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Study of nutrition habits and information levels of sportsmen interested in fighting sports

Studiul obiceiurilor nutriţionale şi a nivelului informaţional al sportivilor interesaţi de sporturile combat

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Abstract

Background. Sport field research approaches mainly the relationship between nutrition and sport performance, not taking into consideration the level of the nutrition information of the athletes who practice combat sports.

Aims. The purpose of this study was to determine nutrition habits and information levels of sportsmen interested in fighting sports and analyze the relation between them.

Methods. This research comprises a general screening model. The study was performed in 162 Licensed Sportsmen included in branches of Kickbox, Muai-Thai, Box, Taekwondo under the Van Erciş Youth and Sport Club. With permission from their club, previous scientific studies were evaluated to determine their nutrition habits and information levels and a questionnaire form developed by Göral was used. Statistical estimations were done in the SPSS (version 15.0) program. Frequencies and percentage values of relevant data were estimated, the chi-square test was performed to analyze the relation between the sportsmen's demographic information and nutrition information level.

Results. Looking at the nutrition information points: 67.3% of the sportsmen (n=109) had 4 points and below, 22.8% of them (n=37) registered 5 points. 6 points were registered for 7.4% (n=12), 7 points for 1.9% (n=3) and 8 points for 0.6% (n=1). Nobody registered 0, 1, 9 and 10 points from the questionnaire regarding the nutrition of sportsmen.

Conclusions. According to the data from our study, media is mostly seen as an information resource for suitable and balanced nutrition data and habits, which are important for increasing the sportsmen's performance. Thus, validity and reliability of information are not considered to be enough because of insufficient information means.

Key words: nutrition habits, nutrition information levels, fighting sports, Kickbox, Muai-Thai, Box, Taekwondo.

Rezumat

Premize. Cercetările din domeniul sportiv abordează cu precădere relația dintre nutriție și performanța sportivă, fără a ține cont de nivelul de informare nutrițională a sportivilor din ramurile de combat.

Obiective. Scopul acestui studiu a fost acela de a determina obiceiurile de nutriție și nivelurile de informare ale sportivilor interesați de sporturile de luptă și de a analiza interrelația acestora.

Metode. Această cercetare este o cercetare model general de screening. Studiul a fost realizat pe 162 sportivi licențiați în ramurile kickbox, muai-thai, box, taekwondo sub Van Erciş Youth and Sport Club. Cu permisiunea clubului lor, studiile științifice anterioare au fost evaluate pentru a determina obiceiurile lor nutriționale și nivelurile de informare utilizând un chestionar elaborat de Goral. Estimările statistice au fost efectuate în programul SPSS (versiunea 15.0) Frecvențele și valorile procentuale ale datelor relevante au fost estimate, iar testul chi-pătrat a fost efectuat pentru a analiza relația dintre nivelul de informații nutriționale ale sportivilor și informațiile demografice sportive.

Rezultate. Vizând informațiile nutriționale, punctele rezultate sunt: 67,3% din sportivi (n = 109) au realizat 4 puncte și mai puțin, 22,8% dintre ei (n = 37) au realizat 5 puncte. Au realizat 6 puncte 7,4% (n = 12), 7 puncte 1,9% (n = 3) și 8 puncte 0,6% (n = 1). Niciun sportiv nu a realizat 0, 1, 9 și 10 puncte la chestionarul de evaluare a nivelului de informare nutrițională.

Concluzii. Având în vedere datele din studiul nostru, mass-media este considerată principala resursă de informații pentru a avea date adecvate și echilibrate vizând nutriția și obiceiurile importante pentru creșterea performanțelor sportivilor, prin urmare, validitatea și fiabilitatea informațiilor sunt considerate insuficiente din cauza mijloacelor de informare scăzute.

Cuvinte cheie: obiceiuri nutriționale, niveluri nutriționale informaționale, sporturi de luptă, kickbox, muai-thai, box, taekwondo.

