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Examination of attitudes towards healthy nutrition in athletes

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Abstract

The aim of this study was to investigate the attitudes of athletes towards healthy nutrition. A total of 199 athletes, 85 males and 114 females, studying at Ondokuz Mayıs University Yasar Dogu Faculty of Sport Sciences, participated in the study. In this study, Attitude Scale on Healthy Nutrition was used as a data collection tool. The data were analysed using SPSS 22 package programme. Kurtosis and Skewness values of the data were examined for normality determination. Since the sub-dimension of knowledge about nutrition in active sportsmen did not show normal distribution, Mann-Whitney U test was applied from non-parametric tests. As a result of the analyses made according to the gender, age, height and weight variables of the participants, there is no significant difference ($p>0.05$). In the comparison of athlete and sedentary variables according to active sports status, there is a significant difference in all sub-dimensions ($p<0.05$). As a result, it was observed that males who were active in sports had more knowledge about healthy eating than females and that athletes had higher attitudes towards healthy eating than sedentary individuals. It can be said that a regular and balanced diet will have a positive effect on the athlete's performance in training and competition and will help them to achieve success in competition.

Keywords: Healthy nutrition, sport, performance, athlete

Introduction

The most important factor for human growth, development, healthy and productive life for a long time is to be able to take the necessary nutrients in sufficient and balanced amounts and use them in the body [1]. Nutrition is an important anatomical and physiological concept that humans use to maintain a healthy life. The human body needs food to sustain life, to grow, to replenish the energy lost in everyday life, and to perform the vital functions that are the basis of life [2]. Eating behaviours are fundamental to young people's physical development, health, and identity and are influenced by several factors, including knowledge, attitudes, sociodemographic characteristics and behaviours, family factors, and lifestyle [3]. In addition to maintaining fitness and performance, sports nutrition also aims to provide and maintain

sport-specific body composition to ensure functions such as post-exercise recovery and fluid balance [4].

Athlete nutrition is an important area within the field of nutrition that involves the correct selection of foods and the correct utilization of nutrients according to the type of exercise performed. If athletes are not well nourished in the pre-competition period, they may not achieve the desired level of performance and success [5]. It has been reported that regular nutrition has a positive effect on improving the performance of athletes [6]. Genetic structure, training regimen and proper nutrition are important factors that influence the performance of athletes [7]. Sports nutrition is defined as the application of nutritional information to a practical daily diet in order to provide energy for physical activity, to facilitate the body's recovery process, to optimise

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performance in athletic competition, and to maintain good health and appearance [8]. Not only athletes, but also coaches and sports trainers should be aware of nutrition and sports nutrition [9,10]. Nutrition is the most important factor influencing the achievement of athletic goals when the appropriate information is available and well implemented. Athletes have a lot of correct and incorrect information about nutrition. In a study of athletes, it was found that as knowledge about nutrition increased, so did the amount of food that met their needs [11].

Body dissatisfaction is caused by the difference between body weight and current weight. However, in addition to current weight, positive or negative feelings and thoughts about one's physical appearance are also an important factor in body dissatisfaction [12]. In his research, Imamoglu pointed out that exercise has many direct and indirect positive effects on human health [13]. In order to have a strong immune system, the nutrients the body needs should be taken in sufficient amounts and foods rich in protein, minerals, vitamins, healthy fats and fibre should be consumed regularly [14]. Athletes spend most of their time training to improve their performance. In fact, a lot of effort is put into training and proper nutrition is very important to ensure that this effort is not wasted and to achieve a high level of training effect [15]. Nowadays, most athletes know about nutrition and understand that good nutrition is an essential part of an optimal training programme. It is well known that many athletes have poor knowledge about healthy eating habits and are not aware of their daily nutritional choices [16]. The purpose of this study was to investigate athletes' attitudes toward healthy eating.

Material and Methods

Working group

The study population consisted of a total of 199 athletes. 85 males and 114 females who were studying at the Faculty of Physical Education of Ondokuz Mayıs University Yasar Dogu. Prior to the start of the study, approval was obtained from the Research Ethics Committee of Ondokuz Mayıs University Samsun (Date: 27/01/2023 Decision No: 2023/1269).

Data collection tools

In this study, the Attitudes Toward Healthy Eating Scale, the validity and reliability study of which was conducted by Tekkursun-Cicioglu [17], and the demographic information form were administered face- to-face to university students.

