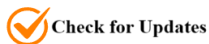


Evaluation of Menus for Athlete Nutrition in Coastal Beach Cafés Operated by Municipalities and Proposal of Alternative Menus: The Case of Trabzon Province

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Academic Editor: Akan Bayrakdar

Received: 02.05.2025

Accepted: 25.06.2025

Published: 30.06.2025

Citation: Kranda, T., Özdemir Işık, B., & Akbulut, N. (2025). Evaluation of menus for athlete nutrition in coastal beach cafés operated by municipalities and proposal of alternative menus: The case of Trabzon province. *Journal of Sport for All and Recreation*, 7(2), 344-355. <https://doi.org/10.56639/jsar.1689405>

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Abstract: This study assesses the nutritional suitability of menus in coastal beach cafés operated by Trabzon municipality for athletes. Athlete nutrition strategically manages nutrient intake to optimize performance and recovery. A survey with 175 randomly selected students from Trabzon University's Faculty of Sports Sciences evaluated demographic data, food preferences, and menu suitability perceptions. Analysis used SPSS 21.0. Findings indicated 63.4% male participants, mainly football players (42.9%). Fruits were popular snacks. Males preferred protein shakes and sports drinks; females favored herbal teas. Protein bars and carbohydrate gels were widely consumed, especially by males and athletes aged 21–23. Fatty foods were largely avoided; females were less restrictive with caffeine. The study concluded that current café offerings inadequately address athletes' nutritional requirements, recommending increased menu variety with protein bars, sports drinks, and healthy snacks for enhanced athlete performance and recovery.

Keywords: Snack, healthy nutrition, athlete nutrition, athlete menu.

1. Introduction

Athlete nutrition is a discipline that ensures the energy and nutrient requirements of individuals are met based on scientific principles to enhance physical performance, improve training adaptation, accelerate recovery, and support overall health (Akay & Öksüz, 2024). Scientific research demonstrates that athletes who correctly implement nutritional strategies experience increased training capacity, reduced injury risks, and faster recovery processes (Filiz, 2023). Athletes' daily energy and nutrient requirements vary depending on factors such as the type, intensity, duration, and frequency of the sport, environmental conditions, and individual physiological characteristics (Akay & Öksüz, 2024).

Macronutrients (carbohydrates, proteins, and fats), micronutrients (vitamins and minerals), and fluid balance are the fundamental components of athlete nutrition. Adequate and balanced intake of these components plays a critical role in maintaining and enhancing athletes' performance (Kizen, 2019). Inadequate or imbalanced nutrition can reduce training motivation, negatively affect decision-making processes, and lead to cognitive fatigue. Therefore, personalized optimal nutrition plans are of great importance for performance sustainability and overall health (Baykara, 2019). This study aims to propose snack and athlete-health-oriented menu options suitable for the nutritional needs of active athletes before and after recreational sports activities in coastal beach parks during their leisure time.

1.1. Fundamental Principles of Athlete Nutrition

Nutrition is of paramount importance for athletes to achieve optimal performance, sustain training processes efficiently, and accelerate recovery (Bayrakdar & Zorba, 2020). In the context of athlete nutrition, macronutrients and micronutrients, energy balance, performance effects, fluid intake, and hydration are considered fundamental principles (Akay & Öksüz, 2024). Nutrients are essential components for maintaining the body's physiological functions and

meeting athletes' physical requirements. Nutrients for athletes are divided into two groups: macronutrients (carbohydrates, proteins, and fats) and micronutrients (vitamins and minerals) (Bilgiç et al., 2011). Carbohydrates are the primary energy source for athletes, critical for maintaining muscle glycogen stores and providing energy during exercise (Yaman & Uğur, 2022). Daily carbohydrate needs vary based on the type of sport and individual metabolism, with pre- and post-training carbohydrate intake directly impacting performance (Şener, 2015).

Proteins are essential for muscle repair and growth, particularly for athletes engaged in resistance exercises, where protein needs increase (Kizen, 2019). Adequate protein intake is crucial for enhancing muscle protein synthesis, preventing muscle loss, and accelerating recovery. Optimal protein intake depends on the protein source, digestibility, and timing of consumption (Kafkas et al., 2017).

Fats provide energy, support hormone production, and maintain cellular functions. In endurance sports, efficient fat metabolism during prolonged training sessions enhances performance (Güner, 2002). Unsaturated fatty acids should be prioritized, while trans fats should be avoided (Filiz, 2023). Vitamins and minerals are vital for reducing oxidative stress, maintaining bone health, regulating muscle contractions, and strengthening the immune system (Güneşliol, 2019). B vitamins support energy production, while minerals such as iron, calcium, magnesium, and zinc are critical for muscle contraction, bone health, and oxygen transport capacity (Uzundiz et al., 2022). Antioxidant vitamins (e.g., C and E) can reduce exercise-induced oxidative stress, helping to prevent muscle fatigue and damage (Acar & Pepe, 2011).

1.2. Studies on Athlete-Friendly Menu Models in Cafés and Buffets

Today, offering healthy and balanced menus that meet athletes' nutritional needs is of great importance for supporting sports performance. In fast-service cafés and buffets, developing athlete-friendly nutritional alternatives plays a critical role in promoting healthy food consumption (Yılmaz, 2022). Creating athlete-friendly menus in cafés and buffets requires the balanced provision of healthy nutrients (Dunford & Dolye, 2008). Developing nutritional alternatives that meet athletes' needs before and after training supports performance while encouraging sustainable healthy lifestyle habits. In this context, healthy menu planning in fast-service settings and the implementation of athlete-friendly food and beverage alternatives should be approached systematically, based on nutritional science and athletes' requirements (Akay, 2024).

