processed may be difficult.

National dietary surveys show that 56.8% of the energy came from UPF in the UK (76), 57.9% in the United States (28), 42% in Canada (27), 79% in Germany, and 61% in Sweden (77) as high-income countries. In addition, UPF consumption is 30% in Mexico (78) and 24.6% in Brazil (79) as a low-income country. In line with these findings, approximately 20% of the daily energy consumption of university students from Turkey, a developing country, came from UPF. 20.2% of the daily energy intake of students came from unprocessed or MPF. The mean vegetable consumption is 51.8 g/day (26.1 g/day processed vegetable, 25.6 g/day unprocessed vegetable), and the mean fruit consumption is 46.6 g/day which was highly below the recommended intake of vegetables and fruits (400 g/day) which decreases the risk of NCDs and provide adequate dietary fiber by WHO (80).

In our study, we conducted that men consume more UPFs (g/day), PFs (g/day), and daily energy intake from PFs than women, similar to a study that was conducted in Portugal found that women consumed less UPF than men (81). In addition to our study, men had higher BMI than women, and the relation between higher UPF intake (g/day), PF(g/day), and higher BMI was significant ($p < 0.05$). Furthermore, daily energy intake from UPF was higher in men than women, but the relation was insignificant ($p > 0.05$). This result can be caused by all UPFs don't have high energy content. For instance, diet coke and diet biscuits had lower sugar content than general coke and biscuits due to the

sweetener replacement with sugar. Sweetener had almost zero calories, while 1 gram of carbohydrates had 4 kcal (82). Diet biscuits and diet coke are still UPF in terms of their sweetener content (5), which have a negative effect on gut health and glucose-stimulating systems in humans (83). Food additives, neo-formed contaminants that alter the food structure by processing, and non-nutritional components. Therefore, evaluation of UPF intake in grams rather than energy may give a more accurate outcome to determine UPF intake (6).

The reason for the consumption of UPF is due to its low-cost, hyper-palatability, and easy-to-prepare functions (5). In a study that examined the relationship between hyper-palatable food consumption and overeating, the positive correlation was found due to its sodium and high carbohydrate content. This, over time, can put someone at risk of consuming too many calories and gaining weight or body fat (84). In a study conducted in the United States, students' poor dietary intake is defined by the substitution of complete meals with practical and quick snacks with low nutritional value as a result of their entry into the university, their distance from their families, and their lack of time to prepare full meals owing to academic activities (85). In line with these studies, our study claims that most UPF-consumed groups had answered the main determination of food consumption: taste and ready to eat/ easy to prepare and affordable. In addition, in the present study, UPF and PF consumption was higher in students who live without a family than in students who are living with a family, but this increase did not indicate a significant difference ($p > 0.05$).

In a study conducted in medicine studying students, the majority of the students have healthy eating habits and normal BMI (86). In another study, medical students have a higher awareness of healthy living and eating habits than non-medicine studying students (87). In line with these findings, in our study, It has been observed that students who are studying health-related faculties (medicine, pharmacy, health sciences) consume less UPF and PF than expected, and students in non-health-related faculties consume more UPF and PF than expected ($p < 0.05$).

The European Information Council (EUFIC) claims that food processing techniques preserve natural nutrients or increase some products' nutritional value and bioavailability, fortifying cereals, bread, and dairy products (88). Another debate about food processing is that avoiding UPF consumption can cause a nutrient deficiency in terms of fortified foods can be evaluated as UPF according to the NOVA classification.

NOVA classifies UPF is also as food substances never or rarely used in kitchens, such as additives. For instance, fortified breakfast cereals, bread, and bread rolls, which are classified as ultra-processed according to NOVA, are the main sources of grain intake in Australian adults. The research about the consequences of excluding fortified ultra-processed grains from Australian diets shows a great amount of decreasing iodine, folate, niacin, and thiamin intake. The potential risk of excluding UPF, especially fortified foods, from the national diet recommended by public health councils was indicated (89).

The most powerful aspect of this study is that there is no published study on Turkish society that detects UPF consumption, and it is the first study to investigate the relationship between ultra-processed food consumption frequency and BMI in students in Turkey.

In conclusion, in the quarter with the highest amount of UPF consumption among students, the BMI of the students was observed to be the highest, but this increase did not lead to a significance. In addition, the highest consumption of PF group was found with having the highest BMI, an indicator of overweight and obesity.

The gender of the students and the faculties they study are the main factors affecting UPF consumption. The frequency of UPF and PF consumption in men was higher than in women, and BMI was higher in men relatively. The students studying health-related faculties (medicine, pharmacy, health sciences) UPF intake is significantly less than those studying in non-health related faculties due to healthy-living awareness of the health-related faculty students.

The ready-to-eat or no-preparation required properties of the UPF and their affordability are the main determinants of high UPF consumption among students. As a result, the level of processed food is associated with having a higher BMI, and studied faculty is one of the important factors determining this consumption.

Food processing is not the issue in terms of food safety and security. The extent to which the food is processed and the increase in the energy, sugar and fat contents of the food during the processing procedures and the unknown mechanisms of some added additives on obesity raise doubts. In line with what is known about nutrition profile of UPF, students should be made aware of UPFs and health awareness should be created among them.

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APPENDICES

7.1. Appendix 1: Informed Consent Form

Özel bir Üniversitenin Öğrencilerinde Nova Sistemine Göre Sınıflandırılmış Ultra İşlenmiş Gıda Tüketim Sıklığının Beden Kütle indeksi ile ilişkisi

Sayın Katılımcı,

Özel bir Üniversitenin Öğrencilerinde Nova Sistemine Göre Sınıflandırılmış Ultra İşlenmiş Gıda Tüketim Sıklığının Beden Kütle indeksi ile ilişkisi adlı bu çalışma Dr. Öğr. Üyesi İrem Kaya Cebioğlu danışmanlığında, İstanbul Yeditepe Üniversitesi Sağlık Bilimleri Fakültesi Beslenme ve Diyetetik bölümü yüksek lisans öğrencisi Dyt. Büşra Çelik tarafından yürütülen bir araştırmadır. Bu araştırmada yer almayı kabul etmeden önce, araştırmacının ne amaçla yapılmak istendiğini anlamanız gerekmektedir. Aşağıdaki bilgileri lütfen dikkatlice okuyunuz, sorularınız olursa sorunuz ve açık yanıtlar isteyiniz. Bu araştırma ile Yeditepe Üniversitesi Lisans öğrencilerinin, Ultra işlenmiş Gıda Tüketim Sıklığı ile Beden Kütle indeksi arasındaki ilişkinin araştırılması amaçlanmıştır.

Elde edilen verilerle üniversite öğrencilerinde ultra işlenmiş gıda tüketim sıklığı konusunda bilinç oluşturulması hedeflenmektedir. Araştırma için etik kurul ve diğer tüm gerekli yasal izinler alınmıştır. Bu araştırma, Yeditepe Üniversitesine kayıtlı lisans derecesinde öğrenim gören 18 yaş ve üzeri 380 öğrenci arasında yapılacaktır. Sizden bu çalışmada verilen anket formunu doldurmanız istenmektedir. Soruları cevaplamanız yaklaşık olarak 25 dakika sürecektir. Bunun size ve yakınlarınıza hiçbir zararı olmayacaktır. Çalışmada kesinlikle yaşadıklarınız (özeliniz) sorulmayacaktır. Genel olarak ultra işlenmiş gıda tüketim sıklığı arttıkça obezite ilişkili faktörü kabul edilen beden kütle indeksinin nasıl değiştiği incelenecektir. Araştırmada alınacak tüm bilgiler araştırma kapsamı dışında hiçbir kişiyle kesinlikle paylaşılmayacaktır. Elde edilecek olan bilgiler, Etik Kurul, kurum ve diğer sağlık otoritelerinin orijinal tıbbi kayıtlarına doğrudan erişimleri olacaktır. Fakat bu gönüllü onam formunun imzalanmasıyla bu bilgiler gizli tutulacaktır. Bu çalışmaya katılmak tamamen gönüllülük esasına dayanmaktadır. Bu çalışmada yer almanız nedeniyle size hiçbir ödeme yapılmayacaktır, sizden veya bağlı bulunduğunuz sosyal güvenlik kuruluşundan hiçbir ücret istenmeyecektir. Gerek duyduğunuz tüm bilgileri istemeye ve doğru, açık, anlaşılır bilgi almaya hakkınız vardır. Gerekli gördüğü takdirde araştırmacının herhangi bir kısmında katılımcı araştırmadan çıkabilir, araştırmacı çalışmayı sonlandırabilir. Araştırmacının tüm aşamalarında kimlik bilgileriniz gizli tutulacaktır. Araştırma sonuçlarının yayımlanması halinde dahi gönüllünün kimliği gizli kalacaktır. Araştırma kapsamında elde edilen bilgiler bilimsel amaçlarla, gizlilik kurallarına uymak kaydıyla, kullanılabilir, sunulabilir ve yayımlanabilir. Araştırma ile ilgili daha fazla bilgiye ihtiyac duyarsanız araştırmacıya busra.celik@std.yeditepe.edu.tr e-posta adresi üzerinden veya 0542 795 58 91 numaralı telefondan ulaşabilirsiniz.

"Bilgilendirilmiş Gönüllü Olur Formundaki tüm açıklamaları okudum. Bana, yukarıda konusu ve amacı belirtilen araştırma ile ilgili açıklamalar, yukarıda adı belirtilen sorumlu araştırmacı tarafından yapıldı. Araştırmaya gönüllü olarak katıldığımı, istediğim zaman gerekçeli veya gerekçesiz olarak araştırmadan ayrılabileceğimi biliyorum.

Bu çalışma sonuçlarının kullanılmasını kısıtlamamaya, yayın, rapor ve benzeri bilimsel dokümanlarda kullanılmasını kabul ediyorum. Söz konusu araştırmaya, hiçbir baskı ve zorlama olmaksızın kendi rızamla katılmayı onaylıyorum."

Gönüllünün;	Araştırmacının;	Varsa Tanıklık Eden Kişinin;
Adi-Soyadı:	Adi-Soyadı:	Adi-Soyadı:
İmzası:	İmzası:	İmzası:
Tarih:	Tarih:	Tarih:
Adres:	Adres:	Adres:
Telefon Numarası:	Telefon Numarası:	Telefon Numarası:

7.2. Appendix 2: Ethical Approval

		YEDİTEPE ÜNİVERSİTESİ GİRİŞİMSSEL OLMAYAN KLİNİK ARAŞTIRMALAR ETİK KURULU		Versiyon No 2.0 13.02.2022 Sayfa 1 / 2
		KARAR FORMU		
		15.03.2022		
ETİK KURUL BİLGİLERİ	Etik Kurulun Adı	Yeditepe Üniversitesi Girişimsel Olmayan Klinik Araştırmalar Etik Kurulu		
	Açık Adres	Yeditepe Üniversitesi Kayışdağı Kampüsü, Tıp-Mühendislik Binası, Sağlık Bilimleri Enstitüsü, İnönü Mah. Kayışdağı Cad. 326A, 26 Ağustos Yerleşimi 34755 Ataşehir, İstanbul		
	İnternet Sayfası	http://goetik.yeditepe.edu.tr/		
	Telefon	0216 578 00 00		
	E-posta	goetik@yeditepe.edu.tr		
DEĞERLENDİRİLEN BELGELER	Islak imzalı başvuru dosyası, CD'si ve elektronik başvuru	☒		
	Araştırma başlığı ve araştırmacıların isimleri	☒		
	Başvuru dilekçesi	☒		
	Başvuru Formu- Araştırmanın;	☒		
	• Niteliği	☒		
	• Önemi ve özgün değeri	☒		
	• Amaç ve hedefleri	☒		
	• Yöntemi	☒		
	• Yönetimi	☒		
	• Yaygın etkisi	☒		
	• Araştırma bütçesi (Mevcutsa)	☒		
	• Süresi ve uygunluğu (Zaman cetveli)	☒		
	• Kaynakları	☒		
	Bilgilendirilmiş Gönüllü Olur Formu (yapılan araştırmaya özel olarak hazırlanmış)	☒		
	Taahhütname-1 Araştırmanın yapılacağı kurumdaki izin alma sorumluluğunun araştırmacılara ait olduğuna dair taahhüt	☒		
Taahhütname-2 Dünya Tıp Birliği Helsinki Bildirgesinin son versiyonunun ve Sağlık Bakanlığı'nın ilgili tüm kılavuzlarının okunmasına dair taahhüt	☒			
Taahhütname-3 Daha önce yapılmış etik kurul başvuruları mevcut olup olmadığına dair taahhüt	☒			
Taahhütname-4 Araştırma sırasında araştırma bütçesinde yer almayan ve gönüllünün kendisine veya Sosyal Güvenlik Kurumuna ek yük getirecek hiçbir işlem uygulanmayacağına dair taahhüt	☒			
Taahhütname-5 COVID-19 hastalarında tedavi yaklaşımları ve bilimsel araştırmalar genelgesi okunmasına dair taahhüt	☒			
Taahhütname-6 Milli Eğitim Bakanlığı Araştırma Uygulama İzinleri konulu yazının okunmasına dair taahhüt	☒			
Araştırmacıların her birisine ait özgeçmiş formu	☒			
Ek belgeler (Varsa kullanılan ölçek izinleri vb.)	☒			
KARAR BİLGİLERİ	Başvuru Numarası	202202149		
	Toplantı Tarihi	11.03.2022		
	Toplantı Yeri	Çevirim içi (Google Meet)		
	Karar No	1		