Healthy Eating Attitude Scale: The scale is prepared as a 5-point Likert scale and consists of 21 items. The rating of the positive items in the scale is "Strongly Disagree". "Disagree". "Undecided". "Agree". "Strongly agree". Items 6. 7. 8. 9. 10. 11. 17. 18. 19. 20 and 21 were inverted. An increase in the mean score indicates a positive change in eating habits. It has a structure of 21 items and 4 factors. These factors were named Knowledge about Nutrition (KN). Feelings about food (FEN). Positive Nutrition (PN) and Negative Nutrition (PN). Knowledge

about nutrition (KN): 1.. 2.. 3.. 4.. 5: 6.. 7.. 8.. 9.. 10.. 11. Positive nutrition (PNA): 12.. 13.. 14.. 15.. 16. Poor nutrition (PN): 17. 18. 19. 20th 21st position.

Statistical Operations

The data collected were analysed using the SPSS 22 package. The kurtosis and skewness values of the data were examined to determine normality. Since the sub-dimension of knowledge about nutrition in active sportsmen did not show a normal distribution (skewness: -1.453; kurtosis: 4.202). The Mann-Whitney U test, one of the non-parametric tests, was applied. As the sub-dimensions of Emotion Towards Nutrition: (Skewness. 0.439; Kurtosis. 0.097). Positive food: (skewness. -0.388; kurtosis. -0.391). Poor nutrition: Skewness. (-0.538; kurtosis. -0.080) did not show a normal distribution. Independent samples t-test was performed. Cronbach's Alpha: 0.806 was determined. Statistical results were evaluated at a significance level of $p < 0.05$.

Results

Table 1 shows a comparison of healthy eating attitudes among athletes by gender. According to the table: There was no statistical difference in the results according to gender ($p > 0.05$). However, in the sub-dimensions of knowledge about nutrition and malnutrition in active sportsmen and women, it can be seen that men have higher mean scores than women. In the sub-dimensions Emotion towards nutrition and Positive nutrition. Women had higher mean scores than men. Among those who do not actively participate in sports: Women have a higher mean score than men in the sub-dimension knowledge about nutrition. In the sub-dimensions of feelings about nutrition. Positive diet and Poor diet. Men have higher mean scores than women.

Table 2 shows the comparison of healthy eating attitudes in athletes according to age groups. According to this table, there is no significant difference ($p > 0.05$) as a result of the analyses carried out according to the age groups of the participants. However, in the sub-dimensions of knowledge about nutrition. In the sub-dimensions of knowledge about nutrition, positive nutrition and poor nutrition, it can be seen that those under 20 years of age have higher mean scores than those over 21 years of age in active sports. In the Feeling Towards Nutrition sub-dimension, those aged 21 and over have higher mean scores than those aged 20 and under. In all sub-dimensions, those aged 21 and over have higher mean scores than those aged 20 and under among those not actively involved in sport.

Table 3 shows the comparison of healthy eating attitudes between athletes and sedentary individuals. According to the table: There is a significant difference in all sub-dimensions of the Attitudes Towards Healthy Eating Scale according to active sports status ($p < 0.05$). It can be seen that the significant difference is in favour of the active athletes.

Table 4 shows the comparison of healthy eating attitudes among athletes by height group. According to the table: There is no significant difference in the participants' attitudes towards

healthy eating according to height variables ($p>0.05$). However, when analysing the mean scores, it can be seen that those who are active in sport have higher mean scores in all the sub-dimensions compared to those who are 170cm and below compared to those who are 171cm and above. In the sub-dimensions of knowledge about nutrition. Emotions towards nutrition and Positive nutrition, those with a height of 170cm or less have higher mean scores than those with a height of 171cm or more. In the sub- dimension of poor nutrition, those with a height of 171cm and above have a higher mean score than those with a height of 170cm and below. Table 5 shows the comparison of healthy eating attitudes among

athletes by weight group. According to the table: No significant difference was found between healthy eating attitudes according to weight ($p>0.05$). However, in the sub-dimension of Feeling Towards Nutrition, people weighing 60kg and below had a higher mean score than people weighing 61kg and above. In the sub-dimensions of knowledge about nutrition. Positive Diet and Poor Diet, people weighing 61kg and above had higher mean scores than people weighing 60kg and below. In all sub- dimensions, those who weigh 61kg and above have a higher mean score than those who weigh 60kg and below among those who do not participate in sports.

