

AN INVESTIGATION OF HEALTHCARE PROFESSIONALS' HEALTH BELIEFS ABOUT SPORTIVE RECREATIONAL ACTIVITIES

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Abstract

Objectives: In this study, healthcare professionals' beliefs about sportive recreational activities were examined. **Material and Methods:** This was a cross-sectional study conducted with 940 volunteer healthcare professionals. The *Sociodemographic Information Form* prepared by the authors and the *Health-Belief Scale on Sportive Recreational Activities* (HBSSRA) determined on the basis of their literature review were used to collect data. **Results:** Although it was concluded that 72% of the healthcare professionals did not have enough free time, the participation rate in sportive recreational activities reached 71.4%. The study revealed that 44.9% of the participants preferred to engage in sportive recreational activities individually, while 55.1% wanted to do such activities in a group. It was found that 72.9% of the participants took part in sports activities for health-related reasons. The mean health-belief score of the healthcare professionals regarding recreational activities was found to be 80.38 (SD = 10.32). As this score is very close to the maximum value (105.00), it can be stated that their health beliefs are high. **Conclusions:** It is understood that participation in sportive recreational activities has positive effects on individuals' physical and mental health; however, there are also some factors that prevent individuals' participation in such activities. The income level, the marital status, the spouse's employment status, having children, and time spent at the place of residence are important factors preventing participation in sportive recreational activities. This study is expected to help individuals gain a perspective about participation in sportive recreational activities, and to provide more evidence in raising the awareness about the protection of individual health. In addition, it is expected to help shape the behaviors aimed at being healthy by improving one's own health-related beliefs. *Int J Occup Med Environ Health.* 2022;35(2)

Key words:

health, health belief, leisure, recreation, sportive recreational activities, healthcare professionals

INTRODUCTION

In the first decade of the 21st century, due to the conceptualization of health as a talent, the evaluation of efforts to improve human health became the main indicator and opened the door to self-evaluation [1]. This door then created an opportunity to reexamine the determinants of health, away from the traditional approach which focuses on making people feel healthy and reducing dis-

eases [2]. According to the World Health Organization (WHO), social and economic environment, physical environment, and individual characteristics and behaviors are among the main determinants of health [3]. Physical health is crucial due to the positive effects it has on physical, mental and spiritual well-being. Physical activity, including any muscular movement, causes calories loss [4], while physical inactivity is considered to be one

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of the biggest public health problems of the 21st century and is seen as the fourth risk factor for death among all other causes [5]. In fact, the lack of physical activity accounts for 6% of deaths worldwide, while a previous study reported this percentage to be 9% [6]. Moreover, 31% of adults in the world are physically inactive, and approx. 3.2 million deaths a year are due to physical inactivity [7].

It was found that 28.6% of all people living in the EU countries engaged in no physical activity, while 71.4% were considered active enough [6,8]. In Greece, the percentage of inactive people reaches 38.1% while Sweden (12.4%), the Netherlands (14.9%) and Finland (15.9%) have the lowest percentages of physical inactivity [8]. The new Physical Activity Strategy for the WHO European Region (2016–2025) aims to take action to encourage people to engage in more physical activity, regardless of their gender, age, income, nationality etc. [9].

Healthcare professionals are a group assuming a physically and mentally heavy burden. Because of working shifts, performing challenging tasks, and family issues, they may not plan or perform physical activity. As stated in literature, healthcare professionals cannot get enough exercise and they also eat unhealthy food, are prone to alcohol abuse, and suffer from burnout [10]. A study examining the physical activity status of healthcare professionals revealed very high levels of inactivity, which was considered to be highly alarming [11]. There is ample evidence showing the health benefits of physical activity. Regular physical activity has been associated with a considerable decrease in premature mortality and in risks for more than 25 chronic medical conditions [12,13]. Most of the international physical activity guidelines recommend reaching the target of 150 min of moderate-to-vigorous physical activity per week [13] since physical activity reduces the risk of diabetes, cardiovascular disease and cancer, and affects mortality rates by influencing some health indicators such as the body mass index [14].

The Health-Belief Model (HBM) is used to investigate the foundation of and barriers to a person's participation in programs focusing on prevention of diseases and promotion of a healthy lifestyle [15]. With this model, behaviors can be predicted according to constructs such as perceived susceptibility (one's beliefs about the chances of catching a disease or a harmful condition related to a specific behavior), perceived seriousness (a belief which can be harmful as a result of a specific behavior), perceived benefits (benefits to risk reduction of catching a disease or a harmful condition related to a specific behavior), perceived barriers (beliefs which can be real or imaginary and their costs regarding new behavior), cues to action (forces that make one feel the necessity to take action), and self-efficacy (feeling confident in having the ability to perform a behavior) [16].