Araştırmanın Başlığı: Özel Bir Üniversitenin Öğrencilerinde Nova Sistemine Göre Sınıflandırılmış Ultra İşlenmiş Gıda Tüketim Sıklığının Beden Kütle İndeksi ile ilişkisi

Araştırmacılar: Dyt. Büşra Çelik, Dr. Öğr. Üyesi İrem Kaya Cebioğlu

		YEDİTEPE ÜNİVERSİTESİ GİRİŞİMSSEL OLMAYAN KLİNİK ARAŞTIRMALAR ETİK KURULU		Versiyon No 2.0 13.02.2022 Sayfa 2 / 2
		BAŞVURU NUMARASI: 202202149		
		15.03.2022		
KARAR				
☒ KABUL	☐ RET ☐ KAPSAM DIŞI (GİRİŞİMSSEL) ☐ BİLİMSEL VE/VEYA ETİK KURALLARA AYKIRI ☐ BİR SORUMLU ARAŞTIRMACININ (TEZ İSE TEZ DANIŞMANI), BİR TOPLANTIYA İKİ (2) ADETTEN FAZLA ÇALIŞMA BAŞVURUSUNDA BULUNMASI ☐ KURUM İÇİ BAŞVURULARINDA KURUMSAL E-POSTA HESABI İLE GİRİŞ YAPILMAMIŞ OLMASI ☐ ŞARTLI KABULDE BELİRTİLEN REVİZYONLARIN ZAMANINDA VE/VEYA İSTENİLDİĞİ ŞEKİLDE YAPILMAMIŞ OLMASI			

Yeditepe Üniversitesi Girişimsel Olmayan Klinik Araştırmalar Etik Kurulu adına
 Prof. Dr. Didem Özdemir ÖZENEN
 Başkan

7.3. Appendix: General Plan of Food Frequency Questionnaire

Çalışmaya katılmak isteyip istemediğinizi belirtiniz. ☐ Bu çalışmaya katılmak istiyorum. ☐ Bu çalışmaya katılmak istemiyorum.
Adınızı ve Soyadınızı belirtiniz. * Short answer text
Okuduğunuz fakülte ve bölümünüzü belirtiniz. * Short answer text
Yeditepe uzantılı mail adresinizi belirtiniz. * Short answer text
Demografik Bilgi Formu Description (optional)
Cinsiyetinizi belirtiniz. * ☐ Kadın ☐ Erkek ☐ Diğer ☐ Belirtmek istemiyorum.
Kaç yaşındasınız? * Short answer text

Boyunuz kaç cm'dir? *

Your answer

Vücut ağırlığınız kaç kilogramdır? *

Your answer

Nerede ve kiminle yaşıyorsunuz? *

- ☐ Ailem ile yaşıyorum.
- ☐ Ev arkadaşım ile yaşıyorum.
- ☐ Evde yalnız yaşıyorum.
- ☐ Yurtta kalıyorum.

Yemek tüketiminizdeki en belirleyici faktör nedir? *

- ☐ Sağlıklı olması
- ☐ Uygun fiyatlı olması
- ☐ Lezzetli olması
- ☐ Kolay ve hızlı hazırlanması
- ☐ Hiç hazırlama işlemi gerektirmemesi ya da direkt tüketime hazır olması

Besin Tüketim Sıklığı Anketi

Geçtiğimiz yıl içinde aşağıda belirtilen hayvansal ürünleri ne sıklıkla tükettiniz?

1- Aşağıdaki görselden tükettiğiniz süt miktarının birim porsiyonunu belirleyiniz.



SÜT 1 A



SÜT 1 B



SÜT 1 C

- ☐ SÜT 1 A
- ☐ SÜT 1 B
- ☐ SÜT 1 C

Sütün çeşidine göre tüketim sıklığınızı belirtiniz. *

	Hiç / <ayda 1	Ayda 1- 3	Haftada 1	Haftada 2-4	Haftada 5-6	Günde 1	Günde 2-3	Günde 4-5	Günde > 6
Az Yağlı	☐	☐	☐	☐	☐	☐	☐	☐	☐
Tam Yağlı	☐	☐	☐	☐	☐	☐	☐	☐	☐
Standart %2	☐	☐	☐	☐	☐	☐	☐	☐	☐

Aşağıdaki görselden tükettiğiniz krem peynir (krem, karper, labne peynir) miktarının birim porsiyonunu belirtiniz.



- ☐ Krem peynir 2 A
- ☐ Krem peynir 2 B
- ☐ Krem peynir 2 C

Krem peynir çeşidine göre tüketim sıklığınızı belirtiniz. *

	Hiç / <ayda 1	Ayda 1- 3	Haftada 1	Haftada 2-4	Haftada 5-6	Günde 1	Günde 2-3	Günde 4-5	Günde > 6
Az Yağlı Krem Peynir	☐	☐	☐	☐	☐	☐	☐	☐	☐
Tam Yağlı Krem Peynir	☐	☐	☐	☐	☐	☐	☐	☐	☐

Aşağıdaki görselden tükettiğiniz beyaz peynir (tulum peyniri, çökelek ve lor) miktarının birim porsiyonunu belirtiniz.

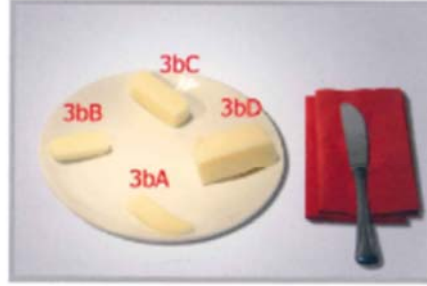


- ☐ Beyaz Peynir 3aA
- ☐ Beyaz Peynir 3aB
- ☐ Beyaz Peynir 3aC

Beyaz peynir (tulum peyniri, çökelek ve lor) çeşidine göre tüketim sıklığınızı belirtiniz. *

	Hiç / <ayda 1	Ayda 1- 3	Haftada 1	Haftada 2- 4	Haftada 5- 6	Günde 1	Günde 2- 3	Günde 4- 5	Günde > 6
Tam yağlı	☐	☐	☐	☐	☐	☐	☐	☐	☐
Az Yağlı	☐	☐	☐	☐	☐	☐	☐	☐	☐

Aşağıdaki görselden tükettiğiniz kaşar peynir (tel peynir, mihaliç peyniri, urfa peyniri) miktarının birim porsiyonunu belirtiniz.



Kaşar Peynir 3bA-B-C-D

- ☐ 3bA
- ☐ 3bB
- ☐ 3bC
- ☐ 3bD

Kaşar peynir (tel peynir, mihaliç peyniri, urfa peyniri) çeşidine göre tüketim sıklığınızı belirtiniz. *

	Hiç / <ayda 1	Ayda 1- 3	Haftada 1	Haftada 2-4	Haftada 5-6	Günde 1	Günde 2-3	Günde 4-5	Günde > 6
Tam Yağlı	☐	☐	☐	☐	☐	☐	☐	☐	☐
Az Yağlı	☐	☐	☐	☐	☐	☐	☐	☐	☐

Aşağıdaki görselden tükettiğiniz yoğurt miktarının birim porsiyonunu belirtiniz.



Yoğurt 4 A



Yoğurt 4 B



Yoğurt 4 C

- ☐ Yoğurt 4 A
- ☐ Yoğurt 4 B
- ☐ Yoğurt 4 C

Yoğurt çeşidine göre tüketim sıklığınızı belirtiniz. *

	Hiç / <ayda 1	Ayda 1- 3	Haftada 1	Haftada 2-4	Haftada 5-6	Günde 1	Günde 2-3	Günde 4-5	Günde > 6
Tam Yağlı	☐	☐	☐	☐	☐	☐	☐	☐	☐
Az Yağlı	☐	☐	☐	☐	☐	☐	☐	☐	☐

Aşağıdaki görselden tükettiğiniz ayran miktarının birim porsiyonunu belirtiniz.



Ayran 5 A



Ayran 5 B



Ayran 5 C

- ☐ Ayran 5 A
- ☐ Ayran 5 B
- ☐ Ayran 5 C

Sütün çeşidine göre tüketim sıklığınızı belirtiniz. *

	Hiç / <ayda 1	Ayda 1- 3	Haftada 1	Haftada 2-4	Haftada 5-6	Günde 1	Günde 2-3	Günde 4-5	Günde > 6
Az Yağlı	☐	☐	☐	☐	☐	☐	☐	☐	☐
Tam Yağlı	☐	☐	☐	☐	☐	☐	☐	☐	☐
Standart %2	☐	☐	☐	☐	☐	☐	☐	☐	☐

Aşağıdaki görselden tükettiğiniz krem peynir (krem, karper, labne peynir) miktarının birim porsiyonunu belirtiniz.



Krem Peynir 2 A



Krem Peynir 2 B



Krem Peynir 2 C

- ☐ Krem peynir 2 A
- ☐ Krem peynir 2 B
- ☐ Krem peynir 2 C

Krem peynir çeşidine göre tüketim sıklığınızı belirtiniz. *

	Hiç / <ayda 1	Ayda 1- 3	Haftada 1	Haftada 2-4	Haftada 5-6	Günde 1	Günde 2-3	Günde 4-5	Günde > 6
Az Yağlı Krem Peynir	☐	☐	☐	☐	☐	☐	☐	☐	☐
Tam Yağlı Krem Peynir	☐	☐	☐	☐	☐	☐	☐	☐	☐

Aşağıdaki görselden tükettiğiniz beyaz peynir (tulum peyniri, çökelek ve lor) miktarının birim porsiyonunu belirtiniz.

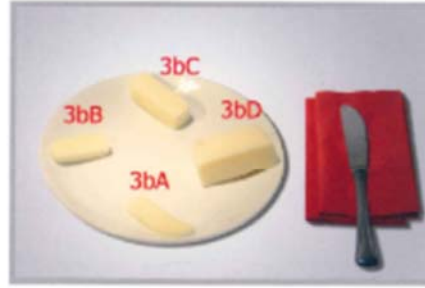


- ☐ Beyaz Peynir 3aA
- ☐ Beyaz Peynir 3aB
- ☐ Beyaz Peynir 3aC

Beyaz peynir (tulum peyniri, çökelek ve lor) çeşidine göre tüketim sıklığınızı belirtiniz. *

	Hiç / <ayda 1	Ayda 1- 3	Haftada 1	Haftada 2- 4	Haftada 5- 6	Günde 1	Günde 2- 3	Günde 4- 5	Günde > 6
Tam yağlı	☐	☐	☐	☐	☐	☐	☐	☐	☐
Az Yağlı	☐	☐	☐	☐	☐	☐	☐	☐	☐

Aşağıdaki görselden tükettiğiniz kaşar peynir (tel peynir, mihalıç peyniri, urfa peyniri) miktarının birim porsiyonunu belirtiniz.



Kaşar Peynir 3bA-B-C-D

- ☐ 3bA
- ☐ 3bB
- ☐ 3bC
- ☐ 3bD

Kaşar peynir (tel peynir, mihaliç peyniri, urfa peyniri) çeşidine göre tüketim sıklığınızı belirtiniz. *

	Hiç / <ayda 1	Ayda 1- 3	Haftada 1	Haftada 2-4	Haftada 5-6	Günde 1	Günde 2-3	Günde 4-5	Günde > 6
Tam Yağlı	☐	☐	☐	☐	☐	☐	☐	☐	☐
Az Yağlı	☐	☐	☐	☐	☐	☐	☐	☐	☐

Aşağıdaki görselden tükettiğiniz yoğurt miktarının birim porsiyonunu belirtiniz.



Yoğurt 4 A



Yoğurt 4 B



Yoğurt 4 C

- ☐ Yoğurt 4 A
- ☐ Yoğurt 4 B
- ☐ Yoğurt 4 C

Yoğurt çeşidine göre tüketim sıklığınızı belirtiniz. *

	Hiç / <ayda 1	Ayda 1- 3	Haftada 1	Haftada 2-4	Haftada 5-6	Günde 1	Günde 2-3	Günde 4-5	Günde > 6
Tam Yağlı	☐	☐	☐	☐	☐	☐	☐	☐	☐
Az Yağlı	☐	☐	☐	☐	☐	☐	☐	☐	☐

Aşağıdaki görselden tükettiğiniz ayran miktarının birim porsiyonunu belirtiniz.



Ayran 5 A



Ayran 5 B



Ayran 5 C

- ☐ Ayran 5 A
- ☐ Ayran 5 B
- ☐ Ayran 5 C

Ayran tüketim sıklığınız belirtiniz. *

	Hiç / <ayda 1	Ayda 1- 3	Haftada 1	Haftada 2-4	Haftada 5-6	Günde 1	Günde 2-3	Günde 4-5	Günde > 6
Ayran	☐	☐	☐	☐	☐	☐	☐	☐	☐

Aşağıdaki görselden tükettiğiniz tereyağı ve katı margarin miktarının birim porsiyonunu belirtiniz.



- ☐ Tereyağı 6 A
- ☐ Tereyağı 6 B
- ☐ Tereyağı 6 C

Aşağıdaki görselden tükettiğiniz sıvı margarin miktarının birim porsiyonunu belirtiniz.



- ☐ Sıvı Margarin A
- ☐ Sıvı Margarin B
- ☐ Sıvı Margarin C

Margarin çeşidine göre tüketim sıklığınız belirtiniz. *

	Hiç / <ayda 1	Ayda 1- 3	Haftada 1	Haftada 2-4	Haftada 5-6	Günde 1	Günde 2-3	Günde 4-5	Günde > 6
Sıvı Margarin	☐	☐	☐	☐	☐	☐	☐	☐	☐
Tereyağı ve Katı Margarin	☐	☐	☐	☐	☐	☐	☐	☐	☐

Aşağıdaki görselden tükettiğiniz dondurma miktarının birim porsiyonunu belirtiniz.