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Introduction

Nutrition and sport are very significant for a healthy life. Regular exercise increases muscle power, flexibility and endurance, provides cardiovascular harmonisation, prevents obesity and possible bone disorders at later ages (Akşit, 1993; Alpar et al.,1986). Among the basic factors affecting the sportsmen's performance, genetic structure, suitable training and nutrition come first (Ersoy & Hasbay, 2000). In obtaining high sports performance, person-based physiological and psychological factors, training, nutrition, health, environmental factors, sport-related characteristics play a role; on the other hand, it is difficult to mention which factor is more effective in maximum performance. However, there is no doubt that expecting high performance from a sportsman who does not eat regularly, which is unhealthy, is impossible (Pehlivan, 2005). Sportsmen spend most of their time training in order to increase their performance. In fact, great efforts are made for training, and good nutrition is extremely important to support these efforts and ensure a high level of efficacy in training (Ersoy, 2011). Nutrition is regarded as a balanced consumption of carbohydrates, lipids, proteins, vitamins, minerals and water, which are essential nutrients to meet the energy needs for vital activities in our body, to protect our health, make physical growth and development possible, adapt to training and maximise the effects of training (Zorba et al., 2000). Fighting sports involve strength, endurance, explosive power, speed and flexibility; furthermore, it is not possible to develop all these characteristics together in many other sport branches. Due to this characteristic, fighting sports are ultimately beneficial for our general health and a fit body. Control of weight is especially important for athletes practicing fighting sports. There may be situations that require them to rapidly lose weight they put on in order to protect their weight from time to time. This is why one must know that any unnecessary weight will slow down speed, that one must certainly focus on muscle-weighted performance if one needs putting on weight; overweight sportsmen must predict their situation months before and have a suitable diet instead of starting to lose weight a few days before matches. However, an important issue that must be considered by sportsmen is that weight loss must be based on fat, not muscle, and performance must be fallen down. Good nutrition is here especially to develop performance, provide coordination, recovery after exercise, and prevent injuries (Aoi et al., 2006; Niess et al., 2007). Intensity and volume of training and competition periods in fighting sports lead some competition sportsmen to use food support products unconsciously as well as to eat well in order to increase their performances. Even though many published studies maintain that appropriate and balanced nutrition is enough for optimal performance, usage of food support products by sportsmen increases rapidly. A major part of these products consists of less known products, on which there are not enough researches and data (Mcclung at al., 2007). Sportsmen use food support products with the expectation of their benefits for sports performance; few of them consider that these products also have negative effects. Potential negative findings involve falls in performance, acute or long-term harms in health, and positive doping results (Maughan et al., 2004). With the increasing interest in sport, nutrition of athletes increasingly becomes a more spoken about and researched topic on agenda. Regular and balanced nutrition is significant for sportsmen in many ways. Many situations such as increasing performance, controlling loss of weight and overweight intake, preventing discomfort given by electrolyte losses in the body, regular functioning of the digestive system, renewing energy sources in the recovery process, which affect sportsmen directly or indirectly, are provided with balanced nutrition (Süel et al., 2006). Researches dealing with persons interested in various sport branches in our country have shown health and nutrition disorders in most of the groups (Martin & Tarcea, 2015; Akil, 2007). In particular, a person who does sport during the growth and development period must take nutrition into consideration for a healthy physical development (Aksoy, 2000). Studies emphasize that trainers and sportsmen need a guiding light about nutrition (Akşar, 2006).

Objectives

The scope of this study consists of sportsmen actively interested in all categories of fighting sports in Turkey.

The purpose of this study was to determine nutrition habits and information levels of sportsmen interested in fighting sports and to analyze the relation between them.

Material and methods

This research was conducted with the approval of the Staff Committee of the Van Erciş Youth and Sport Club, Bartin, and of the Ethics Committee of the Bartin University. All subjects included in the study were informed about the purpose of this research and the methods of dissemination. Subsequently, the whole group agreed to participate in the study and granted their informal consent for the publication of the obtained data.