Table 1. Comparison of healthy eating attitudes among athletes by gender

Active sports participants	Gender	N	'X'±Ss	u	t	p
Information on nutrition	Male	34	4.24±0.92	336.00		0.249
	Woman	24	4.17±0.62			
Emotions towards nutrition	Male	34	2.75±0.84		-0.933	0.355
	Woman	24	2.95±0.77			
Favorable nutrition	Male	34	3.48±0.92		-0.549	0.585
	Woman	24	3.61±0.79			
Malnutrition	Male	34	3.78±0.83		0.333	0.740
	Woman	24	3.71±0.76			
People not active in sports						
Information on nutrition	Male	51	3.90±0.61	1904.00		0.110
	Woman	89	4.03±0.67			
Feeling towards nutrition	Male	51	2.59±0.69		0.835	0.406
	Woman	89	2.50±0.65			
Positive nutrition	Male	51	3.26±0.88		1.044	0.298
	Woman	89	3.10±0.87			
Malnutrition	Male	51	3.58±0.87		1.938	0.055
	Woman	89	3.26±0.93			

Table 2. Comparison of healthy eating attitudes among athletes by age group

Active sports participants	Age	N	' $\bar{X}$ ' $\pm$ Ss	u	t	p
Information on nutrition	20 years and under	22	4.27 $\pm$ 0.50	357.00		0.526
	21 years and over	36	4.17 $\pm$ 0.94			
Emotions towards nutrition	20 years and under	22	2.81 $\pm$ 0.71		-0.151	0.881
	21 years and over	36	2.85 $\pm$ 0.88			
Favorable nutrition	20 years and under	22	3.54 $\pm$ 0.65		0.028	0.976
	21 years and over	36	3.53 $\pm$ 0.99			
Malnutrition	20 years and under	22	3.82 $\pm$ 0.79		0.508	0.614
	21 years and over	36	3.71 $\pm$ 0.80			
People not active in sports						
Information on nutrition	20 years and under	83	3.94 $\pm$ 0.71	2348.00		0.940
	21 years and over	57	4.03 $\pm$ 0.55			
Feeling towards nutrition	20 years and under	83	2.51 $\pm$ 0.68		-0.504	0.615
	21 years and over	57	2.57 $\pm$ 0.65			
Positive nutrition	20 years and under	83	3.06 $\pm$ 0.87		-1.542	0.125
	21 years and over	57	3.30 $\pm$ 0.86			
Malnutrition	20 years and under	51	3.35 $\pm$ 0.97		-0.442	0.651
	21 years and over	89	3.42 $\pm$ 0.84			

Table 3. Comparison of healthy eating attitudes of athletes and sedentary individuals

Sub dimensions	Active sports status	N	'X'±Ss	u	t	p
Information about nutrition	Yes	58	4.21±0.80	2966.00		0.003
	No	140	3.98±0.65			
Feeling towards nutrition	Yes	58	2.83±0.81		2.717	0.007
	No	140	2.53±0.66			
Positive nutrition	Yes	58	3.54±0.87		2.755	0.006
	No	140	3.16±0.87			
Malnutrition	Yes	58	3.75±0.79		2.709	0.007
	No	140	3.38±0.92			

Table 4. Comparison of healthy eating attitudes in athletes according to body size groups

Active sports participants	Height	N	'X'±Ss	u	t	p
Information on nutrition	BMI<20.76	25	4.22±0.64	373.00		0.529
	BMI>20.86	33	4.20±0.92			
Emotions towards nutrition	BMI<20.76	25	2.98±0.83		1.202	0.234
	BMI>20.86	33	2.72±0.80			
Favorable nutrition	BMI<20.76	25	3.69±0.75		1.180	0.243
	BMI>20.86	33	3.42±0.94			
Malnutrition	BMI<20.76	25	3.82±0.76		0.538	0.592
	BMI>20.86	33	3.70±0.83			
People not active in sports						
Information on nutrition	BMI<20.76	89	4.03±0.68	1860.00		0.073
	BMI>20.86	51	3.89±0.58			
Feeling towards nutrition	BMI<20.76	89	2.54±0.66		0.128	0.899
	BMI>20.86	51	2.52±0.67			
Positive nutrition	BMI<20.76	89	3.19±0.91		0.514	0.608
	BMI>20.86	51	3.11±0.82			
Malnutrition	BMI<20.76	89	3.35±0.91		-0.546	0.586
	BMI>20.86	51	3.43±0.93			