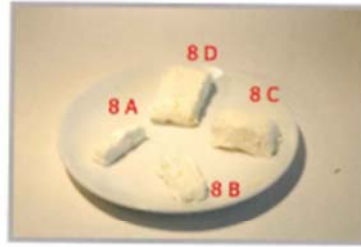


- ☐ Dondurma 7 A
- ☐ Dondurma 7 B
- ☐ Dondurma 7 C

Dondurma tüketim sıklığınızı belirtiniz. *

	Hiç / <ayda 1	Ayda 1- 3	Haftada 1	Haftada 2-4	Haftada 5-6	Günde 1	Günde 2-3	Günde 4-5	Günde > 6
Dondurma	☐	☐	☐	☐	☐	☐	☐	☐	☐

Aşağıdaki görselden tükettiğiniz krema ve kaymak miktarının birim porsiyonunu belirtiniz. *



	8 A	8 B	8 C	8 D
Krema	☐	☐	☐	☐
Kaymak	☐	☐	☐	☐

Krema ve Kaymak tüketim sıklığınızı belirtiniz. *

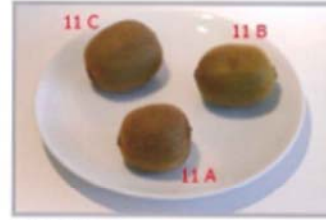
	Hiç / <ayda 1	Ayda 1- 3	Haftada 1	Haftada 2-4	Haftada 5-6	Günde 1	Günde 2-3	Günde 4-5	Günde > 6
Kaymak	☐	☐	☐	☐	☐	☐	☐	☐	☐
Krema	☐	☐	☐	☐	☐	☐	☐	☐	☐

Geçtiğimiz yıl boyunca aşağıda belirtilen meyveleri ne sıklıkta tükettiniz?

Aşağıdaki görselden tükettiğiniz elma ve kivi miktarının birim porsiyonunu belirtiniz. *



Elma 9 A-B-C



Kivi 11 A-B-C

	A	B	C
Kivi (11A-11B-11C 'den biri)	☐	☐	☐
Elma (9A-9B-9C 'den biri)	☐	☐	☐

Elma ve kivi tüketim sıklığınızı belirtiniz. *

	Hiç / <ayda 1	Ayda 1- 3	Haftada 1	Haftada 2-4	Haftada 5-6	Günde 1	Günde 2-3	Günde 4-5	Günde > 6
Kivi	☐	☐	☐	☐	☐	☐	☐	☐	☐
Elma	☐	☐	☐	☐	☐	☐	☐	☐	☐

Aşağıdaki görselden tükettiğiniz muz miktarının birim porsiyonunu belirtiniz. *



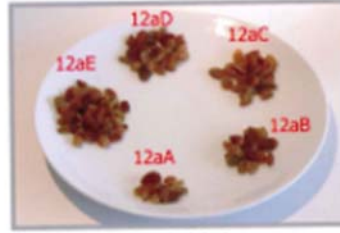
Muz 10 A-B-C-D

	A	B	C	D
Muz	☐	☐	☐	☐

Muz tüketim sıklığınızı belirtiniz. *

	Hiç / <ayda 1	Ayda 1- 3	Haftada 1	Haftada 2-4	Haftada 5-6	Günde 1	Günde 2-3	Günde 4-5	Günde > 6
Muz	☐	☐	☐	☐	☐	☐	☐	☐	☐

Aşağıdaki görselden tükettiğiniz kuru üzüm ve dut miktarının birim porsiyonunu belirtiniz. *



Kuru Meyve 12aA-B-C-D-E



Kuru Meyve 12bA-B-C-D-E

	A	B	C	D	E
Kuru Dut (12b ile başlayanlar)	☐	☐	☐	☐	☐
Kuru Üzüm (12a ile başlayanlar)	☐	☐	☐	☐	☐

Kuru üzüm ve kuru dut tüketim sıklığınızı belirtiniz. *

	Hiç / <ayda 1	Ayda 1- 3	Haftada 1	Haftada 2-4	Haftada 5-6	Günde 1	Günde 2-3	Günde 4-5	Günde > 6
Kuru Üzüm	☐	☐	☐	☐	☐	☐	☐	☐	☐
Kuru Dut	☐	☐	☐	☐	☐	☐	☐	☐	☐

Aşağıdaki görselden tükettiğiniz kuru kayısı (sarı ve siyah renkte) ve kuru incir miktarının birim porsiyonunu belirtiniz. *



Kuru Meyve 12cA-B-C/12dA-B-C/12eA-B-C

	A	B	C
Kuru Kayısı (Sarı olup 12e ile başlayanlar)	☐	☐	☐
Kuru incir (12d ile başlayanlar)	☐	☐	☐
Kuru Kayısı (Siyah olup 12c ile başlayanlar)	☐	☐	☐

Kuru kayısı ve kuru incir tüketim sıklığınızı belirtiniz. *

	Hiç / <ayda 1	Ayda 1- 3	Haftada 1	Haftada 2-4	Haftada 5-6	Günde 1	Günde 2-3	Günde 4-5	Günde > 6
Kuru Kayısı (Siyah renkteki)	☐	☐	☐	☐	☐	☐	☐	☐	☐
Kuru incir	☐	☐	☐	☐	☐	☐	☐	☐	☐
Kuru Kayısı (Sarı renkteki)	☐	☐	☐	☐	☐	☐	☐	☐	☐

Limon (adet) tüketim sıklığınızı belirtiniz. *

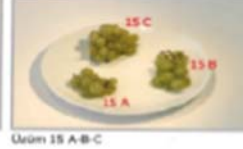
	Hiç / <ayda 1	Ayda 1- 3	Haftada 1	Haftada 2-4	Haftada 5-6	Günde 1	Günde 2-3	Günde 4-5	Günde > 6
Limon	☐	☐	☐	☐	☐	☐	☐	☐	☐

Geçtiğimiz yıl aşağıda belirtilen meyveleri mevsiminde bir ay boyunca ne sıklıkta tükettiniz?

Aşağıdaki görselden mevsiminde tükettiğiniz portakal, üzüm, incir ve erik miktarının birim porsiyonunu belirtiniz. *



Portakal 14 A-B-C



Üzüm 15 A-B-C



İncir 16 A-B-C



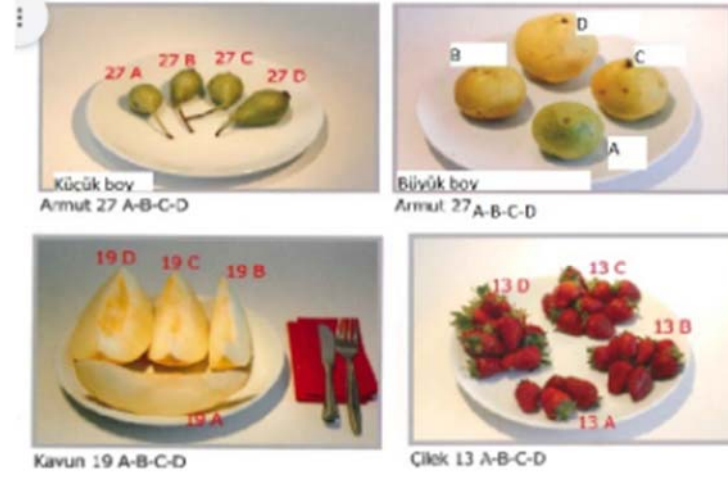
Erik 17 A-B-C

	A	B	C
Portakal	☐	☐	☐
Erik	☐	☐	☐
İncir	☐	☐	☐
Üzüm	☐	☐	☐

Mevsiminde, portakal, üzüm, incir ve erik tüketim sıklığınızı belirtiniz. *

	Hiç / ayda 1	Ayda 1- 3	Haftada 1	Haftada 2-4	Haftada 5-6	Günde 1	Günde 2-3	Günde 4-5	Günde > 6
Erik	☐	☐	☐	☐	☐	☐	☐	☐	☐
Portakal	☐	☐	☐	☐	☐	☐	☐	☐	☐
İncir	☐	☐	☐	☐	☐	☐	☐	☐	☐
Üzüm	☐	☐	☐	☐	☐	☐	☐	☐	☐

Aşağıdaki görselden mevsiminde tükettiğiniz armut (küçük boy ve büyük boy), kavun ve çilek miktarının birim porsiyonunu belirtiniz. *



	A	B	C	D
Çilek	☐	☐	☐	☐
Kavun	☐	☐	☐	☐
Armut (büyük boy)	☐	☐	☐	☐
Armut (küçük boy)	☐	☐	☐	☐

Mevsiminde, armut (küçük boy), armut (büyük boy) , kavun ve çilek tüketim sıklığınızı belirtiniz. *

	Hiç / <ayda 1	Ayda 1- 3	Haftada 1	Haftada 2- 4	Haftada 5-6	Günde 1	Günde 2- 3	Günde 4- 5	Günde > 6
Kavun	☐	☐	☐	☐	☐	☐	☐	☐	☐
Armut (büyük boy)	☐	☐	☐	☐	☐	☐	☐	☐	☐
Armut (küçük boy)	☐	☐	☐	☐	☐	☐	☐	☐	☐
Çilek	☐	☐	☐	☐	☐	☐	☐	☐	☐

Aşağıdaki görselden mevsiminde tükettiğiniz malta eriği, vişne, kiraz, nar ve kayısı miktarının birim porsiyonunu belirtiniz. *



Malta Eriği 22 A-B-C



Vişne 23 A-B-C



Kiraz 24 A-B-C



Nar 20 A-B-C



Kayısı 21 A-B-C

	A	B	C
Vişne	☐	☐	☐
Malta Eriği	☐	☐	☐
Nar	☐	☐	☐
Kiraz	☐	☐	☐
Kayısı	☐	☐	☐

Mevsiminde, malta eriği, vişne, kiraz, nar ve kayısı tüketim sıklığınızı belirtiniz. *

	Hiç / <ayda 1	Ayda 1- 3	Haftada 1	Haftada 2-4	Haftada 5-6	Günde 1	Günde 2-3	Günde 4-5	Günde > 6
Vişne	☐	☐	☐	☐	☐	☐	☐	☐	☐
Nar	☐	☐	☐	☐	☐	☐	☐	☐	☐
Kiraz	☐	☐	☐	☐	☐	☐	☐	☐	☐
Kayısı	☐	☐	☐	☐	☐	☐	☐	☐	☐
Malta Eriği	☐	☐	☐	☐	☐	☐	☐	☐	☐

Aşağıdaki görselden mevsiminde tükettiğiniz karpuz miktarının birim porsiyonunu belirtiniz. *



Karpuz 18 A-B



Karpuz 18 C-D



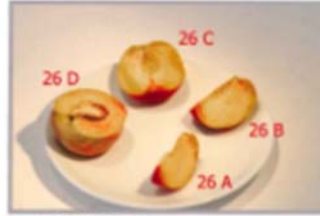
Karpuz 18 E-F

	A	B	C	D	E	F
Karpuz	☐	☐	☐	☐	☐	☐

Mevsiminde, karpuz tüketim sıklığınızı belirtiniz. *

	Hiç / <ayda 1	Ayda 1- 3	Haftada 1	Haftada 2-4	Haftada 5-6	Günde 1	Günde 2-3	Günde 4-5	Günde > 6
Karpuz	☐	☐	☐	☐	☐	☐	☐	☐	☐

Aşağıdaki görselden mevsiminde tükettiğiniz şeftali miktarının birim porsiyonunu belirtiniz. *



Şeftali 26 A-B-C-D



Şeftali 26 E-F-G

	A	B	C	D	E	F	G
Şeftali	☐	☐	☐	☐	☐	☐	☐

Mevsiminde, şeftali tüketim sıklığınızı belirtiniz. *

	Hiç / <ayda 1	Ayda 1- 3	Haftada 1	Haftada 2-4	Haftada 5-6	Günde 1	Günde 2-3	Günde 4-5	Günde > 6
Şeftali	☐	☐	☐	☐	☐	☐	☐	☐	☐

Aşağıdaki görselden mevsiminde tükettiğiniz dut ve ayva miktarının birim porsiyonunu belirtiniz. *



	A	B	C
Dut	☐	☐	☐
Ayva	☐	☐	☐

Mevsiminde, dut ve ayva tüketim sıklığınızı belirtiniz. *

	Hiç / <ayda 1	Ayda 1- 3	Haftada 1	Haftada 2-4	Haftada 5-6	Günde 1	Günde 2-3	Günde 4-5	Günde > 6
Ayva	☐	☐	☐	☐	☐	☐	☐	☐	☐
Dut	☐	☐	☐	☐	☐	☐	☐	☐	☐

Mevsiminde, Trabzon hurması (adet), greyfurt (adet) ve mandalina (adet) tüketim sıklığınızı belirtiniz. *

	Hiç / <ayda 1	Ayda 1- 3	Haftada 1	Haftada 2-4	Haftada 5-6	Günde 1	Günde 2-3	Günde 4-5	Günde > 6
Trabzon hurması (adet)	☐	☐	☐	☐	☐	☐	☐	☐	☐
Greyfurt (adet)	☐	☐	☐	☐	☐	☐	☐	☐	☐
Mandalina (adet)	☐	☐	☐	☐	☐	☐	☐	☐	☐

Geçtiğimiz yıl boyunca aşağıda belirtilen sebzeleri ne sıklıkta tükettiniz?

