

Investigation of The Nutritional Approaches of Student Athletes During The Covid-19 Epidemic

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ABSTRACT

The aim of this study is to investigate the nutritional approaches of student athletes studying at the university during the coronavirus outbreak period. Participants consisted of students studying and doing sports at the University. 446 students, 246 males and 200 females, participated in the study. Besides the personal form, students were filled the questionnaire testing questionnaire. Students voluntarily participated. The surveys were done on social media. Nutritional habits questionnaire consists of 12 questions. In the preparation of the survey questions, the questions proved validity of the researches which have been done on the subject before have been used. SPSS 23.00 package program was used in statistical analyses. Kolmogorov-Smirnov test was performed to test whether the data was normally distributed and it was determined that the data showed normal distribution. Independent t-test, paired t-test, unidirectional variance analysis and LSD tests were used in statistical operations. There was no significant difference in students' nutrition approaches by gender, both in the pre-outbreak period and in the outbreak period points ($p > 0.05$). Nutrition scores were significantly increased during the outbreak period ($p < 0.001$). A significant difference was found between the students who felt bad before the epidemic and those who felt well before the epidemic and their nutritional scores according to the levels they felt ($p < 0.05$). A significant difference was found between the pre-outbreak period and post-epidemic nutrition scores of the sports faculty students ($p < 0.05$). During the coronavirus epidemic, university student athletes have either increased their nutritional opportunities or have changed their eating habits positively to keep their immune systems strong or both. The fact that sports faculty students have better nutrition compared to other faculty students can be attributed to their taking courses in nutrition, health and similar. It is recommended to give lectures or seminars on nutrition to athlete students.

Keywords: Student, Nutrition, Sports Nutrition, Nutritional Approach, Covid-19

INTRODUCTION

Adequate and balanced nutrition is one of the factors that enable the physiological activities, mental and spiritual abilities of the human physical structure to develop in accordance with its normal potential. It is very important that nutrition is adequate and suitable for body needs in youth. However, income and expenditures within the social structure, customs and traditions evaluated within the cultural structure are the determining factors of the individual's nutritional status¹. Especially the first years of university years coincide with adolescence. Incorrect nutritional attitudes acquired during the university education period, which coincides with the adolescence stage where significant changes are experienced, become more important since they may negatively affect other stages of life if they switch to the period after university education². Nutrition directly affects athlete's training, training time recovery and racing performance³. Many studies show that young students and especially athletes do not eat enough and balanced, their nutritional education and nutritional knowledge levels are insufficient^{4,5}. Many situations that directly or indirectly affect athletes such as increasing performance, preventing weight loss and overweight, preventing discomfort caused by electrolyte losses in the body, regular functioning of the digestive system, renewal of energy sources during recovery period can be achieved through balanced nutrition⁶. Nutrition is considered as one of the most important factors that athletes can keep under control if they have knowledge and affect their

performance⁷. The prevalence and frequency of eating disorders among youth and especially women is a public health problem defined by the World Health Organization (WHO) as an important medical condition and requiring medical assistance⁸. In the researches, it was stated that the students had significant unhealthy eating habits and that they had significant risks in this respect⁹. It has also been determined that individuals consume fast food and snack foods, foods high in fatty carbohydrates, and do not pay attention to the variety of foods¹⁰.

COVID-19, a disease caused by a new corona virus, is a major threat that turns into a pandemic and affects the whole world. Unlike other epidemics, Covid-19 has become a global threat in the world with its rapid and easy transmission¹¹. Social isolation, protecting social distance and using a mask are the primary measures taken to reduce the spread of the disease. Possible consequences of home isolation are changes in eating and physical activity behaviors. Being closed at home due to social isolation has primarily prompted people to stand still. Increasing inactive activities such as lying down, lying down, spending time on TV or computer causes a decrease in the rate of calorie expenditure, while this also increases the risk for chronic diseases¹². The widespread outbreaks of infectious diseases such as COVID-19 are associated with psychological distress and mental illness symptoms¹³. As with physiological systems, the development of the immune system is affected by the nutritional status. In addition, many epidemiological studies

have demonstrated dysfunction in both congenital and adaptive immunity during malnutrition¹⁴. While an epidemic causes sharp shocks in world economies and societies, it has negative effects on individuals^{15,16}. In the detected literature, the New Corona reports the negative effect of the virus on the mental health of the individual. Stress includes perception of security, risk of threats and contamination, ignorance of the unknown, quarantine and imprisonment, stigmatization (a sign of embarrassment associated with a particular situation, quality or person), and social exclusion, and financial loss and job insecurity¹⁷. Student athletes who received university education could not participate in competitions and collective training due to the epidemic, and many of them went to their families. It has been thought that nutrition approaches may change as students who stay away from their families, stay in dormitories or friends and private homes change their environment¹⁸. Students who receive sports education are expected to have a special nutritional habit for athletes. Because they are taking lessons on sports nutrition and it. Students who do not have sports education do not take sports nutrition and related lessons, although they pay attention to their nutrition because they do sports. It is thought that exercising excessively will put additional strain on the immune system. For this reason, during the corona virus epidemic, students should pay attention to their nutrition in a way that increases their immune system. The state of nutritional approaches has been wondered for these or other reasons. The aim of this study is to examine the nutritional approaches of student athletes studying at the university during the corona virus outbreak.