Period and place of the research. This is a research with a general screening model. Screening models are research models that aim to define past or current situations like they are. The basic purpose in these models is to describe current events as they are. Screening models aim to define an individual or an object as a subject of research within its own conditions, without making any changes or leading to effects (Karasar et al., 1999). The research took place in the Van Erciş Youth and Sport Club, Bartin, Turkey, and we applied the questionnaire in the second half of 2015.

Subjects. The study was performed in 162 licensed sportsmen included in branches of Kickbox, Muay-Thai, Box, Taekwondo, under the Van Erciş Youth and Sport Club.

Tests applied. Taking permission from their club, previous scientific studies were evaluated to determine the sportsmen's nutrition habits and information levels (Bilgiç et al., 2002; Göral et al., 2006; Süel et al., 2006) and a "Nutrition Information Level Questionnaire" form developed by Göral **(**Göral, 2006) was used. Club trainers helped the sportsmen to fill in the questionnaires. The Nutrition Information Level Questionnaire form consisting of 45 questions including 13 personal information questions, 20 nutrition habit questions and 12 nutrition information questions was applied by the pollster after

explanations during the sportsmen's rest hours.

Statistical processing. Statistical estimations were done in the SPSS (version 15.0) program. Frequencies and percentage values of relevant data were estimated, the chi-square test was performed to analyze the relation between the sportsmen's demographic information and nutrition information level. When p value was smaller than 0.05, any difference between the groups was found to be significant.

Results

Looking at the distribution of the demographic information of sportsmen participating in the study, 66.7% of them (n=108) were in the 21-25 age group, 98.1% (n=159) were single, 58% (n=94) weighed 70-80 kg, and 35.8% (n=58) weighed 80 kg and over. Given the sportsmen's education background, education distribution mostly included graduates from high school and its equivalent, 93.8% (n=152). Of the sportsmen participating in the study, 34% (n=55) had an income level of 500-1000 ytl, 27.2% (n= 44) 500 ytl and less, 21.6% (n=35) 1000-2000 ytl, and 17.3% (n=28) 2000 ytl and more. In accordance with data resulting from the study, of all sportsmen, 78.4% (n=127) lived at home, and 21% (n=34) lived in places such as hotels, hostels, etc. (Table I).

Table I

Distribution of the sportsmen's demographic information

Demographic information concerning sportsmen		n	%
Age	21-25 years	108	66.7
	17-20 years	47	29
Marital status	Single	59	8.1
	Married	3	1.9
Sportsmen's weight distribution	70 kg and less	10	6.2
	70 kg-80 kg	94	58
	80 kg and more	58	35.8
Sportsmen's education background	Primary-secondary school	2	1.2
	High school and its equivalent	152	93.8
	Bachelor	5	3.1
	Master	3	1.9
Sportsmen's income situation	500 ytl and less	44	27.2
	500-1000 ytl	55	34
	1000-2000 ytl	35	21.6
	2000 ytl and more	28	17.3
Sportsmen's accommodation situation	Home	127	78.4
	Hotel, hostel, etc.	34	21
	Club dwelling-house	1	0.6
Total		162	100

Regarding the frequency distribution of the sportsmen's opinions about whether they had enough information about nutrition, 43.2% of the sportsmen (n=70) had enough information about nutrition, 35.8% of them (n=58) did not have enough information about nutrition, and 21% (n=34) did not have any idea about this topic. When asked about their information resources, 52% of sportsmen who considered that they had enough information (n=37) mentioned media as an information resource, 75.9% (n=123) reported that there were not nutrition experts in their clubs, 82.7% considered that there was a close relation between nutrition and success, and 64.2% thought that their body weight was within appropriate limits. 58% (n=94) answered "No" to the question "Do you know what carbohydrate loading is?" (Table II).