Healthy menu planning in fast-service cafés and buffets requires the balanced provision of macronutrients and micronutrients to meet the energy and nutritional needs of athletes. Menus should feature appropriate distributions of carbohydrates, proteins and fats, along with nutrient-dense food rich in vitamins and minerals (Benerdot, 2011). Offering nutrient-rich food and beverage options enhances performance and supports recovery (Acar & Pepe, 2011). Whole-grain meals such as whole-wheat pasta and quinoa salad, and protein-rich choices like chicken sandwiches, tuna salad, or peanut butter on whole-grain toast help sustain energy levels (Colombani et al., 2013). Additionally, foods free from additives and low in refined sugars and trans fats should be prioritized to promote healthy eating habits (Altundağ, 2021).

Considering athletes' limited time, menus should include quick-to-consume yet nutrient-dense options such as natural protein bars, unsweetened granola, and yogurt with fruit (Altundağ, 2021). Maintaining hydration is also crucial; thus, healthy beverages like water, natural mineral drinks, freshly squeezed juices, and additive-free protein smoothies are preferable. Instead of sugary sodas or commercial energy drinks, natural beverages with high electrolyte content, such as coconut water, are recommended (Ersoy, 2014). To support post-exercise recovery, foods rich in omega-3 fatty acids, probiotics, and essential vitamins and minerals should be included. Smoothies with flaxseeds, probiotic yogurts, and almond milk-based drinks are effective components of an athlete-focused menu (Filiz, 2023).

1.3. Current Studies and Trends in Athlete Nutrition

With increasing awareness of sustainability, environmental concerns, and health, plant-based nutrition is becoming a more popular approach among athletes (Akay, 2024). Plant-based athlete nutrition involves prioritizing plant-based protein sources over animal-based proteins, with macro- and micronutrients derived from plant-based foods. Literature suggests that plant-based diets, when ensuring adequate protein intake, can positively impact muscle mass and performance in endurance and strength athletes (Altundağ, 2021). Proper combinations of protein-rich plant-based foods such as legumes, grains, nuts, and soy-based products can meet essential amino acid requirements. However,

potential challenges include deficiencies in micronutrients like iron, vitamin B12, omega-3 fatty acids, zinc, and calcium, which can negatively affect performance if not adequately addressed (Karabudak, 2012). Recent studies indicate that plant-based athletes can maintain optimal performance with well-planned, individualized nutrition programs (Öztürk, 2017).

Recent research highlights that plant-based diets, due to their high antioxidant capacity, anti-inflammatory effects, and gut microbiota support, may accelerate athletes' recovery processes (Filiz, 2023). Additionally, new-generation plant-based protein supplements and functional foods are becoming significant supports for this nutritional model (Yaman, 2022).

In recent years, individualized approaches have gained prominence in athlete nutrition (Akay, 2024). Since each athlete's genetic makeup, metabolism, training intensity, lifestyle, and food tolerances differ, a one-size-fits-all nutrition program is unlikely to yield optimal results. Individualized nutrition strategies involve designing personalized nutrition plans tailored to an athlete's physiological needs, sport type, and goals (Dunford & Dolye, 2008). Research on the impact of genetic and metabolic differences on sports performance shows that an athlete's carbohydrate, protein, and fat metabolism, micronutrient needs, and food tolerances are unique (Yaman, 2022).

Advancements in nutrigenetics and nutrigenomics enable the determination of the most suitable nutrition model based on an athlete's genetic profile, optimizing performance and recovery (Filiz, 2023). Individualized strategies also consider gut health and microbiota balance. Recent studies on the gut microbiota's impact on nutrient absorption, immune function, and inflammation levels highlight the importance of gut-friendly foods and probiotics in athlete nutrition (Gençoğlu, 2021). Additionally, individualized hydration strategies are critical, particularly for endurance athletes, as electrolyte loss through sweat varies individually. Hydration plans should be tailored to individual sweat rates and electrolyte losses (Ersoy, 2014). Individualized nutrition strategies play a significant role in enhancing performance, accelerating recovery, and improving overall health by addressing athletes' specific needs (Benardot, 2011).

1.4. Athlete Menus Based on Meal Timing

In athlete nutrition, not only the type and quantity of nutrients but also the timing of consumption significantly impact performance. Nutrition programs planned for before, during, and after training ensure energy needs are met, optimal performance is sustained, and recovery is accelerated (Ersoy, 2014). Therefore, meal timing in athlete nutrition programs must be tailored to individual training schedules and physiological needs.

Pre-training nutrition should be carefully planned to provide sufficient energy, replenish glycogen stores, and delay muscle fatigue during exercise. Approximately 2–3 hours before training, a meal rich in carbohydrates, low in fat, and moderate in protein is recommended (Colombani et al., 2013). Carbohydrates support glycogen replenishment for sustained energy, while moderate protein intake prevents muscle breakdown and supports muscle health. Suitable pre-training foods include whole-grain bread, oats, bananas, dairy products, nuts, and peanut butter. Choosing low-glycemic-index carbohydrate sources helps maintain stable blood sugar levels, preventing energy fluctuations (Yaman & Uğur, 2022).

Post-training nutrition is critical for preventing muscle breakdown, enhancing protein synthesis, and rapidly replenishing glycogen stores. Consuming a meal combining carbohydrates and protein within 30–60 minutes post-exercise supports muscle repair and accelerates recovery (Yılmaz, 2022). Post-training foods include yogurt-oat mixtures, protein smoothies, turkey or cheese sandwiches on whole-grain bread, and boiled eggs with avocado on whole-grain toast (Bilgiç et al., 2011). Adequate fluid intake post-exercise is also essential to reduce muscle fatigue and maintain electrolyte balance (Ersoy, 2014).

1.5. Meals Containing Antioxidant and Anti-Inflammatory Foods

Intense training increases oxidative stress and inflammation in the body, potentially leading to muscle damage and prolonged recovery (Acar & Pepe, 2011). This can negatively affect performance, increase post-training muscle soreness, and elevate injury risks (Çelebi, 2019). Therefore, including antioxidant and anti-inflammatory foods in athletes' diets is crucial.

