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Research Article / Araştırma Makalesi

Sports medicine awareness among healthcare professionals

Sağlık çalışanlarında spor hekimliği farkındalığı

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ABSTRACT

Objectives: Sports medicine is a multidisciplinary specialty. In the literature, there is no study examining awareness about the specialty. This study aimed to investigate the level of awareness on sports medicine specialty among healthcare professionals.

Methods: This study was designed as a cross-sectional and descriptive study. In this study, data were collected over the internet using an online survey system (Google Forms). Data, comprising occupational information of the participants were in the first part, status of applying to sports medicine in the second part, and awareness about sports medicine in the third part, were collected.

Results: A total of 869 participants (67.5% female, 32.5% male) completed the survey. Of the total responders, 40.9% (n=356) were physicians, 15.5% (n=135) were administrative/technical staff, and 43.5% (n=378) were other health personnel. The number who attended sports medicine outpatient clinics for any reason was 294 (33.8%). The most common reason for referral to the sports medicine outpatient clinic was musculoskeletal injury (n=146, 49.6%). Awareness on sports medicine specialty was high for 49.3% (n=428), moderate for 44.3% (n=385), and low for 6.4% (n=56) of the participants. There was no significant relationship between age, gender, institutions and professions of the participants, and awareness level about the sports medicine specialty (p=0.115, p=0.163, p=0.139, p=0.386, respectively).

Conclusion: This study demonstrated that healthcare professionals were aware of the sports medicine specialty.

Keywords: *Awareness, sports medicine, hospital medical staff*

ÖZ

Amaç: Spor hekimliği mültidisipliner bir uzmanlık alanıdır. Literatürde spor hekimliği uzmanlığı ile ilgili farkındalığı inceleyen çalışma bulunamamıştır. Bu çalışmada sağlık çalışanlarının spor hekimliği uzmanlığı konusundaki farkındalık düzeylerinin araştırılması amaçlandı.

Yöntem: Çalışma, kesitsel ve tanımlayıcı şekilde tasarlandı. Çevrimiçi anket sistemi (Google Forms) kullanılarak internet üzerinden veriler toplandı. Birinci bölümde katılımcıların çalışma bilgileri, ikinci bölümde spor hekimliğine başvurma durumu ve üçüncü bölümde spor hekimliği farkındalıkları hakkında veriler toplandı.

Bulgular: Toplam 869 katılımcı (%67.5 kadın. %32.5 erkek) anketi tamamladı. Toplam yanıt verenlerin %40.9'u (n=356) hekim, %15.5'i (n=135) idari/teknik personel ve %43.5'i (n=378) diğer sağlık personeli idi. Spor hekimliği polikliniğine herhangi bir nedenle başvuranların sayısı 294 (%33.8) idi. Spor hekimliği polikliniğine en sık başvuru nedeni kas-iskelet sistemi yaralanmasıydı (n=146. %49.6). Katılımcıların spor hekimliği uzmanlığı farkındalığı %49.3 (n=428) yüksek, %44.3 (n=385) orta ve %6.4 (n=56) düşüktü. Katılımcıların yaşı, cinsiyeti, çalıştığı kurumu ve meslekleriyle spor hekimliği uzmanlığı konusundaki farkındalık düzeyi arasında anlamlı bir ilişki yoktu (sırasıyla. p=0.115. p=0.163. p=0.139. p=0.386).

Sonuç: Çalışma, sağlık çalışanlarının spor hekimliği uzmanlığının farkında olduklarını gösterdi.

Anahtar Sözcükler: *Farkındalık, spor hekimliği, hastane sağlık personeli*

INTRODUCTION

The increased risk of mortality due to chronic diseases such as obesity, diabetes and cancer decreases with regular physical activity, and this increases the quality and duration of life. Physical activity and sports improve health in all age groups (1,2). Intense efforts are being made globally to expand participation in sports, and the number of amateur and professional athletes is increasing day by day. The frequency of acute and overuse injuries increases in individuals participating in sports, and the need for health services arises (3,4).