MATERIAL AND METHODS

Participants: Students studying at the university in Samsun province were included in the study. 246 of the students are male and 200 are female. While 284 of the students were receiving sports training, 162 of them were studying in fields other than sports education. In addition, students they were taking part in sports competitions at the national level in Turkey. Corona virus outbreak in Turkey has become widespread in March. The questionnaires were filled out in April and May.

The students completed the nutrition questionnaire as well as the Personal information form. Students voluntarily participated. The surveys were done on social media. Students generally have the same socio-demographic characteristics. Ethical report was receive for the study that from the Ministry of Health (Number: Osman İmamoglu-2021-03-22T14_46_06) and Ondokuz Mayıs University. The decision of Ondokuz Mayıs University Social and Humanities Research Ethics Committee dated 26.02.2021 and numbered 2021/160: Examination of the nutritional habits in athletes before and during the new type of corona virus (Covid 19).

Nutrition approach test questionnaire: Nutritional habits questionnaire consists of 12 questions in total. The nutrition questionnaire contains the following summarized questions.

What is the frequency of using foods such as beef, lamb, cream, pastry, milk, cheese and fat in the normal diet?

Do you like sweet things in food, do you use sugar and add them to your food?

Do you think you're eating high fiber things in the diet?

Do you use beans, and legumes as part of your normal diet?

Do you regularly use vitamin pills, strength pills, and medications to meet your normal needs?

Are you aware of the amount and type of carbohydrate you take daily?

Do you have a balanced diet?

How do you choose the food you eat?

How often do you make a nutritional prescription?

What do you pay attention to in your nutrition recipe?

If the nutritional approach test survey score distribution is between 0 and 8 points, the eating habits should definitely be developed. Between 8 and 15 points indicate the necessity to make small changes in nutritional habits. If it is between 15-20 points, eating habits are generally good. If 24 points, the eating habits can be evaluated as perfect⁴.

Analyzes Statistical: SPSS 23.00 package program was used in statistical transactions. Kolmogorov-Smirnov test was performed to test whether the data was normally distributed and it was determined that the data showed normal distribution. Independent t-test, paired t-test, unidirectional variance analysis and LSD tests were used in statistical operations.

RESULTS

Table 1. Comparison of students' age, height and body weight

	Gender	N	Mean	St. dev.	t-test
Age (years)	Male	246	21,84	4,08	1,65
	Female	200	21,26	3,09	
Height (cm)	Male	246	177,98	6,79	18,20**
	Female	200	164,09	9,31	
Weight (kg)	Male	246	75,50	10,57	17,50**
	Female	200	58,86	9,22	

** p <0.001

Table 2. Nutritional scores by gender, pre-coronavirus status and status in the outbreak period

	Gender	N	Mean	St. dev.	t-test
According to the pre-outbreak situation	Male	246	16,78	1,94	1,41
	Female	200	16,52	1,98	
According to the situation in the outbreak period	Male	246	18,82	1,81	0,35
	Female	200	18,76	1,86	
According to the pre-outbreak situation	Total	446	16,67	1,96	Paret t=-32,18**
According to the situation in the outbreak period	Total	446	18,80	1,83	

** p <0.001

There is no significant difference in the nutrition approaches of the students according to both the pre-outbreak situation and the situation during the outbreak period ($p > 0.05$). It was found that the nutritional score increased significantly compared to the pre-outbreak nutritional status during the outbreak ($p < 0.001$).

Table 3. Nutritional scores of students according to the level they feel themselves

	Feel	N	Mean	St. dev.	F/LSD
According to the pre-outbreak situation	Feel bad(1)	26	15,96	3,16	4,89* 1<3
	Feeling good(2)	318	16,50	2,53	
	Feeling very good (3)	102	17,55	2,65	
According to the situation in the outbreak period	Feel bad(1)	26	18,09	3,13	3,22* 1<3
	Feeling good(2)	318	18,89	2,54	
	Feeling very good (3)	102	19,42	2,99	

*p<0.05

A significant difference was found between the students who felt bad before the epidemic and those who felt well before the epidemic and their nutritional scores according to the levels they felt (p <0.05).