Antioxidant components such as vitamin C (oranges, strawberries, kiwis), vitamin E (almonds, hazelnuts, sunflower seeds), beta-carotene (carrots, sweet potatoes), and polyphenols (green tea, dark-colored fruits) support muscle cell regeneration post-training (Filiz, 2023). Anti-inflammatory components like omega-3 fatty acids (salmon, flaxseeds, walnuts) reduce inflammation, minimizing muscle stiffness and fatigue (Yaman, 2022). Foods rich in anti-inflammatory properties, such as turmeric, ginger, garlic, leafy greens, and tomatoes, also help control inflammation (Güneş, 2021). Notably, curcumin in turmeric is effective in alleviating post-training muscle soreness due to its strong anti-inflammatory properties. In planning functional food-based meals for athletes, a balanced combination of antioxidant and anti-inflammatory components is essential. A meal combining grilled salmon, olive oil-dressed spinach salad, almonds, and sweet potatoes synergistically enhances muscle recovery and reduces inflammation. Similarly, a post-training snack like a smoothie with green tea, dark-colored fruits, and walnuts supports recovery and sustains performance.

1.6. Customized Menu Alternatives

The importance of individualized nutrition approaches is increasing, and customized menu alternatives are being developed to meet athletes' nutritional needs, considering dietary preferences and allergen sensitivities (Filiz, 2023; Yücel, 2015). Personalized nutrition plans tailored to individual needs are essential for optimizing performance and meeting energy requirements during training and competitions. For athletes following vegan and vegetarian diets, ensuring adequate intake of protein, iron, vitamin B12, and omega-3 fatty acids is critical. Balanced menus for vegan athletes should include protein-rich plant-based foods such as legumes, whole grains, nuts, and plant-based protein supplements (Yücel, 2015; Akil, 2007). Foods like lentils, chickpeas, beans, quinoa, chia seeds, flaxseeds, tofu, tempeh, and almond milk are ideal options. Combining different protein sources (e.g., legumes and grains) ensures balanced essential amino acid intake. To ensure sufficient iron intake, dark leafy greens, dried fruits, and iron-fortified foods should be prioritized, with vitamin C-rich foods consumed concurrently to enhance absorption (Öztürk, 2018). For vitamin B12 and omega-3 fatty acids, supplements or fortified foods are recommended. In conclusion, menu planning for vegan and vegetarian athletes should consider protein quality, energy balance, and micronutrient adequacy. Developing scientifically grounded, individualized nutrition programs by dietitians ensures optimal performance and health outcomes for athletes.

2. Materials and Methods

2.1. Research Model

The study was conducted within the framework of the descriptive scanning model. Descriptive scanning research is among the methods that aim to systematically and objectively reveal the current situation in a certain universe (Karasar, 2012).

2.2. Research Group

The sample of the study consists of a total of 684 undergraduate students enrolled in the Faculty of Sports Sciences at Trabzon University during the 2024–2025 spring semester. These students are distributed across the following departments: Coaching Education (n=217), Physical Education and Sports Teaching (n=164), Recreation (n=107), and Sports Management (n=196). Due to the difficulty of reaching the entire population, a simple random sampling method was employed, and a total of 175 students were selected as the study sample. This method enhances the representativeness of the sample by providing equal selection probability for all individuals in the population.

2.3. Data Collection

A survey developed by the researcher was used to collect data on participants' menu preferences. In the preparation of the survey study, the relevant protection in the literature was used. This ability was based on the studies "Eating Habits According to Gender in the University" (Akyol & İmamoğlu, 2020), "Evaluation of Nutritional Behaviors and Status of Volleyball Federation Players of the Turkish Republic of Northern Cyprus" (Gökensel, 2019) and the study on the level of nutrition knowledge and nutrition rate of students of the Faculty of Sports Sciences of Aksaray University (Gönenc Solsun, 2021). The survey design was shortened from 10 questions, which initially consisted of 20 questions, as a result of the preliminary evaluation process carried out with expert academicians of the Faculty of Sports Sciences and the

Department of Nutrition and Dietetics of the university. This process was carried out in order to increase the increase in the survey and to ensure ease of application. The survey consists of two main sections. The first section includes five items designed to determine participants' demographic characteristics, with independent variables including gender, age, department, and sports branch. The second section comprises ten questions aimed at assessing preferences and opinions regarding athlete nutrition, covering topics such as the nutritional value, variety, and adequacy of food and beverages offered in cafés. All questions in the survey form were structured as single-answer and closed-ended. However, in some questions, the option "Other" was given to the participants to express their own statements, thus providing a semi-open-ended structure, albeit limited. The questions in question were prepared in accordance with direct quantitative analysis methods (frequency, percentage distribution, cross tables and Chi-square test when necessary).

2.4. Statistical Analysis Methods

Data analysis was conducted using the SPSS 21.0 software package. Frequency and percentage distributions were calculated to determine participants' demographic characteristics and personal information. In this study, non-parametric tests were preferred over parametric tests. This preference is due to the fact that the majority of the survey questions are measured at nominal and ordinal levels. Moreover, since the data related to participants' preferences are neither interval nor continuous, parametric tests are not suitable. In such cases, non-parametric tests, which require less stringent assumptions, are more appropriate for data analysis (Field, 2013; Siegel & Castellan, 1988).

2.5. Ethics Committee Permission

The study received ethical approval from the Trabzon University Social and Human Sciences Research and Publication Ethics Committee (Approval No: E-81614018-050.04-2500000482). Before data collection, participants were thoroughly informed about the study through a detailed presentation and subsequently provided written consent. The research was carried out in accordance with the ethical guidelines of the Declaration of Helsinki.