Table II

Distribution of the sportsmen's opinions about nutrition information levels.

Opinions regarding the nutrition information level		n	%
The sportsmen's opinions about whether they have enough information about nutrition	Yes	70	43.2
	No	58	35.8
	No idea	34	21
Information resource of sportsmen Considering that they have enough information (n=70)	Trainers	22	13.6
	Books	11	6.8
	Media	37	22.8
Whether a nutrition expert is available in the club	Yes	39	24.1
	No	123	75.9
Opinions concerning the relation between nutrition and success	No relation	6	3.7
	Close relation	134	82.7
	No idea	22	13.6
Do you think that your body weight is within appropriate limits?	Yes	104	64.2
	No	58	35.8
Do you know what carbohydrate loading is?	Yes	68	42
	No	94	58
Total		162	100

With the evaluation of questions aimed at determining nutrition information levels, the average of information points in sportsmen participating in the study was found to be 4.01. Looking at the frequency and percentage distribution of information points, 30.9% of sportsmen (n=50) scored 4 points, 27.8% (n=45) 3 points and 22.8% 5 points. The Chi-square test results were not statistically significant in terms of total points of nutrition information levels from the independent variables (demographic information) included in the research assessment ($p \geq 0.05$). To measure the nutrition information levels of sportsmen, the participants were asked 10 questions about nutrition information in the third part of the questionnaire, and nutrition information levels were determined with the given correct answers. The highest score was considered 10 and the lowest score was considered 0 within the assessments. The total nutrition information points of the sportsmen based on the questionnaires are given in Table III. Looking at the nutrition information points in Table III, 67.3% of sportsmen (n=109) scored 4 points and less, and 22.8% of them (n=37) scored 5 points. Also, 7.4% (n=12) scored 6 points, 1.9% (n=3) scored 7 points, and 0.6% (n=1) scored 8 points. None scored 0, 1, 9 or 10 points in the questionnaire measuring the nutrition information levels of sportsmen participating in the study.

Table III

Distribution of nutrition information points in sportsmen.

Distribution of nutrition information points concerning sportsmen			
Sportsmen's total points	n	%	Point groups
0 point	0	0	Low
1 point	0	0	
2 points	14	8.6	
3 points	45	27.8	
4 points	50	30.9	Medium
5 points/	37	22.8	
6 points	12	7.4	High
7 points	3	1.9	
8 points	1	0.6	
9 points	0	0	
10 points	0	0	
Total	162	100	

Groups of information points are given in the same table. According to these, sportsmen who had information points in the 0-3 point range were included in the "Low"

level information group, those who had information points in the 4-5 point range were included in the "Medium" level information group, and those who had information points in the 6-10 point range were included in the "High" level information group.

Table IV

Distribution of nutrition information situations in sportsmen.

Nutrition information situations		n	%
How many hours must elapse between the last meal and the competition?	True	65	40.1
	False	97	59.9
How many meals a day must a sportsman eat?	True	26	16
	False	136	84
What are carbohydrate content foods?	True	134	82.7
	False	28	17.3
Which one must be preferred as the last meal before competition?	True	90	55.6
	False	72	44.4
What is the approximate daily calorie need for a sportsman?	True	35	21.6
	False	127	78.4
In which foods is vitamin C mostly found?	True	153	94.4
	False	9	5.6
What CHO intake (g/kg/day) is sufficient for sportsmen?	True	30	18.5
	False	132	81.5
Which one cannot be considered when planning sportsmen's nutrition?	True	35	21.6
	False	127	78.4
Which one of the following two minerals do sportsmen need in a large amount?	True	27	16.7
	False	135	83.3
What is the most correct type of nutrition in your opinion?	True	54	33.3
	False	108	66.7
Total		162	100

In Table IV, the sportsmen's answers to the questions about the nutrition information level are given as true and false. The true and false answer rates of other 2 questions were similar, but other 6 questions were mostly given false answers by the sportsmen participating in the study; these are shown in Table IV. Only 2 of the questions aimed at determining the nutrition information level of the sportsmen were given correct answers.