Today, intensive studies are carried out on reducing the negative effects of various diseases or on what people should do before they develop an illness. The focus of these studies is the behaviors people should adopt and exhibit to improve their health beliefs and to protect their health. The HBM includes studies that explain this situation. Over the past 2 decades, the HBM has been expanded compared to other frameworks and has been used to support interventions in changing health behaviors [17,18].

It is emphasized that recreational exercises are seen as a preventive health service and are attached greater value day by day [19]. It has also been stated that the material and moral losses experienced during the resolution of the increasing health complaints caused this issue to be included in the health agenda. The widespread use of health behaviors in society brings with it some individual and social benefits in the long run. In a study conducted on healthcare professionals, it was emphasized that healthcare professionals are in a strategic position to increase the awareness of the population about adopting an active lifestyle [20].

For this reason, the beliefs of healthcare professionals about sportive recreational activities need to be investigated. This study was designed to determine the health beliefs of these professionals, who are said to be in a strategic position when it comes to adapting to an active lifestyle.

MATERIAL AND METHODS

Participants

The subjects of this study were randomly selected from health institutions in 4 different cities of the Central Anatolia Region, Turkey, where the second author of the article is the regional manager of a private pharmaceutical company. While 90% of these institutions are state hospitals, university hospitals or family medicine institutions, which are public entities, 10% are private hospitals. The inclusion criteria of the participants included being a healthcare professional over 18 years of age and being currently on duty. The group of healthcare professionals consisted of 344 medical specialists from different branches, 399 nurses working in inpatient services, and 197 health officers. They all volunteered to participate in the study.

Study design

The scales were delivered to the healthcare professionals as hard copies and were collected after they responded to the questions. In this way, a response rate of 100% was achieved.

The confidentiality of all the participants and information was ensured by keeping all the subjects anonymous in accordance with the European data protection regulations. The authors declare the absence of any conflicts of interest. Ethical approval was obtained from Selçuk University, Faculty of Sport Sciences, Non-Interventional Research Studies Ethics Committee (decision No. 83, date of meeting: 12.12.2020) and compliance with the fundamental principles set out in the Declaration of Helsinki was ensured.

The healthcare professionals who participated in the study were aged 18–66 years, and their age was determined to be $M \pm SD$ 32.74 ± 8.85 . Although 72% of the healthcare professionals stated that they did not have enough leisure time, the rate of participation in sportive recreational activities was found to be 71.4%. It was also observed that the rates of those who preferred to participate in sportive recreational activities individually or in a group were almost equal (44.9–55.1%), and 72.9% of the participants reported that they engaged in sports activities for health-related reasons (Table 1).

Sociodemographic Information Form

The *Sociodemographic Information Form*, which includes 13 items and which was prepared by the researchers, was used to collect the participants' personal information such as age, gender, occupational categories, the marital status, the spouse's employment status, having children, the monthly income level, the place of residence, time spent at the place of residence, participation in sportive recreational activities, participation preference, participation reason, and the status of having adequate leisure time.

Health-Belief Scale

on Sportive Recreational Activities

In 2013, Ertüzün et al. [19] developed the *Health-Belief Scale on Sportive Recreational Activities* (HBSSRA), which is a Likert-type scale consisting of 5 sub-dimensions and 21 questions [19]. The sub-dimensions are as follows: *Perceived seriousness* (items: 1, 11, 13, 19, e.g., "Participating in leisure-time physical activities is vital for all of my body functions"), *Perceived barriers* (items: 2, 8, 12, e.g., "I am afraid of being injured while participating in sportive recreational exercises"), *Physical benefit* (items: 3, 9, 14, 16, e.g., "I believe that my excretory system works more regularly when I do sportive recreational exercises"), *Psychosocial benefit* (items: 4, 5, 7, 10, 18, 20, e.g., "I believe

Table 1. Sociodemographic characteristics of healthcare professionals on active duty in 4 provinces of the Central Anatolia Region, Turkey, 2020

Variable	Participants (N = 940)	
	n	%
Age		
18–22 years	123	13.1
23–28 years	235	25.0
29–35 years	237	25.2
36–45 years	268	28.5
≥46 years	77	8.2
Gender		
female	500	53.2
male	440	46.8
Occupation		
doctor	344	36.6
nurse	399	42.4
health officer	197	21.0
Marital status		
married	611	65.0
single	329	35.0
Spouse's employment status		
yes	503	53.5
no	437	46.5
Having children		
yes	530	56.4
no	410	43.6
Total income level		
<TL 1500	65	6.9
TL 1500–2500	167	17.8
TL 2501–4000	286	30.4
>TL 4000	422	44.9
Residence		
metropolitan area	535	56.9
province	293	31.2
district	94	10
village, town, etc.	18	1.9
Time spent at the place of residence		
<1 year	65	6.9

Variable	Participants (N = 940)	
	n	%
1–2 years	105	11.2
2–3 years	185	19.7
>3 years	585	62.2
Sportive recreational activities participation		
yes	671	71.4
no	269	28.6
participation preference		
individual	422	44.9
group	518	55.1
participation reason		
social circle	175	18.6
health	685	72.9
other	80	8.5
Adequate leisure time		
yes	263	28
no	677	72

TL – Turkish lira.

that recreational exercises have positive effects on my mental health”), and *Self-efficacy* (items: 6, 15, 17, 21, e.g., “For participating in recreational exercises, I sacrifice from my economic condition”). The participants’ answers to the scale questions were evaluated over total points. The scale does not include reverse items. The Cronbach’s α of the scale was 0.88 for all the items. The Cronbach’s α coefficient was determined as 0.86 in this study.