3. Results

Table 1. Distribution of Some Variables of Participants and Their Preferred Secondary Sports

Variables	Group	n	%	Variables	Group	n	%
Gender	Female	64	36,6	Other Sports	Boxing	9	5,1
	Male	111	63,4		Handball	7	4,0
Age	18-20	72	41,1		Taekwondo	1	0,6
	21-23	81	46,3		Darts	2	1,1
	24-26	13	7,4		Field Hockey	2	1,1
	27 and older	9	5,1		Kickboxing	1	0,6
	Phys. Ed. Sports Teach.	57	32,6		Karate	1	0,6
Department	Coaching	29	16,6		Judo	6	3,4
	Management	42	24		Wrestling	1	0,6
	Recreation	47	26,9		Fitness	2	1,1
	Football	75	42,9		Curling	3	1,7
Sport	Basketball	6	3,4		Archery	1	0,6
	Volleyball	19	10,9		Weightlifting	2	1,1
	Athletics	5	2,9		Badminton	1	0,6
	Swimming	7	4		Cycling	1	0,6
	Other	63	36		Rugby	1	0,6
					Tennis	9	5,1
					None	7	4,0

Of the participants, 63.4% were male, and 36.6% were female (Table 1). Age distribution was as follows: 18–20 years (41.1%), 21–23 years (46.3%), 24–26 years (7.4%), and 27 years and older (5.1%). Participants were distributed across departments: Physical Education and Sports Teaching (32.6%), Recreation (26.9%), Management (24%), and Coaching (16.6%). The most preferred sport was football (42.9%), with 36% choosing other secondary sports. Among those selecting "other," 11.4% did not specify a sport, with boxing (5.1%) and handball (4%) being the most selected secondary sports.

Table 2. Participants' Snack Preferences During Sports

Variables	Group	*F		*N		*P. B		*E. G		*S		*O	
		N	%	N	%	N	%	N	%	N	%	N	%
Gender	Female	27	15,4	10	5,7	14	8	3	1,7	9	5,1	1	0,6
	Male	40	22,9	26	14,9	31	17,7	3	1,7	6	3,4	5	2,9
Age	18-20	31	17,7	17	9,7	16	9,1	2	1,1	4	2,3	2	1,1
	21-23	29	16,6	14	8	25	14,3	3	1,7	8	4,6	2	1,1
	24-26	4	2,3	3	1,7	3	1,7	0	0	3	1,7	0	0
	27 and older	3	1,7	2	1,1	1	0,6	1	0,6	0	0	2	1,1
	Physical Education Sports Teaching	19	10,9	13	7,4	11	6,3	3	1,7	7	4	4	2,3
Department	Coaching	13	7,4	7	4	8	4,6	0	0	1	0,6	0	0
	Management	21	12	6	3,4	8	4,6	2	1,1	4	2,3	1	0,6
	Recreation	14	8	10	5,7	18	10,3	1	0,6	3	1,7	1	0,6
Sport	Football	34	19,4	15	8,6	16	9,1	1	0,6	5	2,9	4	2,3
	Basketball	2	1,1	2	1,1	2	1,1	0	0	0	0	0	0
	Volleyball	7	4	1	0,6	5	2,9	1	0,6	5	2,9	0	0
	Athletics	2	1,1	0	0	2	1,1	1	0,6	0	0	0	0
	Swimming	0	0	3	1,7	3	1,7	0	0	1	0,6	0	0
	Other	22	12,6	15	8,6	17	9,7	3	1,7	4	2,3	2	1,1

*F: Fruit *N: Nuts *P. B: Protein Bar *E. G: Energy Gel *S: Sandwich *O: Other

Table 2 shows the snacks preferred by the participants while doing sports. It was seen that most of the female and male participants preferred fruit as a snack while doing sports. At the same time, participants in all age groups preferred fruit the most as a snack. When the snack preferences of the participants according to their departments were examined, the majority chose fruit in other departments except the Recreation department, while the students of the Recreation department chose protein bar (10.3%) the most. When analyzed by branch, the most common snack preference in football, volleyball and other second branches were chosen as fruit. It was observed that the participants whose branch was basketball did not consume energy gel, sandwich or other options as snacks; they preferred fruit (1.1%), nuts (1.1%) and protein bar (1.1%). Participants whose branch of sport was swimming preferred nuts and protein bars instead of fruit as snacks. Three of the six participants who selected the other option did not specify their snack preference.

Table 3. Which beverages do you prefer in the café?

Variables	Group	*W		*S.D.		*P. S		*F. J		*H. T		*O	
		N	%	N	%	N	%	N	%	N	%	N	%
Gender	Female	27,00	15,40	10,00	5,70	14,00	8,00	3,00	1,70	9,00	5,10	1,00	0,60
	Male	40,00	22,90	26,00	14,90	31,00	17,70	3,00	1,70	6,00	3,40	5,00	2,90
Age	18-20	31,00	17,70	17,00	9,70	16,00	9,10	2,00	1,10	4,00	2,30	2,00	1,10
	21-23	29,00	16,60	14,00	8,00	25,00	14,30	3,00	1,70	8,00	4,60	2,00	1,10
	24-26	4,00	2,30	3,00	1,70	3,00	1,70	0,00	0,00	3,00	1,70	0,00	0,00
	27+	3,00	1,70	2,00	1,10	1,00	0,60	1,00	0,60	0,00	0,00	2,00	1,10
	Phys. Ed. & Sports Teach.	19,00	10,90	13,00	7,40	11,00	6,30	3,00	1,70	7,00	4,00	4,00	2,30
Department	Coaching	13,00	7,40	7,00	4,00	8,00	4,60	0,00	0,00	1,00	0,60	0,00	0,00
	Management	21,00	12,00	6,00	3,40	8,00	4,60	2,00	1,10	4,00	2,30	1,00	0,60
	Recreation	14,00	8,00	10,00	5,70	18,00	10,30	1,00	0,60	3,00	1,70	1,00	0,60
Sport	Football	34,00	19,40	15,00	8,60	16,00	9,10	1,00	0,60	5,00	2,90	4,00	2,30
	Basketball	2,00	1,10	2,00	1,10	2,00	1,10	0,00	0,00	0,00	0,00	0,00	0,00
	Volleyball	7,00	4,00	1,00	0,60	5,00	2,90	1,00	0,60	5,00	2,90	0,00	0,00
	Athletics	2,00	1,10	0,00	0,00	2,00	1,10	1,00	0,60	0,00	0,00	0,00	0,00
	Swimming	0,00	0,00	3,00	1,70	3,00	1,70	0,00	0,00	1,00	0,60	0,00	0,00
	Other	22,00	12,60	15,00	8,60	17,00	9,70	3,00	1,70	4,00	2,30	2,00	1,10