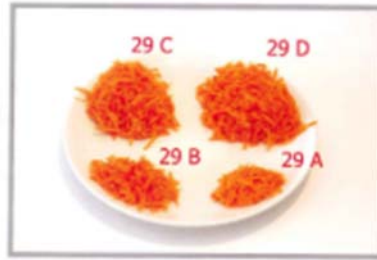
Aşağıda görseldeki miktarları referans alarak tükettiğiniz patlıcan, kabak, pancar, şalgam, brokoli, mantar, yeşil fasulye, yeşil taze bakla, ıspanak, bezelye, bamya, karnabahar, pırasa, enginar, kereviz, pişmiş domates, pişmiş lahana, pişmiş biber, pişmiş yeşil dolmalık biber, pişmiş semizotu miktarının birim porsiyonunu belirtiniz.



	A	B	C
Patlıcan	☐	☐	☐
Kabak	☐	☐	☐
Pancar	☐	☐	☐
Şalgam	☐	☐	☐
Brokoli	☐	☐	☐
Mantar	☐	☐	☐
Yeşil Fasulye	☐	☐	☐
Yeşil Taze Bakla	☐	☐	☐
Ispanak	☐	☐	☐
Bezelye	☐	☐	☐
Bamya	☐	☐	☐
Karnabahar	☐	☐	☐
Pırasa	☐	☐	☐
Enginar	☐	☐	☐
Kereviz	☐	☐	☐

Pancar	☐	☐	☐	☐	☐	☐	☐	☐	☐
Pişmiş Semizotu	☐	☐	☐	☐	☐	☐	☐	☐	☐
Kereviz	☐	☐	☐	☐	☐	☐	☐	☐	☐
Kabak	☐	☐	☐	☐	☐	☐	☐	☐	☐
Yeşil Fasulye	☐	☐	☐	☐	☐	☐	☐	☐	☐

Aşağıdaki görselden tükettiğiniz havuç miktarının birim porsiyonunu belirtiniz. *



Havuç 29 A-B-C-D

	A	B	C	D
Havuç	☐	☐	☐	☐

Havuç tüketim sıklığınızı belirtiniz. *

	Hiç / <ayda 1	Ayda 1- 3	Haftada 1	Haftada 2-4	Haftada 5-6	Günde 1	Günde 2-3	Günde 4-5	Günde > 6
Pişmiş Havuç	☐	☐	☐	☐	☐	☐	☐	☐	☐
Çiğ Havuç	☐	☐	☐	☐	☐	☐	☐	☐	☐

Aşağıdaki görseldeki miktarları referans alarak tükettiğiniz soğan ve turp miktarının birim porsiyonunu belirtiniz. *

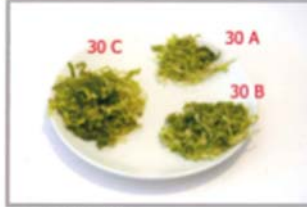


	A	B	C	D
Turp	☐	☐	☐	☐
Soğan	☐	☐	☐	☐

Soğan (çiğ- pişmiş) ve turp tüketim sıklığınızı belirtiniz. *

	Hiç / <ayda 1	Ayda 1- 3	Haftada 1	Haftada 2-4	Haftada 5-6	Günde 1	Günde 2-3	Günde 4-5	Günde > 6
Pişmiş Soğan	☐	☐	☐	☐	☐	☐	☐	☐	☐
Çiğ Soğan	☐	☐	☐	☐	☐	☐	☐	☐	☐
Turp	☐	☐	☐	☐	☐	☐	☐	☐	☐

Aşağıdaki görseldeki miktarları referans alarak tükettiğiniz marul, çiğ lahana, çiğ semizotu miktarının birim porsiyonunu belirtiniz. *



Marul 30 A - B -C



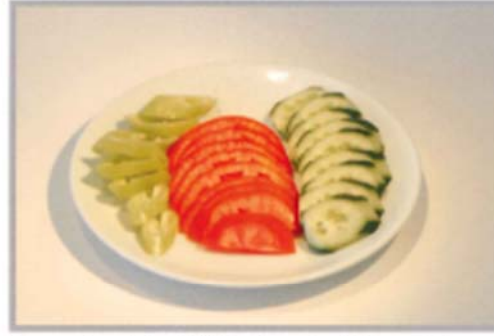
Marul 30 D

	A	B	C	D
Çiğ Lahana	☐	☐	☐	☐
Marul	☐	☐	☐	☐
Çiğ semizotu	☐	☐	☐	☐

Marul, çiğ lahana, çiğ semizotu tüketim sıklığınızı belirtiniz. *

	Hiç / <ayda 1	Ayda 1- 3	Haftada 1	Haftada 2-4	Haftada 5-6	Günde 1	Günde 2-3	Günde 4-5	Günde > 6
Çiğ Lahana	☐	☐	☐	☐	☐	☐	☐	☐	☐
Marul	☐	☐	☐	☐	☐	☐	☐	☐	☐
Çiğ semizotu	☐	☐	☐	☐	☐	☐	☐	☐	☐

Aşağıdaki görselden tükettiğiniz çiğ yeşil biber, çiğ domates ve salatalık miktarının birim porsiyonuna bakarak tüketim sıklığınızı belirtiniz. *



Domates 31 - Salatalık 32 - Biber 33

	Hiç / <ayda 1	Ayda 1- 3	Haftada 1	Haftada 2-4	Haftada 5-6	Günde 1	Günde 2-3	Günde 4-5	Günde > 6
Çiğ yeşil biber	☐	☐	☐	☐	☐	☐	☐	☐	☐
Salatalık	☐	☐	☐	☐	☐	☐	☐	☐	☐
Çiğ domates	☐	☐	☐	☐	☐	☐	☐	☐	☐

Aşağıdaki görselle göre tükettiğiniz maydanoz, roka ve dereotu, taze nane miktarının birim porsiyonunu belirtiniz. *



Maydanoz 34 A - Roka 35 A



Maydanoz 34 B - Roka 35 B



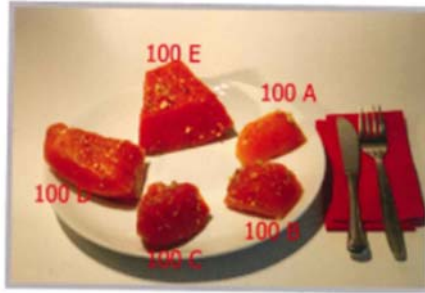
Maydanoz 34 C - Roka 35 C

	A	B	C
Taze nane	☐	☐	☐
Maydanoz	☐	☐	☐
Roka	☐	☐	☐
Dereotu	☐	☐	☐

Maydanoz, roka, dereotu ve taze nane tüketim sıklığınızı belirtiniz. *

	Hiç / ayda 1	Ayda 1- 3	Haftada 1	Haftada 2-4	Haftada 5-6	Günde 1	Günde 2-3	Günde 4-5	Günde > 6
Dereotu	☐	☐	☐	☐	☐	☐	☐	☐	☐
Roka	☐	☐	☐	☐	☐	☐	☐	☐	☐
Taze nane	☐	☐	☐	☐	☐	☐	☐	☐	☐
Maydanoz	☐	☐	☐	☐	☐	☐	☐	☐	☐

Aşağıdaki görselde belirtilen tükettiğiniz balkabağı miktarının birim porsiyonunu belirtiniz. *



	A	B	C	D	E
Bal Kabağı	☐	☐	☐	☐	☐

Balkabağı tüketim sıklığınızı belirtiniz. *

	Hiç / <ayda 1	Ayda 1- 3	Haftada 1	Haftada 2-4	Haftada 5-6	Günde 1	Günde 2-3	Günde 4-5	Günde > 6
Bal Kabağı	☐	☐	☐	☐	☐	☐	☐	☐	☐

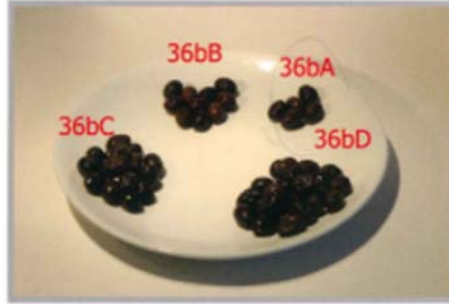
Aşağıdaki görselde belirtilen tükettiğiniz yeşil zeytin miktarının birim porsiyonunu belirtiniz. *



Yeşil Zeytin 36aA-B-C

	A	B	C
Yeşil Zeytin	☐	☐	☐

Aşağıdaki görselde belirtilen tükettiğiniz siyah zeytin miktarının birim porsiyonunu belirtiniz. *



Siyah Zeytin 36bA-B-C-D

	A	B	C	D
Siyah Zeytin	☐	☐	☐	☐

Yeşil zeytin ve Siyah zeytin tüketim sıklığınızı belirtiniz. *

	Hiç / <ayda 1	Ayda 1- 3	Haftada 1	Haftada 2-4	Haftada 5-6	Günde 1	Günde 2-3	Günde 4-5	Günde > 6
Yeşil Zeytin	☐	☐	☐	☐	☐	☐	☐	☐	☐
Siyah Zeytin	☐	☐	☐	☐	☐	☐	☐	☐	☐

Çiğ sarımsak ve pişmiş sarımsak tüketim sıklığınızı belirtiniz. *

	Hiç / <ayda 1	Ayda 1- 3	Haftada 1	Haftada 2-4	Haftada 5-6	Günde 1	Günde 2-3	Günde 4-5	Günde > 6
Çiğ sarımsak	☐	☐	☐	☐	☐	☐	☐	☐	☐
Pişmiş Sarımsak	☐	☐	☐	☐	☐	☐	☐	☐	☐

Geçtiğimiz yıl boyunca aşağıdaki kuru baklagilleri ortalama olarak ne sıklıkta tükettiniz?

Aşağıdaki görseli baz alarak tükettiğiniz sade (etsiz) mercimek, kuru fasulye, nohut, börülce, fava miktarının birim porsiyonunu belirtiniz. *



Sade Kurubaklagil Yemeği 37 A



Sade Kurubaklagil Yemeği 37 B



Sade Kurubaklagil Yemeği 37 C

	A	B	C
Sade kurufasulye	☐	☐	☐
Sade mercimek	☐	☐	☐
Börülce	☐	☐	☐
Sade nohut	☐	☐	☐
Fava	☐	☐	☐

Aşağıdaki görseli baz alarak tükettiğiniz etli mercimek, etli kuru fasulye ve etli nohut miktarının birim porsiyonunu belirtiniz. *



	A	B	C
Etli mercimek	☐	☐	☐
Etli nohut	☐	☐	☐
Etli kurufasulye	☐	☐	☐

Aşağıdaki besinleri tüketim sıklığınızı belirtiniz. *

	Hiç / <ayda 1	Ayda 1- 3	Haftada 1	Haftada 2-4	Haftada 5-6	Günde 1	Günde 2-3	Günde 4-5	Günde > 6
Etli kuru fasulye	☐	☐	☐	☐	☐	☐	☐	☐	☐
Sade (etsiz) nohut	☐	☐	☐	☐	☐	☐	☐	☐	☐
Sade (etsiz) mercimek	☐	☐	☐	☐	☐	☐	☐	☐	☐
Etli mercimek	☐	☐	☐	☐	☐	☐	☐	☐	☐
Börülce	☐	☐	☐	☐	☐	☐	☐	☐	☐
Sade (etsiz) kuru fasulye	☐	☐	☐	☐	☐	☐	☐	☐	☐
Etli Nohut	☐	☐	☐	☐	☐	☐	☐	☐	☐
Fava	☐	☐	☐	☐	☐	☐	☐	☐	☐

Geçtiğimiz yıl boyunca yumurta ve et çeşitlerini ortalama olarak ne sıklıkta tükettiniz?