Table V

Chi-square test results in terms of total nutrition information points from the age variable of the studied sportsmen.

Age levels		Unit	Nutrition information points			Total
			Low	Medium	High	
Age	17 and less	n	1	1	0	2
		%	.6	.6	.0	1.2
	17-20	n	18	29	0	47
		%	11.1	17.9	.0	29
	21-25	n	36	68	4	108
		%	22.2	42	2.5	66.7
	26-30	n	3	1	0	4
		%	1.9	.6	.0	2.5
	36 and more	n	1	0	0	1
		%	.6	.0	.0	.6
Total		n	59	99	4	162
		%	36.4	61.1	2.5	100

Looking at Table V, the sportsmen taking part in the research were mostly aged between 17-20 (n=47, 29%) and 21-25 (n=108, 66.7%). Relevant points of the nutrition information level for both age groups were shown as a medium level (n=97, 59.9%) in the same table. Similarly, when examining the chi-square test results in terms of total nutrition information points from the education background of the sportsmen (Table VI), the participating sportsmen were mostly graduates from high school and its equivalent (n=152, 93.8%), and the nutrition information points were at a medium level.

Table VI

Chi-square test results in terms of total nutrition information points from the education variable of sportsmen.

Education levels		Unit	Nutrition information points			Total
			Low	Medium	High	
Education	Primary-secondary	n	1	1	0	2
		%	.6	.6	.0	1.2
	High School	n	54	94	4	152
		%	33.3	58.0	2.5	93.8
	Bachelor	n	4	1	0	5
		%	2.5	.6	.0	3.1
	Master	n	0	3	0	3
		%	.0	1.9	.0	1.9
Total		n	59	99	4	162
		%	36.4	61.1	2.5	100

Table VII

Chi-square test results in terms of total nutrition information points from the income level variable of sportsmen.

Level of income		Unit	Nutrition information points			Total
			Low	Medium	High	
Income	500 ytl and less	n	20	23	1	44
		%	12.3	14.2	.6	27.2
	500-1000 ytl	n	20	32	3	55
		%	12.3	19.8	1.9	34
	1000-2000 ytl	n	14	21	0	35
		%	8.6	13.0	.0	21.6
	2000 ytl and more	n	5	23	0	28
		%	3.1	14.2	.0	17.3
Total		n	59	59	99	4
		%	36.4	36.4	61.1	2.5

According to Table VII, sportsmen with 4 different income levels participated in the study. Regarding this situation, sportsmen who had an income level of 500 ytl and less had low and medium points for nutrition information levels, with almost similar rates. The sportsmen included in other income groups had higher medium levels of the nutrition information points (Table VII).

Table VIII

Chi-square test results in terms of opinions concerning whether sportsmen have enough information about nutrition and total nutrition information points

Answers to question		Unit	Nutrition information points			Total
			Low	Medium	High	
Having enough information about nutrition	Yes	n	27	42	1	70
		%	16.7	25.9	.6	43.2
	No	n	22	34	2	58
		%	13.6	21	1.2	35.8
	No idea	n	10	23	1	34
		%	6.2	14.2	.6	21
Total		n	59	99	4	162
		%	36.4	61.1	2.5	100

Chi-square test results in terms of opinions regarding whether the sportsmen had enough information about nutrition and total nutrition information points are given in Table VIII. The table shows the following: from the participants (n=70) thinking that they had enough information about nutrition, 25.9% (n=42) had a medium level of information points, 16.7% (n=27) had a low level of information points, and 0.6% (n=1) had a high level of information points. The same situation was available for the high level of information points in sportsmen thinking

that they did not have enough information about nutrition (n=2, 1.2%) and sportsmen having no idea about the topic (n=1, 0.6%). Although answers of all sportsmen included in the study were different with regards to having enough information about nutrition, the nutrition information points were at a medium level (Table VIII).