Table 4. Comparison of the nutrition score of students with sports education and other faculty students who did not receive nutrition education

	Faculties	N	Mean	St.dev	t-test
According to the pre-outbreak situation	Sports Faculty	284	16,98	2,69	2,27*
	Other Faculties	162	16,35	2,44	
According to the situation in the outbreak period	Sports Faculty	284	19,31	2,76	2,34*
	Other Faculties	162	18,29	2,49	

*p<0.05

A significant difference was found between the pre-outbreak period and post-epidemic nutrition scores of the sports faculty students (p <0.05).

DISCUSSION

The age of the students in this study is 21.84 years for males and 21.26 years for females. While ages are similar according to gender, there are significant differences between height, body weight and body mass index (p <0.001). Alwarawrah et al¹⁹ stated that malnutrition caused an increased susceptibility to infection in their studies, where they reviewed the effects of nutrition on immunity. In a study conducted by Çebi et al²⁰ it was found that students who received sports education did not consume healthy food and had habits that were not suitable for sports nutrition. The responsibility of individuals during the COVID-19 epidemic is to choose a healthy lifestyle, to eat diets rich in fruits and vegetables, to exercise for free time, to try to gain a healthy, balanced weight, and to get enough sleep²¹. People who remained closed at home due to social isolation during the epidemic have been in a mess by using more social media and having more information than necessary. People had to make the right decisions about how to feed in the process of fighting the epidemic and take action to implement them. These include taking the right supplements, trying regular physical activity despite social isolation, and trying to eat a balanced diet to strengthen immunity. There is no significant difference in the nutrition approaches of the students according to both the pre-outbreak situation and the situation during the outbreak period (p> 0.05). It was found that the nutritional score increased significantly compared to the pre-outbreak nutritional status during the outbreak (p <0.001). Pre-outbreak scores are lower since the students before the

corona virus outbreak are usually away from their families and are not afraid of the outbreak. Kesik²² examined the nutritional knowledge levels and nutritional attitudes of university students and stated that there was no significant difference between male and female individuals²². Aksu et al²³ stated in their study that the healthy and unhealthy eating behaviors of wrestlers do not differ according to gender. However in our study a significant difference was found between the students who felt bad before the epidemic and those who felt well before the epidemic and their nutritional scores according to the levels they felt (p <0.05).

Since the energy requirement of each athlete is different, there is no same nutrition program for athletes. But the best diet is a diet that provides adequate hydration (sufficient fluid intake) and contains adequate and balanced nutrients. Since adequate and balanced nutrition is not possible with a single food, various foods should be included in daily nutrition²⁴. For athletes, nutrition is one of the important factors required to reach high performance²⁵. In the literature, it is seen that in many studies especially the nutritional knowledge levels and habitual levels of young people were examined²⁶⁻²⁹. Some of these studies found athletes' diet poor, while others found their nutritional knowledge and habits to be good. In a study conducted by Ermiş et al³⁰ it was determined that students studying in health related departments are more conscious in health and nutrition related habits than students studying in other departments. In the study of Koldaş, they examined the nutritional knowledge levels of those who have taken nutrition classes in students of Marmara School of Physical Education and Sports³¹. As a result of the research, it was stated that students' knowledge level was low. In the study of Yılmaz and Karaca, the quality of life and nutritional knowledge attitudes of individuals studying at the university level who are sedentary and sports are examined³². At the end of the study, it was stated that sedentary individuals had lower nutritional knowledge levels than individuals who did sports. In our study, a significant difference was found between the pre-outbreak and post-outbreak nutrition scores of the Sports Faculty students (p <0.05). It is seen that the students of sports faculty are better fed. The reason for this is that they are actively athletes and receive nutritional education, resulting in better nutrition scores than other faculty students. Jones et al³³ stated that students taking nutritional lessons had a higher level of nutritional knowledge than others. In their studies on university students' nutritional knowledge levels conducted by Tütüncü and Karaismailoğlu, 67.1% of the students stated that they took nutrition lessons³⁴. While it is possible to see the effect of receiving nutrition education on nutrition approach positively, it is also possible to see studies that identify the negativities of education and information deficiency. In his study, Kutlu stated that students had a low level of education in nutrition before, in addition, students' healthy eating habits were low³⁵. According to this study, it is thought that although students get information about nutrition, they do not pay much attention to this when they do not have serious health problems such as epidemics. The fact that those who feel good have better eating habits suggests that it would be more beneficial to provide psychological support to students.

CONCLUSION

As a result, in the corona virus outbreak period, university student athletes either positively changed their eating habits either in order to increase their nutritional opportunities or to keep their immune systems strong or both. Nutritional habits of university student athletes are similar to each other by gender. Being trained athletes may affect this situation. The better nutrition of sports faculty students than other faculty students can be attributed to taking lessons like nutrition. The lower nutritional scores of those who feel bad can be interpreted as providing psychological help to students by supporting nutrition.

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