Aşağıdaki görselden tükettiğiniz yağda yumurta miktarının birim porsiyonunu belirtiniz. *



Yağda Yumurta 39 A

Yağda Yumurta 39 B

Yağda Yumurta 39 C

A

B

C

Yağda Yumurta

☐
☐
☐

Yağda yumurta ve haşlanmış yumurta (adet olarak) tüketim sıklığınızı belirtiniz. *

Hiç /
<ayda
1

Ayda 1-

3

Haftada

1

Haftada

2-4

Haftada

5-6

Günde

1

Günde

2-3

Günde

4-5

Günde

> 6

Haşlanmış
yumurta (adet)

☐
☐
☐
☐
☐
☐
☐
☐
☐
☐

Yağda
Yumurta

☐
☐
☐
☐
☐
☐
☐
☐
☐
☐

Aşağıdaki görselden tükettiğiniz etli, sucuklu, pastırmalı, peynirli yumurta ve sebzeli omlet ve menemen miktarının birim porsiyonunu belirtiniz. *



Peynirli Yumurta 40 A

Peynirli Yumurta 40 B

Peynirli Yumurta 40 C



Menemen (etli sebze yumurta) 41 A

Menemen (etli sebze yumurta) 41 B

Menemen (etli sebze yumurta) 41 C

A

B

C

Menemen-sebzeli
yumurta

☐
☐
☐

Etli sucuklu-
pastırmalı- peynirli
yumurta

☐
☐
☐

Etili, sucuklu, pastırmalı, peynirli yumurta ve menemen tüketim sıklığınızı belirtiniz. *

	Hiç / <ayda 1	Ayda 1- 3	Haftada 1	Haftada 2-4	Haftada 5-6	Günde 1	Günde 2-3	Günde 4-5	Günde > 6
Etili, sucuklu, pastırmalı, peynirli yumurta	☐	☐	☐	☐	☐	☐	☐	☐	☐
Menemen ve sebze omlet	☐	☐	☐	☐	☐	☐	☐	☐	☐

Aşağıdaki görselden tükettiğiniz derili (tavuk haşlama) ve derisiz (tavuk ızgara) tavuk birim porsiyonunu belirtiniz. *



A

B

C

Derisiz (ızgara) tavuk

☐
☐
☐

Derili (haşlama)
tavuk

☐
☐
☐

Aşağıdaki görselde tükettiğiniz et haşlama (koyun, dana) yemeğinin birim porsiyonunu belirtiniz. *



A

B

C

Et haşlama (koyun,
dana)

☐
☐
☐

Aşağıdaki görselde tükettiğiniz et şiş (koyun, dana) yemeğinin birim porsiyonunu belirtiniz. *



Et şiş 45 A



Et şiş 45 B



Et şiş 45 C

A

B

C

Et şiş (koyun, dana)

☐☐☐

Aşağıdaki görselde tükettiğiniz et (koyun, dana) sote yemeğinin birim porsiyonunu belirtiniz. *



Et Sote 46 A



Et Sote 46 B



Et Sote 46 C

A

B

C

Et sote (koyun, dana)

☐☐☐

Aşağıdaki görsele göre tükettiğiniz sebzeli et ve tavuk yemeği birim porsiyonunu belirtiniz. *



Sebzeli Et Yemeği 47 A



Sebzeli Et Yemeği 47 B



Sebzeli Et Yemeği 47 C

A

B

C

Sebzeli tavuk yemeği

☐☐☐

Sebzeli et yemeği (koyun, dana)

☐☐☐

Aşağıdaki görselde, kızarmış köfte görselini referans alarak tükettiğiniz kızarmış köfte ve ızgara sade köfte miktarını ve sebzeli köftenin birim porsiyonunu belirtiniz. *



	A	B	C
Sebzeli Köfte	☐	☐	☐
Izgara sade Köfte	☐	☐	☐
Kızarmış sade Köfte	☐	☐	☐

Derili (haşlama) tavuk ve derisiz (ızgara) tavuk. Et haşlama, et şiş, et sote, sebzeli et ve sebzeli tavuk yemeği tüketim sıklığınızı belirtiniz. *

	Hiç / <ayda 1	Ayda 1- 3	Haftada 1	Haftada 2-4	Haftada 5-6	Günde 1	Günde 2-3	Günde 4-5	Günde > 6
Derisiz (ızgara) tavuk	☐	☐	☐	☐	☐	☐	☐	☐	☐
Derili (haşlama) tavuk	☐	☐	☐	☐	☐	☐	☐	☐	☐
Kızarmış sade köfte	☐	☐	☐	☐	☐	☐	☐	☐	☐
Sebzeli et yemeği	☐	☐	☐	☐	☐	☐	☐	☐	☐
Izgara sade köfte	☐	☐	☐	☐	☐	☐	☐	☐	☐
Et sote (koyun, dana)	☐	☐	☐	☐	☐	☐	☐	☐	☐
Et şiş (koyun, dana)	☐	☐	☐	☐	☐	☐	☐	☐	☐
Sebzeli Köfte	☐	☐	☐	☐	☐	☐	☐	☐	☐
Sebzeli tavuk Yemeği	☐	☐	☐	☐	☐	☐	☐	☐	☐
Et haşlama	☐	☐	☐	☐	☐	☐	☐	☐	☐

Aşağıdaki görsele göre tükettiğiniz balık kızartma ve balık ızgara birim porsiyonunu belirtiniz. *



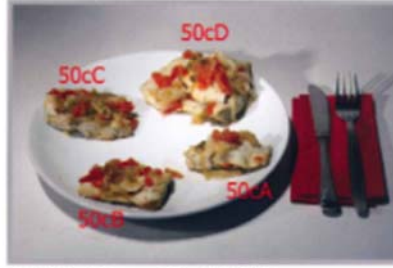
Balık Kızartma 50aA-B-C



Balık Izgara 50bA-B-C

	A	B	C
Balık Kızartma (50a ile başlayanlar)	☐	☐	☐
Balık Izgara (50b ile başlayanlar)	☐	☐	☐

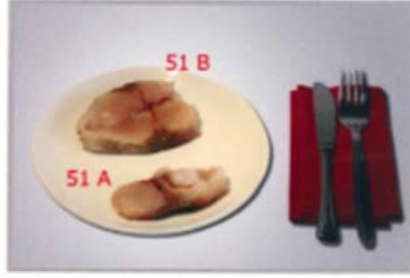
Aşağıdaki görsele göre tükettiğiniz balık buğulama-balık fırın birim porsiyonunu belirtiniz. *



Balık Buğulama 50cA-B-C-D

	A	B	C	D
Balık Buğulama-Fırın	☐	☐	☐	☐

Aşağıdaki görsele göre tükettiğiniz balık füme (lakerda-çiroz) birim porsiyonunu belirtiniz. *



Balık Füme 51 A-B

A

B

Balık Füme (Lakerda - Çiroz)

☐☐

Balık kızartma, balık ızgara, balık buğulama (fırın), balık füme (lakerda, çiroz) tüketim sıklığınızı belirtiniz. *

	Hiç / <ayda 1	Ayda 1- 3	Haftada 1	Haftada 2-4	Haftada 5-6	Günde 1	Günde 2-3	Günde 4-5	Günde > 6
Balık Kızartma	☐	☐	☐	☐	☐	☐	☐	☐	☐
Balık buğulama	☐	☐	☐	☐	☐	☐	☐	☐	☐
Balık ızgara	☐	☐	☐	☐	☐	☐	☐	☐	☐
Balık füme (lakerda, çiroz)	☐	☐	☐	☐	☐	☐	☐	☐	☐

Aşağıdaki görsele göre tükettiğiniz sucuk, salam ve kellenin birim porsiyonunu belirtiniz. *



Sucuk S3 A-B-C-D



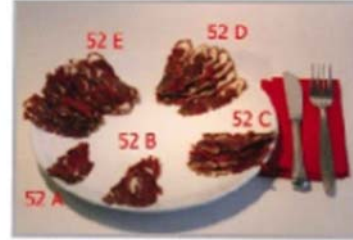
Salam S4 A-B-C-D



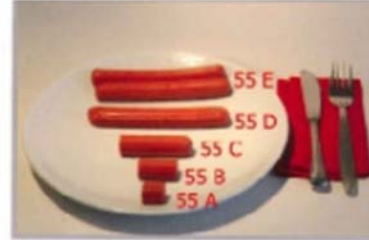
Kelle S7 A-B-C-D

	A	B	C	D
Salam	☐	☐	☐	☐
Sucuk	☐	☐	☐	☐
Kelle	☐	☐	☐	☐

Aşağıdaki görsele göre tükettiğiniz pastırma ve sosisin birim porsiyonunu belirtiniz. *



Pastırma S2 A-B-C-D-E



Sosis S5 A-B-C-D-E

	A	B	C	D	E
Sosis	☐	☐	☐	☐	☐
Pastırma	☐	☐	☐	☐	☐

Aşağıdaki görsele göre tükettiğiniz içkembe çorbası, ciğer sote ve dil fümenin birim porsiyonunu belirtiniz. *



	A	B	C
İçkembe Çorbası	☐	☐	☐
Dil Füme	☐	☐	☐
Ciğer Sote	☐	☐	☐

Aşağıdaki görsele göre tükettiğiniz kokorecin birim porsiyonunu belirtiniz. *



Kokoreç 58 A-B

	A	B
Kokoreç	☐	☐

Sucuk, salam, kelle, pastırma, sosis, içkembe çorbası, ciğer sote, dil füme ve kokoreç tüketim sıklığınızı belirtiniz. *

	Hiç / <ayda 1	Ayda 1- 3	Haftada 1	Haftada 2-4	Haftada 5-6	Günde 1	Günde 2-3	Günde 4-5	Günde > 6
Kelle	☐	☐	☐	☐	☐	☐	☐	☐	☐
Kokoreç	☐	☐	☐	☐	☐	☐	☐	☐	☐
Salam	☐	☐	☐	☐	☐	☐	☐	☐	☐
Pastırma	☐	☐	☐	☐	☐	☐	☐	☐	☐
Sosis	☐	☐	☐	☐	☐	☐	☐	☐	☐

Ciğer Sote	☐	☐	☐	☐	☐	☐	☐	☐	☐
Sucuk	☐	☐	☐	☐	☐	☐	☐	☐	☐
Dil Fıme	☐	☐	☐	☐	☐	☐	☐	☐	☐
İşkembe Çorbası	☐	☐	☐	☐	☐	☐	☐	☐	☐

Geçtiğimiz yıl boyunca aşağıdaki yemekleri ortalama olarak ne sıklıkta tükettiniz?

Aşağıdaki görsele göre tükettiğiniz zeytinyağlı sebze yemeğinin birim porsiyonunu belirtiniz. *



Zeytinyağlı Sebze Yemeği 61aA

Zeytinyağlı Sebze Yemeği 61aB

Zeytinyağlı Sebze Yemeği 61aC

A

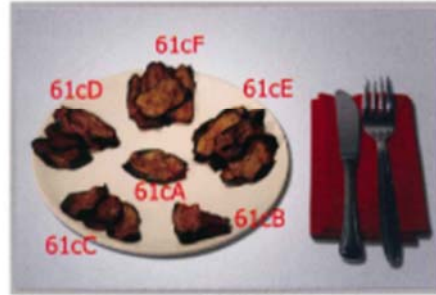
B

C

Sebze yemeği

☐
☐
☐

Aşağıdaki görsele göre tükettiğiniz sebze kızartmasının birim porsiyonunu belirtiniz. *



Sebze Kızartması 61cA-B-C-D-E-F

A

B

C

D

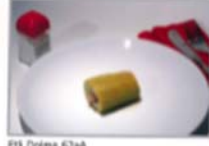
E

F

Sebze Kızartması

☐
☐
☐
☐
☐
☐

Aşağıdaki görselle göre tükettiğiniz etli dolmanın birim porsiyonunu belirtiniz. *



Etli Dolma 62aA



Etli Dolma 62aB



Etli Dolma 62aC

A

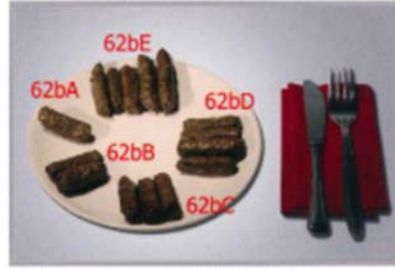
B

C

Etli Dolma

☐☐☐

Aşağıdaki görselle göre tükettiğiniz zeytinyağlı sarmanın birim porsiyonunu belirtiniz. *



Zeytinyağlı Sarma 62bA-B-C-D-E

A

B

C

D

E

Zeytinyağlı
Sarma

☐☐☐☐☐

Aşağıdaki görseli referans olarak tükettiğiniz sebze çorbası, domates çorbası ve hazır çorbanın birim porsiyonunu belirtiniz. *



Domates Çorbası 63bA



Domates Çorbası 63bB



Domates Çorbası 63bC

A

B

C

Sebze Çorbası

☐☐☐

Hazır Çorba

☐☐☐

Domates Çorbası

☐☐☐

Aşağıdaki görsele göre tükettiğiniz un, pirinç ya da hamurla (şehriye, erişte, vb.) yapılan çorbaların birim porsiyonunu belirtiniz. *



Pirinç Çorbası 63aA



Pirinç Çorbası 63aB



Pirinç Çorbası 63aC

A

B

C

Pirinç, un, şehriye,
erişte ile yapılan
çorbalar

☐
☐
☐

Aşağıdaki görsele göre tükettiğiniz yoğurt ile yapılan çorbaların birim porsiyonunu belirtiniz. *



Yoğurt Çorbası 63cA



Yoğurt Çorbası 63cB



Yoğurt Çorbası 63cC

A

B

C

Yoğurt ile yapılan
çorbalar

☐
☐
☐

Aşağıdaki görseli referans alarak tükettiğiniz mercimek ve tarhana çorbasının birim porsiyonunu belirtiniz. *



Mercimek Çorbası 63dA



Mercimek Çorbası 63dB



Mercimek Çorbası 63dC

A

B

C

Mercimek Çorbası

☐
☐
☐

Tarhana Çorbası

☐
☐
☐

Aşağıdaki görsele göre tükettiğiniz köfteli çorbaların birim porsiyonunu belirtiniz.