In the definition of the International Federation of Sports Medicine (FIMS), sports medicine examines the effects of exercise, training and sports, as well as sedentary life on healthy and sick individuals, in the fields of prevention, di–

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agnosis, treatment and rehabilitation, and in all ages and each gender who participate in movement. It is a theoretical and applied medicine specialty producing studies that will help individuals (5).

According to the definition of the European Federation of Sports Medicine Associations (EFSMA), sports medicine deals with the diagnosis, treatment, prevention and rehabilitation of injuries and health problems arising from participation in exercise and physical activity at all levels, and strives to encourage adoption of a physically active lifestyle in the public (6). It is a multidisciplinary clinical (minor in some countries) specialty (as well as academic study) area that seeks to protect individuals. However, sometimes questions can be asked about the job description and function of the specialty. Asking these issues led us to investigate the awareness of sports medicine. In the literature, there is no study examining the awareness of sports medicine among healthcare professionals to our knowledge. The aim of this study was to determine the level of awareness among healthcare professionals about the specialty of sports medicine and this subject.

MATERIAL and METHODS

This study is a cross-sectional, descriptive survey study. Data were collected between October 2021 and December 2022. A questionnaire was sent online to 5783 healthcare professionals working actively in our country. Of these, 869 (15.3%) responded to the survey. Each participant was asked to respond to an informed consent form at the beginning of the survey. Local ethics committee approval was obtained for the study (Approval no: 2020/05, approval date: 16/12/2020).

This study was planned in the following stages: literature review, preparation of survey questions, pilot study to gain expert opinion about awareness questions, arranging the final version of the questions and distributing the survey questions (7). No standardized questionnaire about the awareness of sports medicine relevant to the research setting, and pertinent to the research question, was found in the existing literature. Therefore, the researcher designed a self-administered questionnaire from the literature guided by the aims of the study. After the literature review, 15 questions about sports medicine were created. With the preliminary study, the content validity of the questions was examined using the Lawshe method. The suitability of the questions was evaluated with the opinions of 11 experts (two public health physicians, two orthopedists and seven sports medicine specialists). Upon expert evaluation, the content validity index (CGI) and content validity ratio (CVR) for each question were calculated. The CGI value was calculated as 0.59 based on the number of specialists (8). As a result of the calculation, there was one question that fell below this value and this question was removed from the survey. The questionnaire was finalized after necessary adjustments were made to the 12 questions with revisions suggested.

The survey consisted of three parts. In the first part, occupational information such as age, gender, occupation, title, health institution of employment, field of specialization and duration of occupation were included. In the second part, the level of awareness about sports medicine, and the status and reason for applying to any sports medicine outpatient clinic were questioned. Respondents were asked to give a score from zero to ten on a scale of 11 about their awareness level of sports medicine, and this was called the awareness level score (0: I do not know anything about sports medicine, 10: I have most knowledge about sports medicine).

In the third part, there were 14 questions to evaluate the awareness of sports medicine. Each question was created with a 5-point Likert-type scale, and was prepared with a correct answer. Responses were scored as follows: strongly agree: 4, agree: 3, disagree: 2, strongly disagree: 1, and undecided: 0 point. Question scores were summed, and a total score was obtained and called the awareness total score (minimum: 0 points, maximum: 56 points). The level of awareness of sports medicine increases as the score obtained from the scale increases, and vice versa. The total score was used as the dependent variable, and had a possible range between 0-56, with higher values indicating better awareness. Awareness level of 75% and above for the total score was classified as high awareness, between 50% and 74% as moderate awareness, and below 50% as low awareness (9).

Statistical analyses were performed using the SPSS software v22.0. A p-value of <0.05 was considered to indicate statistical significance. Continuous variables are presented as mean ± SD or median (interquartile range), while categorical variables are presented as number and frequency. Normal distribution of the variables was investigated with the Shapiro-Wilk test. Chi-square and Spearman correlation coefficient were used to examine the relationship between categorical variables and non-normally distributed continuous variables.