Table IX

Chi-square test results in terms of information resources of sportsmen thinking they have enough information about nutrition and total nutrition information points.

Answers to question			Nutrition information points			Total
			Low	Medium	High	
Information resource	Sportsmen answering "No" and "No idea" to the question of having enough information about nutrition					92 56.8%
	From trainers	n	10	11	1	22
		%	6.2%	6.8%	.6%	13.6%
	From nutrition books	n	6	5	0	11
		%	3.7%	3.1%	.0%	6.8%
	From written and visual media	n	11	26	0	37
		%	6.8%	16.0%	.0%	22.8%
Total		n	59	99	4	162
		%	36.4%	61.1%	2.5%	100.0%

According to Table IX, the sportsmen thinking that they had enough information about nutrition indicated written and visual media as information resources (n=37, 22.8%), their nutrition information points being mostly at a medium level (n=26, 16%).

Discussions

When feeding sportsmen, the sportsmen's gender, age and daily physical activity are considered. Furthermore, arrangements aimed at training and competition periods are made in accordance with the sport type; foods are taken in sufficient amounts and in a balanced way. When organizing the sportsmen's nutrition, the sportsmen's height, body weight, body fat percentage, information levels regarding nutrition, nutrition habits, health status, social and economic conditions are taken into consideration (Güneş, 2009). The types of training technique, mechanical device, nutritional support or physiological technique that target exercise performance and adaptation to training are called ergogenic aids. These aids become effective in getting ready for individual exercises, increasing efficacy of exercises or increasing recovery after exercises (Kreider et al., 2011). To have a high level of performance, it is necessary to define food items, to know what ingredients they consist of, when and for how long they must be consumed, how many daily calories sportsmen need (Yıldırım et al., 2005; Martin et al., 2016). A Study of Nutrition Habits and Information Levels of Footballers Playing in Different Leagues by Göral (2008) asked questions about the footballers' education background, income levels, experts preparing their nutrition programs, relation between nutrition and success, CHO loading, meal skipping, alcohol and cigarette usage, liquid intake before competition, foods consumed before competition, regular use of supportive products, carbohydrate content foods, last meal preference before competition, vitamin C sources, daily CHO intake. In the statistical values of answers, significant differences were found between the groups at level $p< 0.01$; in the values of meal skipping, time between the last meal and competition, how many meals to eat a day and most required minerals at $p< 0.01$; in the values of nutrition information resources of sportsmen, liquid intake during training, care about nutrition before and after training at $p< 0.05$ (Göral et al., 2006). Alpar (2011) studied nutrition, physical activity and food supplement usage in body building sportsmen; he carried out his study in 50 amateur male body building sportsmen who performed body building training for at least two years, in five different sport centers located in Ankara. 72% of the participants used food supplements, while 28% did not use them. A statistically significant difference was found between body weight, height and body mass index (BMI) values of individuals using and not using food supplements. While there were differences in average energy, protein and carbohydrate amounts between the days when individuals trained and did not train, no difference was found in their average fat amounts (Alpar, 2011). Duman (2011) studied the nutrition information levels of swimmers aged 10-18 and their relations with some parameters; by comparing the sportsmen's nutrition information levels and nutrition habits and anthropometric measurements, he did not find any relations between them (Duman, 2011). Finally, there were points about sportsmen's nutrition habits requiring improvement; life-long healthy nutrition habits will have positive effects on both growth and development, on both health in adulthood and performance in sport. Taze's research (2012) on nutrition habits and information levels of voleyball players playing in the 1st League showed significant differences in nutrition habits depending on gender in voleyball players playing in the 1st League, in accordance with relevant results of nutrition habits and gender of voleyball players participating in the research (Taze et al., 2012). Differences were seen in nutrition habits and education background, balanced fulfillment of vitamin and mineral needs, taken calorie amount if necessary, protein content consumption, carbohydrate loading situations. While there were significant differences in questions related to a satisfactory last meal, consumption of high protein content foods, regular breakfast in terms of nutrition habits and years of playing voleyball, there were no significant differences in the responses of voleyball players to other questions. In accordance with the gender of voleyball players, in responses to questions about nutrition information levels, significant differences were seen in information about energy given by foods, water rates in the body, usage of energy sources in weight trials, information levels about water drinking during exercises, information about calcium containing food items, while no significant differences were found in responses to other questions. In Table II, although 43.2% (n=70) of the sportsmen included in the study thought they had enough information about nutrition, 67.3% of the sportsmen scored 4 nutrition information points and less. Indication of the media as an information source by the sportsmen thinking that they had enough information represented 22.8 (n=37), as seen in Table II. Unfortunately, there are no competent experts on nutrition in sport clubs in our country, so nutrition is ignored by both