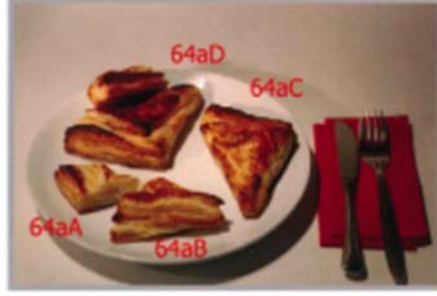


	A	B	C
Köfteli Çorbalar	☐	☐	☐

Zeytinyağlı sebze yemeği, sebze kızartması, etli dolma, zeytinyağlı sarma, sebze çorbası, domates çorbası, hazır çorba, pirinç (un, şehriye) ile yapılan çorbalar, yoğurtlu çorba, mercimek çorba, tarhana çorbası ve köfteli çorba tüketim sıklığınızı belirtiniz. *

	Hiç / ayda 1	Ayda 1- 3	Haftada 1	Haftada 2-4	Haftada 5-6	Günde 1	Günde 2-3	Günde 4-5	Günde > 6
Sebze Çorbası	☐	☐	☐	☐	☐	☐	☐	☐	☐
Zeytinyağlı sebze yemeği	☐	☐	☐	☐	☐	☐	☐	☐	☐
Hazır Çorba	☐	☐	☐	☐	☐	☐	☐	☐	☐
Sebze Kızartması	☐	☐	☐	☐	☐	☐	☐	☐	☐
Mercimek Çorbası	☐	☐	☐	☐	☐	☐	☐	☐	☐
Zeytinyağlı sarma	☐	☐	☐	☐	☐	☐	☐	☐	☐
Etlü Dolma	☐	☐	☐	☐	☐	☐	☐	☐	☐
Yoğurt Çorbası	☐	☐	☐	☐	☐	☐	☐	☐	☐
Domates Çorbası	☐	☐	☐	☐	☐	☐	☐	☐	☐
Pirinç-un-şehriye ile yapılan çorba	☐	☐	☐	☐	☐	☐	☐	☐	☐
Köfteli Çorba	☐	☐	☐	☐	☐	☐	☐	☐	☐
Tarhana Çorbası	☐	☐	☐	☐	☐	☐	☐	☐	☐

Aşağıdaki görsele göre tükettiğiniz kızartılarak hazırlanan ıspanaklı, sebzeli böreğin birim porsiyonunu belirtiniz. *



Sebzeli Milföy Börek 64aA-B-C-D

A

B

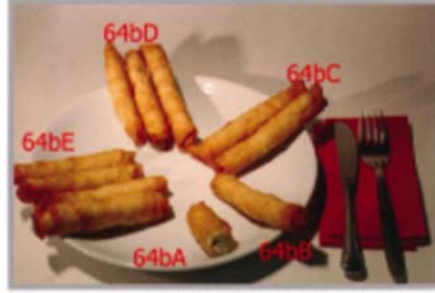
C

D

İspanaklı sebzeli
kızarmış börek

☐☐☐☐

Aşağıdaki görsele göre tükettiğiniz kızartılarak hazırlanan peynirli, kıymalı, etli böreğin birim porsiyonunu belirtiniz. *



Kızarmış Peynirli Börek 64bA-B-C-D-E

A

B

C

D

E

Peynirli, etli,
kıymalı
kızarmış
börek

☐☐☐☐☐

Aşağıdaki görsele göre tükettiğiniz fırında pişirilmiş sebzeli, ıspanaklı, peynirli, kıymalı, etli böreğin birim porsiyonunu belirtiniz. *



Sebzeli Fırında Börek 65aA-B-C-D



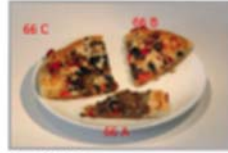
Etli Fırında Börek 65bA-B-C-D

	A	B	C	D
Etli, kıymalı, peynirli fırın börek	☐	☐	☐	☐
Sebzeli, ıspanaklı fırın börek	☐	☐	☐	☐

Sebzeli, ıspanaklı kızartmış ve fırın börek ve etli, kıymalı, peynirli kızarmış ve fırın börek tüketim sıklığınızı belirtiniz. *

	Hiç / <ayda 1	Ayda 1- 3	Haftada 1	Haftada 2-4	Haftada 5-6	Günde 1	Günde 2-3	Günde 4-5	Günde > 6
Sebzeli, ıspanaklı fırın börek	☐	☐	☐	☐	☐	☐	☐	☐	☐
Etli, kıymalı, peynirli kızarmış börek	☐	☐	☐	☐	☐	☐	☐	☐	☐
Etli, kıymalı, peynirli fırın börek	☐	☐	☐	☐	☐	☐	☐	☐	☐
Sebzeli, ıspanaklı kızarmış börek	☐	☐	☐	☐	☐	☐	☐	☐	☐

Aşağıdaki görsele göre tükettiğiniz pizzanın birim porsiyonunu belirtiniz. *



Pizza 66 A-B-C



Pizza 66 D



Pizza 66 E

A

B

C

D

E

Pizza

☐
☐
☐
☐
☐

Aşağıdaki görsele göre tükettiğiniz lahmacunun birim porsiyonunu belirtiniz. *



Lahmacun 67 A-B-C



Lahmacun 67 D



Lahmacun 67 E

A

B

C

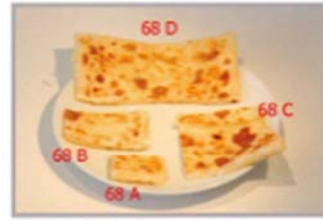
D

E

Lahmacun

☐
☐
☐
☐
☐

Aşağıdaki görsele göre tükettiğiniz sebzeli, ıspanaklı, etli, kıymalı, peynirli gözlemenin birim porsiyonunu belirtiniz. *



Gözleme 68 A-B-C-D



Gözleme 68 E

A

B

C

D

E

Etli, kıymalı,
peynirli
gözleme

☐
☐
☐
☐
☐

Sebzeli,
ıspanaklı
gözleme

☐
☐
☐
☐
☐

Aşağıdaki görsele göre tükettiğiniz mantı (sade) birim porsiyonunu belirtiniz. *



Mantı 69 A



Mantı 69 B



Mantı 69 C

A

B

C

Mantı

☐
☐
☐

Pizza, lahmacun, gözleme, mantı tüketim sıklığınızı belirtiniz. *

	Hiç / <ayda 1	Ayda 1- 3	Haftada 1	Haftada 2-4	Haftada 5-6	Günde 1	Günde 2-3	Günde 4-5	Günde > 6
Etili, kıymalı, peynirli gözleme	☐	☐	☐	☐	☐	☐	☐	☐	☐
Sebzeli, ıspanaklı gözleme	☐	☐	☐	☐	☐	☐	☐	☐	☐
Lahmacun	☐	☐	☐	☐	☐	☐	☐	☐	☐
Mantı	☐	☐	☐	☐	☐	☐	☐	☐	☐
Pizza	☐	☐	☐	☐	☐	☐	☐	☐	☐

Geçtiğimiz yıl boyunca aşağıdaki ekmek, tahıl ve nişasta türlerini ortalama olarak ne sıklıkta tükettiniz?

Aşağıdaki görsele göre tükettiğiniz sade pirinç pilavı ve etli-tavuklu pirinç pilavı porsiyonunu belirtiniz. *



Sade Pirinç Pilavı 70aA



Sade Pirinç Pilavı 70aB



Sade Pirinç Pilavı 70aC



Etli Pirinç Pilavı 70bA



Etli Pirinç Pilavı 70bB



Etli Pirinç Pilavı 70bC

A

B

C

Sade pirinç pilavı

☐☐☐

Etli, tavuklu pirinç pilavı

☐☐☐

Aşağıdaki görsele göre tükettiğiniz pide ve yufka ekmeği porsiyonunu belirtiniz. *



A

B

C

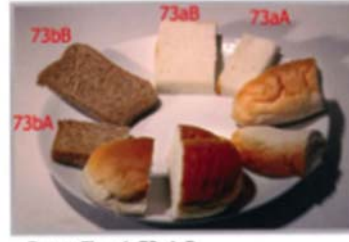
Yufka ekmeği

☐☐☐

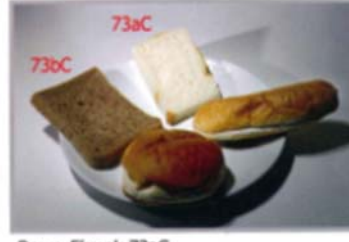
Pide

☐☐☐

Aşağıdaki görsele göre tükettiğiniz beyaz ekmek ve esmer ekmek porsiyonunu belirtiniz. *



Beyaz Ekmek 73aA-B
Kepekli Ekmek 73bA-B



Beyaz Ekmek 73aC
Kepekli Ekmek 73bC

A

B

C

Beyaz ekmek (73a ile başlayanlar)

☐
☐
☐

Kepek Ekmek (73b ile başlayanlar)

☐
☐
☐

Aşağıdaki görsele göre tükettiğiniz mısır ekmeği porsiyonunu belirtiniz. *



Mısır Ekmeği 72 A-B-C-D

A

B

C

D

Mısır ekmeği

☐
☐
☐
☐

Aşağıdaki görsele göre tükettiğiniz bulgur pilavı porsiyonunu belirtiniz. *



Bulgur Pilavı 74aA



Bulgur Pilavı 74aB



Bulgur Pilavı 74aC

A

B

C

Bulgur pilavı

☐
☐
☐

Aşağıdaki görsele göre tükettiğiniz kısır miktarının porsiyonunu belirtiniz. *



Kısır 74bA-B



Kısır 74bC

A

B

C

Kısır

☐☐☐

Aşağıdaki görsele göre tükettiğiniz sade ve peynirli ve etli/ kıymalı makarna miktarının porsiyonunu belirtiniz. *



Sade Makarna 75aA



Sade Makarna 75aB



Sade Makarna 75aC



Peynirli Makarna 75cA



Peynirli Makarna 75cB



Peynirli Makarna 75cC

A

B

C

Peynirli Makarna

☐☐☐

Etli/ kıymalı Makarna
(peynirli makarna
görselini baz alın)

☐☐☐

Sade Makarna

☐☐☐

Aşağıdaki görsele göre tükettiğiniz sebzeli makarna miktarının porsiyonunu belirtiniz. *



Sebzeli Makarna 75bA



Sebzeli Makarna 75bB



Sebzeli Makarna 75bC

A

B

C

Sebzeli makarna

☐☐☐

Aşağıdaki görsele göre tükettiğiniz patates kızartması miktarının porsiyonunu belirtiniz. *



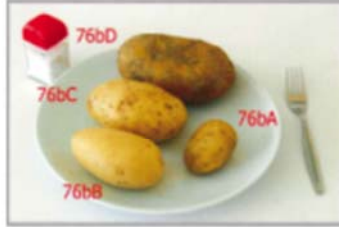
Patates Kızartması 76aA-B-C-D-E



Patates Kızartması 76aF

	A	B	C	D	E	F
Patates Kızartması	☐	☐	☐	☐	☐	☐

Aşağıdaki görsele göre tükettiğiniz haşlanmış patates miktarının porsiyonunu belirtiniz. *



Haşlanmış Patates 76bA-B-C-D

	A	B	C	D
Haşlanmış patates	☐	☐	☐	☐

Aşağıdaki görsele göre tükettiğiniz patates püresi miktarının porsiyonunu belirtiniz. *



Patates Püresi 77 A-B-C-D-E

	A	B	C	D	E
Patates Püresi	☐	☐	☐	☐	☐

Sade pilav, etli-tavuklu pilav, pide, yufka ekmeđi, beyaz ekmek, esmer ekmek, mısır ekmeđi, bulgur pilavı, kısır, sade makarna, peynirli makarna, etli/kıymalı makarna, sebzeli makarna, patates kızartması, haşlanmış patates ve patates püresi tüketim sıklığınızınizi belirtiniz. *

	Hiç / ayda 1	Ayda 1- 3	Haftada 1	Haftada 2-4	Haftada 5-6	Günde 1	Günde 2-3	Günde 4-5	Günde > 6
Peynirli makarna	☐	☐	☐	☐	☐	☐	☐	☐	☐
Esmer Ekmek	☐	☐	☐	☐	☐	☐	☐	☐	☐
Haşlanmış Patates	☐	☐	☐	☐	☐	☐	☐	☐	☐
Sebzeli Makarna	☐	☐	☐	☐	☐	☐	☐	☐	☐
Pide	☐	☐	☐	☐	☐	☐	☐	☐	☐
Yufka Ekmeđi	☐	☐	☐	☐	☐	☐	☐	☐	☐
Sade Pilav	☐	☐	☐	☐	☐	☐	☐	☐	☐
Kısır	☐	☐	☐	☐	☐	☐	☐	☐	☐
Patates Kızartması	☐	☐	☐	☐	☐	☐	☐	☐	☐
Mısır Ekmeđi	☐	☐	☐	☐	☐	☐	☐	☐	☐
Patates Püresi	☐	☐	☐	☐	☐	☐	☐	☐	☐
Sade makarna	☐	☐	☐	☐	☐	☐	☐	☐	☐
Etli/ kıymalı makarna	☐	☐	☐	☐	☐	☐	☐	☐	☐
Etli- tavuklu Pilav	☐	☐	☐	☐	☐	☐	☐	☐	☐
Bulgur Pilavı	☐	☐	☐	☐	☐	☐	☐	☐	☐
Beyaz Ekmek	☐	☐	☐	☐	☐	☐	☐	☐	☐

Aşağıdaki görsele göre tükettiğiniz yulaf müsli ve mısır gevreği miktarının porsiyonunu belirtiniz. *



Yulaf Müsli 78aA



Yulaf Müsli 78bB



Yulaf Müsli 78cC



Mısır Gevreği 78bA



Mısır Gevreği 78bB



Mısır Gevreği 78cC

A

B

C

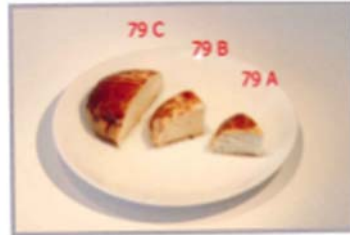
Mısır Gevreği

☐
☐
☐

Yulaf Müsli

☐
☐
☐

Aşağıdaki görsele göre tükettiğiniz poğaçanın miktarının porsiyonunu belirtiniz. *