RESULTS

A total of 869 healthcare professionals answered the questionnaire, 67.5% (n=587) of the participants were female and 32.5% (n=282) were male (Table 1). The mean level of awareness about sports medicine was 5.0±2.7 (minimum:0, maximum:10). Of the participants, 33.8% (n=294) had applied to

a sports medicine outpatient clinic for any reason. The most common reason for attending sports medicine was musculoskeletal injury (Figure 1). Awareness of sports medicine among the participants was high for 49.3% (n=428), moderate for 44.3% (n=385), and low for 6.4% (n=56). There was no significant relationship between age, gender, institutions and professions of the participants, and awareness about sports medicine (p=0.115, p=0.163, p=0.139, p=0.386, respectively), (Table 2).

There was no significant difference between the awareness levels of health workers when their profession was classified as physician, health personnel, and administrative/technical personnel (p=0.315). There was a low level of positive correlation between the mean duration of occupation of healthcare professionals and the total score for sports medicine awareness (p=0.04, r=0.07). There was a low positive correlation between the participants' sports medicine awareness level score and awareness total score (p<0.001, r=0.236).

Table 1. Occupational features of participants

Parameters	n (%)	Median	Min-max	InterQ (Q_{25}-Q_{75})
Age (yr)		39	21-72	31-47
Duration of occupation (yr)		15	0-44	7-24
Institution				
University hospital	341 (39.2)			
Provincial health dpt./District health direct.	174 (20.0)			
Training and research hospital	125 (14.4)			
Public hospital	102 (11.7)			
Private (practice/workplace/hospital)	127 (14.6)			
Health worker title				
Medical doctor	296 (34.1)			
Academician	53 (6.1)			
Specialist doctor	124 (14.3)			
General practitioner	55 (6.3)			
Resident	64 (7.4)			
Nurse/midwife/health officer	202 (23.2)			
Dentist	60 (6.9)			
Pharmacist	53 (6.1)			
Physiotherapist	56 (6.4)			
Dietitian	34 (3.9)			
Psychologist	33 (3.8)			
Health technician	86 (9.9)			
Administrative staff	14 (1.6)			
Other (medical/data logging secretary, etc.)	35 (3.9)			

InterQ: interquartile; Q_{25}: Interquartile first range, Q_{75}: Interquartile second range

Table 2. Participant awareness levels of sports medicine.

Parameter	Awareness level of sports medicine			p
	Low	Middle	High	
Gender				
Women	39 (6.6)	272 (46.3)	276 (47.0)	0.163
Men	17 (6.0)	113 (40.1)	152 (53.9)	
Institution				
University hospital	28 (3.2)	164 (18.9)	149 (17.1)	0.139
Provincial health dpt./district health direct.	6 (0.7)	59 (6.8)	60 (6.9)	
Training and research hospital	4 (0.5)	44 (5.1)	54 (6.2)	
Public hospital	11 (1.3)	63 (7.2)	100 (11.5)	
Private (practice/workplace/hospital)	7 (0.8)	55 (6.3)	65 (7.5)	
Health worker title				
Academician	3 (4.8)	22 (40.2)	28 (55.1)	0.386
Specialist doctor	3 (0.3)	52 (6.0)	69 (7.9)	
General practitioner	3 (0.3)	20 (6.0)	32 (7.9)	
Resident	5 (0.6)	22 (2.5)	37 (3.7)	
Nurse/midwife/health officer	20 (2.3)	93 (10.7)	89 (10.2)	
Dentist	4 (0.5)	34 (3.9)	22 (2.5)	
Pharmacist	2 (0.2)	27 (3.1)	24 (2.8)	
Physiotherapist	2 (0.2)	22 (2.5)	32 (3.7)	
Dietitian	2 (0.2)	15 (1.7)	17 (2.0)	
Psychologist	3 (0.3)	12 (1.4)	18 (2.1)	
Health technician	5 (0.6)	46 (5.3)	35 (4.0)	
Administrative staff	1 (0.1)	6 (0.7)	7 (0.8)	
Other (medical/data logging secretary, etc.)	3 (0.3)	14 (1.6)	18 (2.1)	
Status of applying to sports medicine				
Attended sports medicine clinic	11 (1.3)	114 (13.1)	169 (19.4)	0.001*
Did not attend sports medicine clinic	45 (5.2)	271 (31.2)	259 (29.8)	

Figures as n(%); p<0.05 indicates statistical significance

DISCUSSION

In this study, the awareness of health professionals in our country about sports medicine was examined, and the aim was to increase this awareness. The majority of healthcare professionals had moderate-to-good awareness of sports medicine. There was no difference in the awareness about sports medicine among health personnel working in different institutions and different professions. Awareness of sports medicine increased as the professional duration of the health worker increased.