*W: Water *S. D: Sports Drink *P. S: Protein Shake *F. J: Fruit Juice *H. T: Herbal Tea *O: Other

As seen in Table 3, most of the male and female participants chose water as their beverage preference. The fact that the most preferred beverage is water shows that participants generally prefer a healthy beverage. Male participants preferred protein shakes (6.3%) more than female participants (0.6%). At the same time, male participants prefer sports drinks more than female participants. Female participants prefer herbal tea at buffets (3.4%) more than male participants (1.1%). The fact that female participants preferred herbal tea more may indicate that they prefer digestive or relaxing

drinks. The most preferred beverage in all age groups was water. Participants aged 24 and over did not prefer protein shake as a beverage preference. Participants between the ages of 21 and 23 prefer sports drinks more than other age groups (5.1%). When the beverage preferences of the participants according to their departments were analyzed, it was seen that the most preferred beverage in all branches was water. Participants studying in the management department do not prefer herbal tea at all. Participants whose sport is football do not prefer herbal tea. Participants whose branches are basketball and volleyball do not consume sports drinks and protein shakes. Participants whose branch is athletics prefer only water and do not prefer any other beverage. Participants who chose the other option stated that they drink coffee, cola, kefir and soda as beverage preferences. Of these, (53.8%) consisted of coffee. The preference for beverages such as kefir and soda indicates that participants are also inclined towards health-oriented alternative drink options.

Table 4. Participants' Attention to Nutritional Content

Variables	Group	*A.		*M.		*R.		*D.	
		N	%	N	%	N	%	N	%
Gender	Female	7,00	4,00	21,00	12,00	33,00	18,90	3,00	1,70
	Male	16,00	9,10	38,00	21,70	43,00	24,60	14,00	8,00
Age	18-20	12,00	6,90	23,00	13,10	34,00	19,40	3,00	1,70
	21-23	9,00	5,10	30,00	17,10	31,00	17,70	11,00	6,30
	24-26	2,00	1,10	5,00	2,90	4,00	2,30	2,00	1,10
	27+	0,00	0,00	1,00	0,60	7,00	4,00	1,00	0,60
	Phys. Ed. & Sports Teach.	9,00	5,10	13,00	7,40	30,00	17,10	5,00	2,90
Department	Coaching	3,00	1,70	14,00	8,00	10,00	5,70	2,00	1,10
	Management	6,00	3,40	14,00	8,00	14,00	8,00	8,00	4,60
	Recreation	5,00	2,90	18,00	10,30	22,00	12,60	2,00	1,10
	Football	12,00	6,90	21,00	12,00	32,00	18,30	10,00	5,70
Sport	Basketball	0,00	0,00	4,00	2,30	1,00	0,60	1,00	0,60
	Volleyball	0,00	0,00	10,00	5,70	7,00	4,00	2,00	1,10
	Athletics	1,00	0,60	2,00	1,10	2,00	1,10	0,00	0,00
	Swimming	1,00	0,60	1,00	0,60	4,00	2,30	1,00	0,60
	Other	9,00	5,10	21,00	12,00	30,00	17,10	3,00	1,70

*A: I always pay attention *M: I mostly pay attention *R: I rarely pay attention *D: I don't pay attention

Table 4 shows that (24.6%) of the male and (18.9%) of the female participants rarely pay attention to the nutritional content of the snacks offered at the buffet. This finding may indicate that male respondents are less interested in nutrition labels, perhaps prioritizing factors such as practicality or taste. Participants who do not pay attention to nutritional content have the lowest percentage. When analyzed by age group, participants aged 27 years and over do not always pay attention to the nutritional content. (2.9%) of the participants aged 24- 26 years mostly pay attention. According to the departments, students of physical education and sports teaching department (17.1%) rarely pay attention. This rate is considerably higher than the rate of ticking other options. (8%) of the students of the coaching department state that they mostly pay attention. The students of the management department selected the options, 'I mostly pay attention' and 'I rarely pay attention' equally. (12.6%) of the recreation department students rarely pay attention. Participants who chose basketball and volleyball branches stated that they do not always pay attention to the nutritional content. Participants in the athletics branch did not mark the option of not paying attention at all. Based on these data, it was seen that the rate of paying attention to the nutrient content of the athletics branch as a branch was higher than the other branches.

Table 5 shows that (21.1%) of male and (18.3%) of female participants prefer fruit and yoghurt before or after training to keep energy levels high. Male participants consumed more protein bars or shakes than female participants. Female participants do not prefer carbohydrate gel to keep their energy levels high. When analyzed by age group, the most preferred foods are fruit and yoghurt. The most preferred age group for carbohydrate gel is 21-23 age group participants. The most preferred foods in all departments in the Faculty of Sport Sciences are fruit and yoghurt. Coaching and Management students do not prefer carbohydrate gel. Protein bars and shakes are mostly preferred by students in the Recreation department (6.3%). Participants who choose basketball, volleyball, athletics and swimming branches do not consume carbohydrate gel to keep the energy level high. It was observed that the participants in the athletics branch also did not prefer protein bars and shakes. It was observed that the participants who chose the other

option preferred food options such as chocolate, nuts, rice flour, sports drink, salad, chicken rice. (12.5%) of the participants who selected the other option stated that they did not prefer any food to keep their energy level high.