Poğaçanın 79 A-B-C



Poğaçanın 79 D

A

B

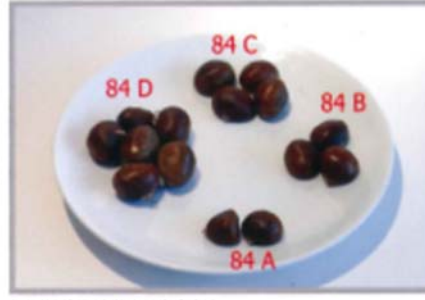
C

D

Poğaçanın

☐
☐
☐
☐

Aşağıdaki görsele göre tükettiğiniz közlenmiş/ haşlanmış kestane miktarının porsiyonunu belirtiniz. *



Kestane 84 A-B-C-D

	A	B	C	D
Kestane	☐	☐	☐	☐

Yulaf Müsli, mısır gevreği, poğaça, açma, simit, bisküvi, diyet bisküvi, haşlanmış/ közlenmiş mısır, haşlanmış/ közlenmiş kestane tüketim sıklığınızı belirtiniz. *

	Hiç / <ayda 1	Ayda 1- 3	Haftada 1	Haftada 2-4	Haftada 5-6	Günde 1	Günde 2-3	Günde 4-5	Günde > 6
Bisküvi	☐	☐	☐	☐	☐	☐	☐	☐	☐
Simit	☐	☐	☐	☐	☐	☐	☐	☐	☐
Yulaf Müsli	☐	☐	☐	☐	☐	☐	☐	☐	☐
Haşlanmış/ Közlenmiş Mısır	☐	☐	☐	☐	☐	☐	☐	☐	☐
Diyet Bisküvi	☐	☐	☐	☐	☐	☐	☐	☐	☐
Mısır Gevreği	☐	☐	☐	☐	☐	☐	☐	☐	☐
Haşlanmış/ Közlenmiş Kestane	☐	☐	☐	☐	☐	☐	☐	☐	☐
Açma	☐	☐	☐	☐	☐	☐	☐	☐	☐
Poğaça	☐	☐	☐	☐	☐	☐	☐	☐	☐

Geçtiğimiz yıl boyunca aşağıdaki içecekleri ortalama olarak ne sıklıkta tükettiniz?

Aşağıdaki görseli referans alarak tükettiğiniz meyve suyu, limonata ve şerbet miktarının porsiyonunu belirtiniz. *



Meyve Suyu 85 A



Meyve Suyu 85 B



Meyve Suyu 85 C

	A	B	C
Meyve Suyu	☐	☐	☐
Şerbet	☐	☐	☐
Limonata	☐	☐	☐

Aşağıdaki görsele göre tükettiğiniz komposto / hoşaf miktarının porsiyonunu belirtiniz. *



Komposto 86 A



Komposto 86 B



Komposto 86 C

	A	B	C
Komposto / hoşaf	☐	☐	☐

Kahve (Türk kahvesi, çözünebilir kahve), çay, kola (pepsi, fanta, gazoz) diyet kola, meyve suyu, limonata, şerbet, komposto/ hoşaf tüketim sıklığınızı belirtiniz. *

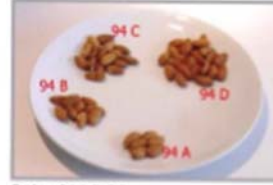
	Hiç / ayda 1	Ayda 1- 3	Haftada 1	Haftada 2-4	Haftada 5-6	Günde 1	Günde 2-3	Günde 4-5	Günde > 6
Şerbet	☐	☐	☐	☐	☐	☐	☐	☐	☐
Meyve Suyu	☐	☐	☐	☐	☐	☐	☐	☐	☐
Türk kahvesi (çay kaşığı)	☐	☐	☐	☐	☐	☐	☐	☐	☐
Çözünebilir Kahve (çay)	☐	☐	☐	☐	☐	☐	☐	☐	☐

Geçtiğimiz yıl boyunca aşağıdaki kuruyemişleri ortalama olarak ne sıklıkta tükettiniz?

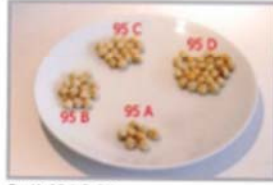
Aşağıdaki görsele göre tükettiğiniz ceviz, badem, fındık ve ayçekirdeği miktarının porsiyonunu belirtiniz. *



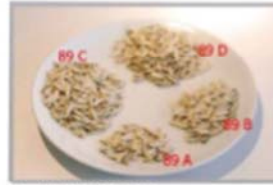
Ceviz 93 A-B-C-D



Badem 94 A-B-C-D



Fındık 95 A-B-C-D



Ayçekirdeği 89 A-B-C-D

	A	B	C	D
Fındık	☐	☐	☐	☐
Ceviz	☐	☐	☐	☐
Ayçekirdeği	☐	☐	☐	☐
Badem	☐	☐	☐	☐

Kola (su bardağı)	☐	☐	☐	☐	☐	☐	☐	☐	☐
Çay (çay bardağı)	☐	☐	☐	☐	☐	☐	☐	☐	☐
Pepsi (pepsi, fanta, gazoz) su bardağı	☐	☐	☐	☐	☐	☐	☐	☐	☐
Limonata	☐	☐	☐	☐	☐	☐	☐	☐	☐
Diyet Kola (su bardağı)	☐	☐	☐	☐	☐	☐	☐	☐	☐
Komposto/hoşaf	☐	☐	☐	☐	☐	☐	☐	☐	☐



Aşağıdaki görsele göre tükettiğiniz yer fıstığı, kabak çekirdeği, leblebi, antep fıstığı miktarının porsiyonunu belirtiniz. *



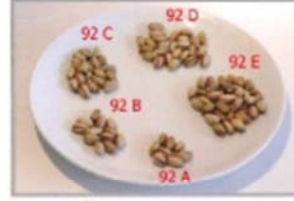
Yer Fıstığı 96 A-B-C-D-E



Kabak Çekirdeği 90 A-B-C-D-E



Leblebi 91 A-B-C-D-E



Antep Fıstığı 92 A-B-C-D-E

	A	B	C	D	E
Leblebi	☐	☐	☐	☐	☐
Kabak Çekirdeği	☐	☐	☐	☐	☐
Antep Fıstığı	☐	☐	☐	☐	☐
Yer fıstığı	☐	☐	☐	☐	☐

Ceviz, badem, fındık, ay çekirdeği, yer fıstığı, kabak çekirdeği, leblebi, antep fıstığı tüketim sıklığınızı belirtiniz. *

	Hiç / <ayda 1	Ayda 1- 3	Haftada 1	Haftada 2-4	Haftada 5-6	Günde 1	Günde 2-3	Günde 4-5	Günde > 6
Antep Fıstığı	☐	☐	☐	☐	☐	☐	☐	☐	☐
Kabak çekirdeği	☐	☐	☐	☐	☐	☐	☐	☐	☐
Ay çekirdeği	☐	☐	☐	☐	☐	☐	☐	☐	☐
Fındık	☐	☐	☐	☐	☐	☐	☐	☐	☐
Yer fıstığı	☐	☐	☐	☐	☐	☐	☐	☐	☐
Ceviz	☐	☐	☐	☐	☐	☐	☐	☐	☐
Leblebi	☐	☐	☐	☐	☐	☐	☐	☐	☐
Badem	☐	☐	☐	☐	☐	☐	☐	☐	☐

Geçtiğimiz yıl boyunca aşağıdaki abur cubur ve tatlıları ortalama olarak ne sıklıkta tükettiniz?

Aşağıdaki görsele göre tükettiğiniz cips miktarını ve cips miktarını referans olarak tükettiğiniz kraker miktarının porsiyonunu belirtiniz. *



Potates Cipsi 97aA-B-C



Potates Cipsi 97aD



Mısır Cipsi 97bA-B-C



Mısır Cipsi 97bD

	A	B	C	D
Mısır cipsi	☐	☐	☐	☐
Kraker	☐	☐	☐	☐
Potates cipsi	☐	☐	☐	☐

Aşağıdaki görsele göre Baklava porsiyonundan yola çıkarak tükettiğiniz baklava, kadayıf, künefe, revani, şambaba gibi tatlı porsiyonlarınızı, kabak tatlısı porsiyonundan yola çıkarak tükettiğiniz kabak tatlısı ve ayva tatlısı porsiyonunuzu ve irmik helvası porsiyonunuzu belirtiniz. *



Baklava 98 A-B-C-D-E



İrmik Helvası 101 A-B-C-D-E



Kabak Tatlısı 100 A-B-C-D-E

	A	B	C	D	E
Baklava	☐	☐	☐	☐	☐
İrmik helvası	☐	☐	☐	☐	☐
Ayva Tatlısı	☐	☐	☐	☐	☐
Kabak tatlısı	☐	☐	☐	☐	☐
Revani	☐	☐	☐	☐	☐

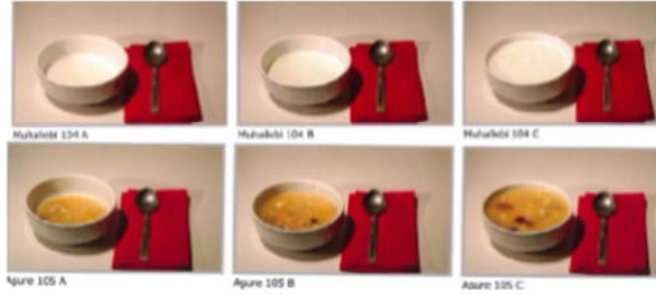
Künefe	☐	☐	☐	☐	☐
Şambaba	☐	☐	☐	☐	☐
Kadayıf	☐	☐	☐	☐	☐

Aşağıdaki görsele göre Tulumba görselinden yola çıkarak tükettiğiniz tulumba, lokma porsiyonlarınızı, un helvası ve kek porsiyonunuzu belirtiniz. *



	A	B	C	D
Lokma	☐	☐	☐	☐
Tulumba Tatlısı	☐	☐	☐	☐
Un helvası	☐	☐	☐	☐
Kek	☐	☐	☐	☐

Aşağıdaki belirtilen muhallebi görselini referans alarak, sütlaç, kazandibi, tavuk göğsü porsiyonunuzu ve aşure porsiyonunuzu belirtiniz. *



	A	B	C
Aşure	☐	☐	☐
Kazandibi	☐	☐	☐
Tavuk Göğsü	☐	☐	☐
Sütlaç	☐	☐	☐
Muhallebi	☐	☐	☐

Aşağıdaki görsele göre tükettiğiniz yaş pasta porsiyonunuzu belirtiniz. *



Yaş Pasta 107 A-B-C-D-E



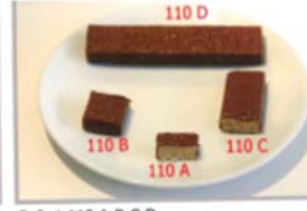
Yaş Pasta 107 F

	A	B	C	D	E	F
Yaş Pasta	☐	☐	☐	☐	☐	☐

Aşağıdaki görsele göre tükettiğiniz çikolata ve gofret porsiyonunuzu belirtiniz. *



Çikolata 109 A-B-C-D



Gofret 110 A-B-C-D

	A	B	C	D
Gofret	☐	☐	☐	☐
Çikolata	☐	☐	☐	☐

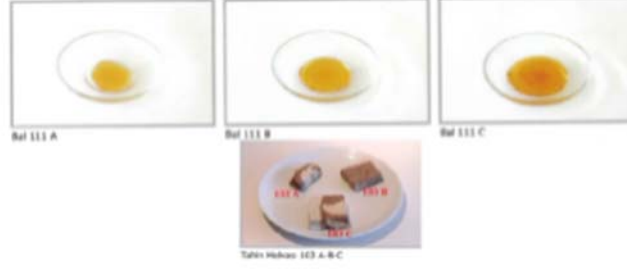
Aşağıdaki görsele göre tükettiğiniz şekerleme porsiyonunuzu belirtiniz. *



Şekerleme 108 A-B-C-D-E

	A	B	C	D	E
Şekerleme	☐	☐	☐	☐	☐

Aşağıdaki görsele göre tükettiğiniz bal, reçel ve tahin helvası porsiyonunuzu belirtiniz. *



	A	B	C
Bal	☐	☐	☐
Tahin helvası	☐	☐	☐
Reçel	☐	☐	☐

Patates cipsi, mısır cipsi, kraker, baklava, kadayıf, künefe, revani, şambaba, kabak tatlısı, ayva tatlısı, ırmik helvası, tulumba tatlısı, lokma, un helvası, kek, muhallebi, sütlaç, tavuk göğsü, aşure, kazandibi, yaş pasta, çikolata, gofret, şekerleme, bal, reçel ve tahin helvası tüketim sıklığınızı belirtiniz. *

	Hiç / <ayda 1	Ayda 1- 3	Haftada 1	Haftada 2-4	Haftada 5-6	Günde 1	Günde 2-3	Günde 4-5	Günde > 6
Un helvası	☐	☐	☐	☐	☐	☐	☐	☐	☐
Aşure	☐	☐	☐	☐	☐	☐	☐	☐	☐
Bal	☐	☐	☐	☐	☐	☐	☐	☐	☐
Kek	☐	☐	☐	☐	☐	☐	☐	☐	☐
İrmik helvası	☐	☐	☐	☐	☐	☐	☐	☐	☐
Lokma	☐	☐	☐	☐	☐	☐	☐	☐	☐
Reçel	☐	☐	☐	☐	☐	☐	☐	☐	☐
Mısır cipsi	☐	☐	☐	☐	☐	☐	☐	☐	☐
Tulumba tatlısı	☐	☐	☐	☐	☐	☐	☐	☐	☐
Sütlaç	☐	☐	☐	☐	☐	☐	☐	☐	☐
Revani	☐	☐	☐	☐	☐	☐	☐	☐	☐
Şekerleme	☐	☐	☐	☐	☐	☐	☐	☐	☐
Kazandibi	☐	☐	☐	☐	☐	☐	☐	☐	☐

Evinizde ne tür yağ kullanırsınız, yağ kullanma sıklığınız nedir?