Table 5. Comparison of healthy eating attitudes among athletes by weight group

Active sports participants	Weight	N	'X'±Ss	u	t	p
Information on nutrition	BMI<20.76	18	4.14±0.67	301.00		0.315
	BMI>20.86	40	4.24±0.86			
Emotions towards nutrition	BMI<20.76	18	2.93±0.92		0.598	0.553
	BMI>20.86	40	2.79±0.77			
Favorable nutrition	BMI<20.76	18	3.53±0.77		-0.047	0.963
	BMI>20.86	40	3.54±0.92			
Malnutrition	BMI<20.76	18	3.52±0.95		-1.528	0.132
	BMI>20.86	40	3.86±0.70			
People not active in sports						
Information on nutrition	BMI<20.76	84	3.96±0.72	2343.00		0.969
	BMI>20.86	56	4.02±0.53			
Feeling towards nutrition	BMI<20.76	84	2.46±0.66		-1.556	0.122
	BMI>20.86	56	2.64±0.67			
Positive nutrition	BMI<20.76	84	3.08±0.88		-1.339	0.183
	BMI>20.86	56	3.28±0.86			
Malnutrition	BMI<20.76	84	3.27±0.98		-1.764	0.068
	BMI>20.86	56	3.55±0.79			

Discussion

In this study, which aimed to examine athletes' attitudes toward healthy eating, the results were not statistically significant in the gender, age, height, and weight subdimensions. When comparing the attitudes toward healthy eating of athletes and sedentary individuals (Table 3), athletes were found to have higher attitudes toward eating than sedentary individuals, and this was statistically significant.

When similar studies in the literature were examined, similar to our study according to gender variable, Ko conducted a study with university students studying in Germany and Korea and found no significant difference in healthy eating attitudes of athletes according to gender [18]. In the study conducted by Gulen et al. with taekwondo athletes, the results of healthy eating according to gender were close and in a similar study [19]. Saygın et al. found that there was no statistical difference based on gender [20]. In another study, attitudes towards healthy eating did not differ statistically by gender [21,22].

No significant difference was found when comparing the healthy eating attitudes of athletes according to age groups. However, when the mean scores were analysed, it was found that the mean scores of nutritional attitudes increased with decreasing age in the sub-dimensions of knowledge about nutrition. Positive nutrition and Poor nutrition in active athletes. In the sub-dimension Emotion Towards Nutrition, it was found that the mean scores of nutrition attitudes increased with increasing age. For those who were not active in sport, the mean scores of nutritional attitudes increased with increasing age in all sub-dimensions. Looking at the results of the studies in the literature In the study conducted by Yilmaz et al. on university students, it was found that there was no statistical significance [23]. According to Salacak, as the average age increases, the level of healthy eating attitudes of athletes increases [24]. According to Gulum, it was found that the average healthy eating attitude was negatively influenced by age as the average age increased [25]. Ozenoglu et al. stated that there was a significant positive relationship between age variable and healthy eating [26], and Bıdıl found that there was a low level significant relationship in the eating attitudes of athletes according to their age in his study [27]. In addition, some studies also found a significant difference [22,28]. Cakaroglu et al. found that there was no significant difference in eating attitudes according to age in their study [29]. There is a partial similarity between the results of this study and the results of the relevant studies in the literature.

Looking at similar studies examining the nutritional attitudes of athletes; it was reported that nutritional attitudes were not significant in the results of athletes competing in team and individual winter sports branches [30]. Similarly, there was no statistical significance in the study conducted on athletes and sedentary individuals [31]. Demir et al. in their research on individual and team athletes, stated that the attitude towards healthy nutrition of men who do sports in individual branches

is significantly higher than female athletes who do sports in individual branches [32].

Conclusion

As a result, it was observed that males who were active in sports had more knowledge about healthy eating than females and that athletes had higher attitudes towards healthy eating than sedentary individuals. It can be said that a regular and balanced diet will have a positive effect on the athlete's performance in training and competition and will help them to achieve success in competition.

Conflict of Interests

The authors declare that there is no conflict of interest in the study.

Financial Disclosure

The authors declare that they have received no financial support for the study.

Ethical Approval

Prior to the start of the study, approval was obtained from the Research Ethics Committee of Ondokuz Mayıs University Samsun (Date: 27/01/2023 Decision No: 2023/1267).

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