Table 5. Participants' Food Preferences Before or After Training

Variables	Group	*F. Y		*P.B. S		*S. W		*O. G		*C. G		*O.	
		N	%	N	%	N	%	N	%	N	%	N	%
Gender	Female	32,00	18,30	7,00	4,00	9,00	5,10	12,00	6,90	1,00	0,60	3,00	1,70
	Male	37,00	21,10	28,00	16,00	11,00	6,30	23,00	13,10	3,00	1,70	9,00	5,10
Age	18-20	34,00	19,40	10,00	5,70	7,00	4,00	15,00	8,60	1,00	0,60	5,00	2,90
	21-23	26,00	14,90	21,00	12,00	9,00	5,10	16,00	9,10	3,00	1,70	6,00	3,40
	24-26	6,00	3,40	3,00	1,70	2,00	1,10	2,00	1,10	0,00	0,00	0,00	0,00
	27+	3,00	1,70	1,00	0,60	2,00	1,10	2,00	1,10	0,00	0,00	1,00	0,60
	PE & ST	23,00	13,10	10,00	5,70	10,00	5,70	8,00	4,60	3,00	1,70	3,00	1,70
Department	Coaching	10,00	5,70	7,00	4,00	1,00	0,60	8,00	4,60	0,00	0,00	3,00	1,70
	Management	19,00	10,90	7,00	4,00	6,00	3,40	6,00	3,40	0,00	0,00	4,00	2,30
	Recreation	17,00	9,70	11,00	6,30	3,00	1,70	13,00	7,40	1,00	0,60	2,00	1,10
Sport	Football	28,00	16,00	18,00	10,30	8,00	4,60	13,00	7,40	3,00	1,70	5,00	2,90
	Basketball	2,00	1,10	2,00	1,10	1,00	0,60	1,00	0,60	0,00	0,00	0,00	0,00
	Volleyball	4,00	2,30	2,00	1,10	4,00	2,30	7,00	4,00	0,00	0,00	2,00	1,10
	Athletics	3,00	1,70	0,00	0,00	1,00	0,60	1,00	0,60	0,00	0,00	0,00	0,00
	Swimming	4,00	2,30	3,00	1,70	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
	Other	28,00	16,00	10,00	5,70	6,00	3,40	13,00	7,40	1,00	0,60	5,00	2,90

*F. Y: Fruit and yoghurt *P.B. S: Protein bars and shakes *S. W: Sandwich or wrap *O. G: Oatmeal or granola *C. G: Carbohydrate gel *O: Other

Table 6. Participants' Snack Preferences During Training

Variables	Group	*F. Y		*P. B		*O. B		*N.		*E. G		*O.	
		N	%	N	%	N	%	N	%	N	%	N	%
Gender	Female	14	8	17	9,7	10	5,7	21	12	1	0,6	1	0,6
	Male	27	15,4	37	21,1	8	4,6	26	14,9	11	6,3	2	1,1
Age	18-20	18	10,3	21	12	9	5,1	19	10,9	3	1,7	2	1,1
	21-23	20	11,4	24	13,7	8	4,6	21	12	7	4	1	0,6
	24-26	2	1,1	6	3,4	1	0,6	4	2,3	0	0	0	0
	27+	1	0,6	3	1,7	0	0	3	1,7	2	1,1	0	0
	PE & ST	16	9,1	15	8,6	4	2,3	17	9,7	4	2,3	1	0,6
Department	Coaching	5	2,9	7	4	5	2,9	8	4,6	3	1,7	1	0,6
	Management	13	7,4	13	7,4	3	1,7	9	5,1	3	1,7	1	0,6
	Recreation	7	4	19	10,9	6	3,4	13	7,4	2	1,1	0	0
Sport	Football	24	13,7	24	13,7	4	2,3	16	9,1	5	2,9	2	1,1
	Basketball	2	1,1	1	0,6	0	0	3	1,7	0	0	0	0
	Volleyball	2	1,1	6	3,4	7	4	4	2,3	0	0	0	0
	Athletics	0	0	4	2,3	0	0	0	0	1	0,6	0	0
	Swimming	0	0	3	1,7	1	0,6	3	1,7	0	0	0	0
	Other	13	7,4	16	9,1	6	3,4	21	12	6	3,4	1	0,6

*F. Y: Fruit and yoghurt, *P. B: Protein Bar, *O. B: Oatmeal biscuits, *N: Nut mix, *E. J: Energy Gel, *O: Other

Both female and male participants primarily check the ingredient list when evaluating the healthiness of café foods, though checking energy values has a lower percentage. This situation shows that especially students have a conscious approach to focusing on the components of food. Males (26%) rely more on brand reliability than females (5.7%). Females (7%) are less likely to assess healthiness by taste compared to males (10.3%). Participants aged 24 and older do not evaluate foods based on energy values. All age groups primarily check ingredient lists. The 18-20 age group (6.3%) places more emphasis on taste. Physical Education and Management students prioritize taste more than other departments. Physical Education students (6.9%) value brand reliability more. Ingredient list checking is the most common evaluation method across departments, though Physical Education students equally consider label information (9.1%). Football players (9.7%) emphasize taste, while swimmers do not evaluate by taste. Athletics participants focus most on taste. Football, volleyball, swimming, and secondary sport participants generally check ingredient lists. The majority of the participants do not avoid heavy fatty foods while doing sports, and female participants do not avoid consuming caffeinated beverages while doing sports. On the other hand, 4% of the male

participants do not consume caffeinated beverages while doing sports. The most avoided food in all age groups is heavy fatty foods. The second most avoided food group is carbonated drinks. None of the participants in the 24- 26 age range stated that they avoid caffeinated beverages. Participants aged 27 and over did not indicate that they avoided very salty foods. When analysed according to the departments of the participants, the most avoided food group is heavy fatty foods. Participants whose branches are basketball and volleyball do not avoid sugary foods while doing sports.

Most participants believe café foods positively impact sports performance. The 24–26 age group does not view café foods as highly positive. Participants aged 24 and older do not believe café foods have a negative impact. Physical Education students (6.9%) are unsure of the impact, compared to Recreation and Management (5.1%) and Coaching (1.1%). Basketball, athletics, and swimming participants do not view café foods as ineffective. Basketball participants (2.9% positive, 0.6% highly positive) and volleyball (5.7%) and football (18.3%) participants view foods as positive. Secondary sport participants (10.3% positive, 7.4% negative) have mixed views.