Zeytinyağı, çiçek yağı, mısır yağı, soya yağı, bitkisel yağ (katı), pamuk yağı, hidrojenlenmiş bitkisel yağ (sıvı) (1 çorba kaşığı) tüketim sıklığınızı belirtiniz. *

	Hiç / ayda 1	Ayda 1- 3	Haftada 1	Haftada 2-4	Haftada 5-6	Günde 1	Günde 2-3	Günde 4-5	Gü >
Pamuk yağı (1 çorba kaşığı)	☐	☐	☐	☐	☐	☐	☐	☐	☐
Zeytinyağı (1 çorba kaşığı)	☐	☐	☐	☐	☐	☐	☐	☐	☐
Soya yağı (1 çorba kaşığı)	☐	☐	☐	☐	☐	☐	☐	☐	☐
Bitkisel yağ (katı)	☐	☐	☐	☐	☐	☐	☐	☐	☐
Mısır yağı (1 çorba kaşığı)	☐	☐	☐	☐	☐	☐	☐	☐	☐
Hidrojenlenmiş (margarin) yağı (1 çorba kaşığı)	☐	☐	☐	☐	☐	☐	☐	☐	☐
Çiçek yağı (1 çorba kaşığı)	☐	☐	☐	☐	☐	☐	☐	☐	☐

Katılımınız için teşekkür ederiz.

7.4. Appendix: Curruculum Vitae

Kişisel Bilgiler

Adı	Büşra	Soyadı	Çelik
E-mail	busracelik.bc@gmail.com	Tel	

Öğrenim Durumu

Derece	Alan	Mezun Olduğu Kurumun Adı	Mezuniyet Yılı
Doktora			
Yüksek Lisans			
Lisans	Beslenme ve Diyetetik	Yeditepe Üniversitesi	2020
Lise	MF-3	ATO Anadolu Lisesi	2015

İş Deneyimi (Sondan geçmişe doğru sıralayın)

Görevi	Kurum	Süre (Yıl - Yıl)
Diet & Health	Unilever	2023-
Dietitian	360 Fit Health Center	2022-2023

Bilgisayar Bilgisi

Program	Kullanma becerisi
Microsoft (Excel, Powerpoint, Word)	İyi

*Çok iyi, iyi, orta, zayıf olarak değerlendirin

7.5. Appendix: NOVA Classification of Food Frequency Questionnaire

Besinler (100g/100 ml)	İşlenmişlik seviyesi (1,2,3,4)
Tam Yağlı Süt	1.seviye işlenmiş
Standart %2 Yağlı Süt	1.seviye işlenmiş
Az Yağlı Süt	1.seviye işlenmiş
Tam Yağlı Krem Peyniri	3.seviye işlenmiş
Az Yağlı Krem Peyniri	3.seviye işlenmiş
Tam Beyaz Beyaz Peynir	3.seviye işlenmiş
Az Yağlı Beyaz Peynir	3.seviye işlenmiş
Tam Yağlı Kaşar Peyniri	3.seviye işlenmiş
Az Yağlı Kaşar Peyniri	3.seviye işlenmiş
Tam Yağlı Yoğurt	1.seviye işlenmiş
Az Yağlı Yoğurt	1.seviye işlenmiş
Ayran	3.seviye işlenmiş
Tereyağı	2.seviye işlenmiş
Sıvı Margarin	4.seviye işlenmiş
Dondurma	4.seviye işlenmiş
Krema	4.seviye işlenmiş
Kaymak	2.seviye işlenmiş
Elma	1.seviye işlenmiş
Kivi	1.seviye işlenmiş
Muz	1.seviye işlenmiş
Kuru Üzüm	1.seviye işlenmiş
Kuru Dut	1.seviye işlenmiş
Kuru Kayısı (Siyah) Gün Kuruşu	1.seviye işlenmiş
Kuru Kayısı (Sarı)	1.seviye işlenmiş
Kuru İncir	1.seviye işlenmiş
Limon	1.seviye işlenmiş
Portakal	1.seviye işlenmiş
Üzüm	1.seviye işlenmiş
İncir	1.seviye işlenmiş
Erik	1.seviye işlenmiş
Armut	1.seviye işlenmiş
Kavun	1.seviye işlenmiş
Çilek	1.seviye işlenmiş
Malta Eriği	1.seviye işlenmiş
Vişne	1.seviye işlenmiş
Kiraz	1.seviye işlenmiş
Nar	1.seviye işlenmiş
Kayısı	1.seviye işlenmiş
Karpuz	1.seviye işlenmiş
Şeftali	1.seviye işlenmiş
Dut	1.seviye işlenmiş
Ayva	1.seviye işlenmiş
Trabzon Hurması	1.seviye işlenmiş

Greyfurt	1.seviye işlenmiş
Mandalina	1.seviye işlenmiş
Patlıcan	3.seviye işlenmiş
Kabak	3.seviye işlenmiş
Pancar	3.seviye işlenmiş
Brokoli	3.seviye işlenmiş
Mantar	3.seviye işlenmiş
Yeşil Fasulye	3.seviye işlenmiş
Yeşil Taze Bakla	3.seviye işlenmiş
Ispanak	3.seviye işlenmiş
Bezelye	3.seviye işlenmiş
Bamya	3.seviye işlenmiş
Karnabahar	3.seviye işlenmiş
Pırasa	3.seviye işlenmiş
Enginar	3.seviye işlenmiş
Kereviz	3.seviye işlenmiş
Pişmiş Domates	3.seviye işlenmiş
Pişmiş Lahana	3.seviye işlenmiş
Pişmiş Kırmızı Biber	3.seviye işlenmiş
Pişmiş Yeşil Dolmalık Biber	3.seviye işlenmiş
Pişmiş Semizotu	3.seviye işlenmiş
Havuç (Çiğ)	1.seviye işlenmiş
Havuç (Pişmiş)	1.seviye işlenmiş
Soğan (Pişmiş)- Yağ Eklenmiş	1.seviye işlenmiş
Soğan (Çiğ)	1.seviye işlenmiş
Turp	1.seviye işlenmiş
Marul	1.seviye işlenmiş
Çiğ Lahana	1.seviye işlenmiş
Çiğ Semiz Otu	1.seviye işlenmiş
Yeşil Biber (Çiğ)	1.seviye işlenmiş
Domates	1.seviye işlenmiş
Salatalık	1.seviye işlenmiş
Maydonoz	1.seviye işlenmiş
Roka	1.seviye işlenmiş
Dereotu	1.seviye işlenmiş
Taze Nane	1.seviye işlenmiş
Bal Kabağı Pişmiş-Haşlanmış	1.seviye işlenmiş
Yeşil Zeytin	3. seviye işlenmiş
Siyah Zeytin	3.seviye işlenmiş
Çiğ Sarımsak	1.seviye işlenmiş
Sarımsak Pişmiş	1.seviye işlenmiş
Sade Mercimek Yemeği Bebis	3. seviye işlenmiş
Sade Kuru Fasulye Yemeği Bebis	3. seviye işlenmiş
Sade Nohut Yemeği Bebis	3. seviye işlenmiş
Börülce Bebis	3. seviye işlenmiş
Fava Bebis	3. seviye işlenmiş

Etli Mercimek	3. seviye işlenmiş
Etli Kuru Fasulye	3.seviye işlenmiş
Etli Bezelye	3. seviye işlenmiş
Etli Nohut	3. seviye işlenmiş
Yağda Yumurta	3.seviye işlenmiş
Haşlanmış Yumurta	1.seviye işlenmiş
Sebzeli Omlet-Menemen	3.seviye işlenmiş
Kaşarlı-Etli-Sucuklu Omlet	4.seviye işlenmiş
Tavuk (Haşlama) Derili	3.seviye işlenmiş
Tavuk (Izgara)	3.seviye işlenmiş
Et Haşlama	3.seviye işlenmiş
Et Izgara	3.seviye işlenmiş
Et Sote	3.seviye işlenmiş
Sebzeli Et Yemeği	3.seviye işlenmiş
Sebzeli Tavuk Yemeği	3.seviye işlenmiş
Kızarmış Sade Köfte	3.seviye işlenmiş
Izgara Sade Köfte	3.seviye işlenmiş
Sebzeli Köfte	3.seviye işlenmiş
Balık Kızartma	3.seviye işlenmiş
Balık Izgara	3.seviye işlenmiş
Balık Buğulama	3.seviye işlenmiş
Balık Füme	3.seviye işlenmiş
Sucuk	4.seviye işlenmiş
Salam	4.seviye işlenmiş
Kelle	3.seviye işlenmiş
Pastırma	4.seviye işlenmiş
Sosis	4.seviye işlenmiş
İşkembe Çorbası	3.seviye işlenmiş
Ciğer Sote	3.seviye işlenmiş
Dil Füme	3.seviye işlenmiş
Kokoreç	3.seviye işlenmiş
Zeytinyağlı Sebze Yemeği	3.seviye işlenmiş
Sebze Kızartması	3.seviye işlenmiş
Etli Dolma	3.seviye işlenmiş
Zeytinyağlı Sarma	3.seviye işlenmiş
Sebze Çorbası	3.seviye işlenmiş
Domates Çorbası	3.seviye işlenmiş
Hazır Çorba	4.seviye işlenmiş
Pirinçli-Unlu Çorbalar	3.seviye işlenmiş
Yoğurtlu Çorbalar	3.seviye işlenmiş
Mercimek Çorbası	3.seviye işlenmiş
Tarhana Çorbası	3.seviye işlenmiş
Köfteli Çorba	3.seviye işlenmiş
Sebzeli Börek	4.seviye işlenmiş
Peynirli-Etli Kıymalı Börekler	4.seviye işlenmiş
Pizza	4.seviye işlenmiş

Lahmacun	3.seviye işlenmiş
Sebzeli Gözleme	3.seviye işlenmiş
Etli Kıymalı Peynirli Gözleme	3.seviye işlenmiş
Mantı	3.seviye işlenmiş
Prinç Pilavı	3.seviye işlenmiş
Etli Pilav	3.seviye işlenmiş
Pide	3.seviye işlenmiş
Yufka	3.seviye işlenmiş
Beyaz Ekmek	3.seviye işlenmiş
Kepek Ekmek	3.seviye işlenmiş
Mısır Ekmeği	3.seviye işlenmiş
Bulgur Pilavı	3.seviye işlenmiş
Kısır	3.seviye işlenmiş
Makarna	3.seviye işlenmiş
Peynirli - Etli Makarna	3.seviye işlenmiş
Sebzeli Makarna	3.seviye işlenmiş
Patates Kızartması	3.seviye işlenmiş
Haşlanmış Patates	1.seviye işlenmiş
Patates Püresi	3.seviye işlenmiş
Yulaf Müsli	4.seviye işlenmiş
Mısır Gevreği	4.seviye işlenmiş
Poğaç	4.seviye işlenmiş
Açma	4.seviye işlenmiş
Simit	3.seviye işlenmiş
Bisküvi	4.seviye işlenmiş
Diyet Bisküvi	4.seviye işlenmiş
Haşlanmış Mısır	1.seviye işlenmiş
Kestane	1.seviye işlenmiş
Meyve Suyu	4.seviye işlenmiş
Limonata	4.seviye işlenmiş
Komposto-Hoşaf	3.seviye işlenmiş
Türk Kahvesi	1.seviye işlenmiş
Çözünülebilir Kahve	4.seviye işlenmiş
Çay	1.seviye işlenmiş
Kola	4.seviye işlenmiş
Diyet Kola	4.seviye işlenmiş
Ceviz	1.seviye işlenmiş
Badem	1.seviye işlenmiş
Fındık	1.seviye işlenmiş
Ay Çekirdeği	1.seviye işlenmiş
Yer Fıstığı	1.seviye işlenmiş
Kabak Çekirdeği	1.seviye işlenmiş
Leblebi	1.seviye işlenmiş
Antep Fıstığı	1.seviye işlenmiş
Patates Cipsi	4.seviye işlenmiş
Mısır Cipsi	4.seviye işlenmiş

Kraker	4.seviye işlenmiş
Baklava	3.seviye işlenmiş
Şerbetli Tatlılar	3.seviye işlenmiş
Sütlü Tatlılar	3.seviye işlenmiş
Yaş Pasta	4.seviye işlenmiş
Çikolata	4.seviye işlenmiş
Gofret	4.seviye işlenmiş
Şekerleme	4.seviye işlenmiş
Bal	2.seviye işlenmiş
Reçel	2.seviye işlenmiş
Zeytinyağı	2.seviye işlenmiş
Çiçek Yağı	2.seviye işlenmiş
Mısır Yağı	2.seviye işlenmiş
Soya Yağı	2.seviye işlenmiş
Bitkisel Yağ	2.seviye işlenmiş
Pamuk Yağı	2.seviye işlenmiş
Hidrojenleşmiş Yağ (Margarin)	4.seviye işlenmiş