While the duration of specialization in sports medicine is four years in our country, it varies between 2-5 years in European countries. In some countries, it can be accomplished with subspecialty programs. Sports medicine training is provided in 37 European countries. The total number of sports medicine specialists in Europe is estimated to be around 30,000. According to data obtained from the 30th Sports Medicine Association Congress on 09 March 2023, there are 104 specialists and 44 residents. These figures look very promising for the future development of sports medicine coverage in Europe, not only for elite athletes, but also for health promotion. The European Union of Medical Specialties (EUMS) Council decided to establish the Multidisciplinary Joint Committee (MJC) on Sports Medicine. This important development will lead to the establishment of a European Board of Sports Medicine in the future. The creation of the Sports Medicine MJC in EUMS will be an incentive to promote and harmonize sports medicine education in all European countries, and for full recognition of the sports medicine specialty by all medical authorities in the member states (10).

Sports medicine is a multidisciplinary specialty that includes preventive and curative medicine practices, and is practiced by physicians who have expertise in sports medicine. Sports medicine focuses on subjects such as exercise physiology and biochemistry, sports traumatology and sports rehabilitation, regular static and dynamic examinations of athletes and recreational athletes, measuring and monitoring their performance, determining the mechanisms of occurrence of sports injuries, and reducing the incidence of injuries, ensuring that training is more beneficial to athletes, and providing services to ensure that injured athletes reach their former performance levels as soon as possible. In addition, exercise prescriptions and practices for the prevention and/or treatment of many chronic diseases such as obesity, coronary heart diseases, osteoporosis, diabetes, asthma and some types of cancer are also included in the service areas of sports medicine (10-12).

In this study, musculoskeletal injury was the most common reason for health professionals applying to a sports medicine outpatient clinic. The mean age of 294 people who applied to the sports medicine outpatient clinic for any reason was 41.0±15.1 years and 67.3% of them were women. The mean age of people who applied due to musculoskeletal injury was 42.1±17.4 years and 64.5% of the 186 people were women. Tahirbegolli et al. examined injuries in two studies of patients who applied to a sports medicine clinic in a university hospital. In this study, the most common reason for admission was musculoskeletal injury, and the second most common reason was examination for participation in sports (13,14). Kürklü et al. evaluated the characteristics of people who applied to the sports medicine outpatient clinic of a university hospital for 18 months for sports participation examination, and reported that 87% were male and the mean age was 27.0±3.2 years (15). In our study, the age of the people who applied to sports medicine was higher, as was the female gender, which may be due to the fact that the majority of participants in the study were women.

Since this study was a survey study, the accuracy of the answers is questionable depending on the statements of the individuals. Since sports medicine doctors were also involved in delivering the questionnaire to the participants, it may consist of people who partially knew sports medicine doctors, and have heard of this branch before. Although a homogeneous distribution is observed, people with previous knowledge of this branch may have responded more enthusiastically to this survey. This study cannot be generalized to healthcare workers in other countries. In addition, since no sampling method was used in the selection of the population, it cannot be generalized to health workers in the whole country.

CONCLUSION

The present study demonstrated that healthcare professionals were aware of sports medicine, and that there was no difference among occupational groups of healthcare professionals.

Ethics Committee Approval / Etik Komite Onayı

The approval for this study was obtained from İzmir Bozyaka Training and Research Hospital, Clinical Research Ethics Committee, İzmir, Türkiye (Decision no: 2020/05, Date: 16/12/2020).

Conflict of Interest / Çıkar Çatışması

The authors declared no conflicts of interest with respect to authorship and/or publication of the article.

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Author Contributions / Yazar Katkıları

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