As seen in Table 6, male participants prefer energy gel (6.3%) more than female participants (0.6%) as a practical snack that can be consumed quickly between training. While (5.7%) of the female participants preferred oat biscuits, this rate was (4.6%) in men. It was observed that the most preferred practical snack of all participants was protein bar. Participants aged 27 and over do not prefer oat biscuits as a snack preference. Participants between the ages of 24- 26 do not prefer energy gel. Participants aged 21-23 years consume energy gel as a practical snack the most (4%). Participants in all age groups consider protein bars as a practical snack during training the most. The percentages of the participants studying in the management department to prefer fruit bars and protein bars are the same (7.4%). It was seen that the most preferred practical snacks (9,7%) of the participants studying in the department of Physical Education and Sports Teaching were nut mix (9,1%), fruit bar (9,1%) and protein bar (8,6%). The most preferred snacks of the participants studying in the recreation department were protein bar (10.9%) and nut mix (7.4%). The most preferred snacks of the participants studying in the coaching department were nut mix (4.6%) and protein bar (4%). Recreation department students chose energy gel as a snack preference the least. Participants in basketball and athletics did not prefer oat biscuits. Participants in athletics did not prefer any snack except protein bar (2.3%) and energy gel (0.6%). Participants in basketball consumed nut mix (1.7%), fruit bar (1.1%) and protein bar (0.6%) as snack preferences. Participants in swimming chose nut mix (1.7%), protein bar (1.7%) and oat biscuit (0.6%) as snacks. It was observed that the snack preferences of the participants who chose football and other secondary branches were more diverse than the other branches. The percentage (13.7%) of the participants who chose the football branch to tick the fruit bar and protein bar options were equal. Participants in other secondary branches preferred the nut mixture the most.

Table 7. Evaluation of the Absence of Desired Foods in Municipal Coastal Beach Cafés

Variables	Group	*Y		*N		*N. B		*M		*N. I		*O	
		N	%	N	%	N	%	N	%	N	%	N	%
Gender	Female	2	1,1	16	9,2	20	11,5	16	9,2	10	5,7	0	0
	Male	7	4	22	12,6	35	20,1	25	14,4	21	12,1	0	0
Age	18–20	5	2,9	17	9,8	18	10,3	16	9,2	16	9,2	0	0
	21–23	2	1,1	17	9,8	31	17,8	18	10,3	12	6,9	0	0
	24–26	0	0	2	1,1	4	2,3	5	2,9	2	1,1	0	0
	27+	2	1,1	2	1,1	2	1,1	2	1,1	1	0,6	0	0
Department	PE & ST	5	2,9	15	8,6	15	8,6	13	7,5	9	5,2	0	0
	Coaching	2	1,1	6	3,4	8	4,6	5	2,9	8	4,6	0	0
	Management	0	0	11	6,3	13	7,5	8	4,6	10	5,7	0	0
	Recreation	2	1,1	6	3,4	19	10,9	15	8,6	4	2,3	0	0
Sport	Football	4	2,3	18	10,3	19	10,9	16	9,2	18	10,3	0	0
	Basketball	1	0,6	0	0	2	1,1	2	1,1	0	0	0	0
	Volleyball	0	0	3	1,7	10	5,7	3	1,7	3	1,7	0	0
	Athletics	0	0	2	1,1	1	0,6	2	1,1	0	0	0	0
	Swimming	0	0	2	1,1	2	1,1	3	1,7	0	0	0	0
	Other	4	2,3	13	7,5	21	12,1	15	8,6	10	5,7	0	0

*Y: Yes, *N: No, the current options are sufficient, *N. B: No, but the variety in the menu can be increased, *M: Maybe there should be more options, *N. I: I have no idea, *O: Other

Twelve percent of the female participants thought that the Mediterranean diet-style foods offered at the buffet were beneficial, while 17.7% of the male participants had no opinion. A small proportion—2.3% of the female participants and 7.4% of the male participants—thought that these foods were not useful. Among participants aged 18 to 20, the

majority (14.3%) selected the option of having no opinion about Mediterranean diet-style foods. In contrast, the majority of participants aged 21 to 23 (17.7%) considered these foods beneficial. A small percentage (1.7%) of participants aged 27 and older believed that Mediterranean-style foods were not useful. Most students enrolled in the departments of Physical Education and Sports Teaching and Recreation stated that they considered Mediterranean diet-style foods beneficial. Among participants from the Sports Management department, 6.9% indicated they would not prefer such foods. It was observed that participants whose branches were athletics and basketball did not find Mediterranean diet-style foods to be useless. On the other hand, participants involved in swimming appeared to prefer this type of diet. Among football players, 12% reported having no opinion, while 10.9% of those who selected other secondary branches stated that they would not prefer it.

In Table 7, (11.5%) of the female participants and (20.1%) of the male participants stated that there is no food that is not generally available in the buffets and that they would like to be served, but the variety in the menu could be increased. (9, 2%) of women and (12, 6%) of men find the current options sufficient. Participants between the ages of 24- 26 do not have any food they would like to add to the menus in the buffets. Participants between the ages of 18-20 (10,3%) and 21-23 (17,8%) did not have any food they would like to add to the menus, but the variety in the menu could be increased. (8,6%) of the participants studying in the department of Physical Education and Sports Teaching found the current options sufficient.

4. Conclusion

They stated that the variety of menus offered in the lists could be increased. The research includes the preference for foods such as fruits, nuts, protein bars, and fiber blends, and the inclusion of these foods in their varieties. This result is parallel to the studies in the literature on the nutritional preferences of athletes (Gill, 2023). Looking at the beverage preferences of the participants, it was seen that the buffet menus generally met expectations. However, it was observed that the protein shakes and sports drink preferred by the participants were missing in the menus of Trabzon municipality-affiliated coastal beach buffets.