club managers and trainers. This complies with the answer "No" to the question "Is there a nutrition expert in the club?" in our study by 75.9% (n=123) of the sportsmen. However, 82.7% (n=134) of the sportsmen answered "There is a close relation" to the question "Is there a relation between nutrition and success?", showing the effects of nutrition on sports performance, but they could not access correct resources to have enough information about nutrition. The report called "Sportsman Nutrition" prepared by the Nutrition Society Branch of the Food Security Office of the Health Ministry mentioned that nutrition forms a basis for health in each period of life. Also, the following statements were mentioned in the report: "Nutrition and exercises are basic principles of healthy life and nutrition is an important factor which increases sportsmen's performance. In today's understanding about modern sport nutrition, there is a consensus about that a balanced diet containing appropriate foods meets the sportsmen's needs. Sportsmen want to have information about issues such as applying nutrition plans to make daily training efficient and increase winning chances, learning something about the topic, finishing competition without tiredness, losing weight. In many sport branches in our country, sportsmen's nutrition is organized by professional groups having enough information including trainers at first, but even trainers at national team level do not have enough information about nutrition" (Göral et al., 2010). This report supports our findings. In accordance with data in Table IV, the true and false rates of the sportsmen's responses were similar for the question associated with the last meal type and time before competition; sportsmen mostly gave true answers to the question related to carbohydrates and vitamin C. They mostly gave false answers to other questions. Göral et al. suggested that most of the footballers included in the research knew carbohydrate content foods (72.2%) and preferred them before competitions (67.2%); the majority of footballers chose (85.3%) a correct menu as the last meal (stew, digestible, pulpless and less fatty foods) (Arıkan & Şanlıer, 2006). A percent of 81.8% of the sportsmen knew carbohydrate content foods correctly (Abood et al, 2004). Abood et al. chose sportsmen from a female football team and a female swimming team in Florida randomly, measured their nutrition information levels, and considered the sportsmen's nutrition information to be inadequate. The sportsmen's nutrition information was only based on training (Reading et al., 1999). Readink et al. determined nutrition information levels in sportsmen as insufficient items. Nutrition information tests were applied to 175 persons including adults and individuals at the development age. The results showed that the information level was 45% (Göral et al., 2010). These data are in accordance with our research findings.

Conclusions

No significant difference was found in the values of the sport information level between sportsmen groups having different ages, education and economic income levels in our study.

According to the data from our study, media is mostly seen as an information resource for suitable and balanced nutrition information and habits, which are important for increasing the sportsmen's performance. Thus, validity and reliability of information are not considered to be enough because of low information points.

Studies emphasize that trainers and sportsmen need a guiding light about nutrition. The results show that trainers must be supported by nutrition education, seminars, courses, panels, etc., and sportsmen must benefit from trainers as the closest information resource to them.

Conflicts of interests

No conflict of interests.

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