In the study, athletes avoided heavy fatty foods and preferred healthier cooking methods such as grilling and boiling, which is similarly supported in the literature (Martínez-González et al., 2022). It has been observed that there are suitable options in Trabzon province municipality-affiliated coastal beach buffets. Various fruits and fruit yoghurt mixtures should be added to the menus since the participants prefer fruit - yoghurt duo before or after training to keep their energy levels high. Practical snacks such as protein bars should also be included in the menus since they are a food that the athlete can consume quickly.

The menus of the kiosks located along the coastal strip affiliated with Trabzon Municipality have been reviewed, and a menu suitable for athlete nutrition has been selected. The breakfast plate in this menu includes black olives, grilled green olives, honey, clotted cream, jam, acuka (a spicy spread), Nutella, kaygana (a type of savory pancake), sigara böreği (cheese rolls), kashar cheese, white cheese, Ezine cheese, Kars kashar, boiled eggs, tomatoes, cucumbers, various greens, and bread. However, since the portion sizes of these foods are not specified, an exact calorie calculation cannot be made. The fact that menus do not provide information about portion sizes makes it difficult for athletes to accurately track their energy and macronutrient intake, and it is emphasized in various studies that portion control is an important requirement in athlete nutrition (Rolls, 2014). For this reason, portion sizes should be specified in grams or units on menus. snacks, natural pomegranate juice, atom juice, orange juice, and boiled potatoes—already present on the menu—can be suitable options. However, based on survey results from the athletes, adding fruit and nut alternatives to the menu would also be beneficial. When evaluating lunch and dinner options, it has been observed that the soup category includes only fish and cabbage soup. While the inclusion of traditional flavors is culturally positive, the limited number of alternatives may negatively affect athletes' preferences.

The presence of protein-rich foods such as lamb tandır and steamed sea bass in the main course section is a significant advantage. However, the lack of vegetables and legume dishes in the menu is a notable shortcoming. Increasing the variety of soups and main dishes would support dietary diversity and allow athletes to meet their nutritional needs more effectively. Moreover, the absence of portion size information in the menus makes it difficult for athletes to calculate the amount of energy, protein, carbohydrates, and fats they consume. This situation hinders their ability to track their daily dietary goals and assess their nutrient intake adequately.

Table 8. 4000-Calorie Athlete Menu Examples

Meals	Example Menu	Proposed Menu 1	Proposed Menu 2
Breakfast	1 glass of milk, 2 matchbox-sized cheese, 1 tbsp honey, 2 medium peeled apples or peaches, 3 thin slices of bread	1 glass of milk, 1 boiled egg, 10–12 raw hazelnuts, 1 banana, 1 tbsp unsweetened peanut butter, 2 slices of whole-grain bread	5 tbsp oatmeal, 1 glass milk or yogurt, 1 banana, 1 tbsp peanut butter, 1 tsp honey, 10 raw almonds, 1 boiled egg
Snack	1 banana, 1 glass of milk, 1 slice of low-fat cake	500 ml sports drink, 3 medium dates, 4 walnuts, Unsweetened cookie	1 glass fruit smoothie, 1 protein bar, 2 walnuts
Lunch	1 bowl of noodle soup, Grilled or boiled chicken thigh (120 g), 8 tbsp pasta, 1 portion salad, 1 thin slice bread, 1 bowl pudding	1 bowl lentil noodle soup, Grilled salmon (120 g), 10 tbsp rice pilaf, 1 portion salad, 1 slice whole-grain bread, 1 bowl yogurt muesli	1 bowl lentil soup, 4 grilled meatballs (120 g), 8 tbsp turmeric basmati rice, 1 portion salad, 1 bowl yogurt, 1 small Trabzon persimmon, 1 slice whole-grain bread
Snack	1 medium apple, 1 glass fruit juice, 1 slice low-fat cake	1 glass pomegranate juice, 1 protein bar, 7 medium cashews	1 glass kefir, 1 banana, 5 raw almonds, 2 walnuts, 4 raw hazelnuts
Dinner	4 tbsp meaty vegetable dish, 12 tbsp rice pilaf, 2 pears, 1 glass fruit juice, 1 bowl of pudding, 3 thin slices bread	6 tbsp meaty chickpea dish, 8 tbsp pasta, 1 bowl yogurt, 2 apples, 1 glass sports drink (yogurt, milk, fruit smoothie), 2 slices whole-grain bread	6 tbsp minced cauliflower dish, 12 tbsp bulgur pilaf, 1 bowl caci, 2 pears, 1 glass fruit juice, 2 slices of whole-grain bread

Based on the 4000-calorie menu example in Table 8, two sample menu plans were developed by evaluating the survey data. Since the percentage of oat preference of the participants was found to be significant, oat bowls can be added to the menus as an alternative for breakfast.

Electrolyte sports drinks should be included in the menus in order to replace the minerals and fluid lost with sweat during training. Trabzon province municipality coastal kiosks have Churchill accordingly. However, alternatives for athletes can be increased in terms of diversity. Fruity protein shake recipes can also be included in the menus to meet energy needs and ensure fruit consumption. Since the percentage of participants preferring nuts is high, mixed nut plates can be added to the extra section of the menus. The addition of various fruit plates will be alternative choices for athletes. This study has shown that menus for athlete health can also be given as a separate list in menus

Author Contributions: The theoretical framework of the study was jointly developed by T.K. and B.Ö.I. The research model and data collection process were carried out by the authors. The data analysis and interpretation were primarily conducted by T.K. The original draft of the article was written by T.K.; linguistic and content revisions, as well as the final version of the manuscript, were completed by B.Ö.I. Both authors reviewed and approved the final version of the work for publication.

Financial Support: None.

Informed Consent: Informed consent forms were obtained from all participants who participated in the study.

Declaration of Data Availability: The data is publicly available.

Acknowledgments: We would like to thank all participants who took part in the study.

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