Data analysis

In the data analysis, the frequency and percentage distributions of the participants’ sociodemographic information and the descriptive statistics for the HBSSRA sub-dimensions were examined. Whether the variables showed normal distribution or not was determined by

analyzing the kurtosis and skewness test values [21,22]. The HBSSRA sub-dimensions and the sociodemographic information with >2 choices were compared with the one-way analysis of variance (ANOVA) test, while the independent sample t-test was used for the sociodemographic information with 2 choices. The χ^2 test was used to determine the relationships between sociodemographic information. The Tukey (*post-hoc*) test was used to determine the differences between the groups. The level of significance was accepted as $p < 0.05$.

The kurtosis and skewness test results revealed that the HBSSRA sub-dimension scores of the participants showed normal distribution. In addition, when the total scores of all sub-dimension items were examined, the health beliefs of the participants regarding recreational activities was found to be $M \pm SD$ 80.38 ± 10.32 , which was very close to the maximum value (105.00) (Table 2).

RESULTS

The relationship between demographic characteristics

The results of the χ^2 test regarding the relationship between the participants' demographic characteristics indicate that there is no significant relationship between participation in sportive recreational activities and age, occupation, the marital status, having children, the income level, and time spent at the place of residence. However, a significant relationship was observed between participation in sportive recreational activities and gender, the spouse's employment status, the place of residence, participation preference, the participation reason, and having adequate leisure time.

Overall, 71.4% of the participants stated that they took part in sportive recreational activities. When the participation rates of the healthcare professionals in sportive recreational activities were examined (doctors: 69.8%, nurses: 69.9%, health officers: 77.2%), it was observed that there were no significant differences between them.

Table 2. The total scores and sub-dimension scores on the *Health-Belief Scale on Sportive Recreational Activities* (HBSSRA) in the study among healthcare professionals on active duty in 4 provinces of the Central Anatolia Region, Turkey, 2020

Variable	HBSSRA score		
	min.	max	M \pm SD
HBSSRA total	21	105	80.38 \pm 10.32
<i>Perceived seriousness</i>	4	20	16.24 \pm 2.31
<i>Perceived barriers</i>	3	15	11.17 \pm 2.07
<i>Physical benefit</i>	4	20	16.18 \pm 2.34
<i>Psychosocial benefit</i>	6	30	23.34 \pm 3.69
<i>Self-efficacy</i>	4	20	13.45 \pm 3.52

Thus, no significant difference was found between healthcare occupational categories and participation in sportive recreational activities.

It was determined that 68.2% of the female participants and 75% of the male participants took part in these activities. It was further established that this difference was statistically significant and men participated in sportive recreational activities at a higher rate than women (Table 3).

While 82.9% of the healthcare professionals who had enough leisure time participated in the activities, 17.1% did not. In addition, it was observed that 66.9% of those who said they did not have enough leisure time participated in the activities. These results indicate that having adequate leisure time is not a major factor when it comes to the healthcare professionals' participation in sportive recreational activities.

It was also found that 68% of the participants whose spouses worked did sportive recreational activities, while 75.2% of those whose spouses did not work engaged in such activities. These findings point to a significant relationship between participation in sportive recreational activities and the spouse's employment status.

It was further revealed that there was a significant relationship between the participants' place of residence

Table 3. The χ^2 test results pertaining to the relationship between gender* and participation in sportive recreational activities** in the study conducted among healthcare professionals on active duty in 4 provinces of the Central Anatolia Region, Turkey, 2020

Variable	Participants (N = 940) [n (%)]		χ^2	p
	total	females (N = 500)		
Sportive recreational activities			5.298	0.02
participating	671 (71.4)	341 (68.2)		
not participating	269 (28.6)	159 (31.8)		

* Female – 1, male – 2.

** Yes – 1, no – 2.

and their participation in sportive recreational activities. More specifically, 76.6% of those who lived in metropolitan areas, 65.2% of those residing in a province, 63.3% of those residing in a district, and 55.6% of those residing in a village, participated in sportive recreational activities.

A significant relationship was found between participation in sportive recreational activities and participation preferences. Namely, 74.9% of the healthcare professionals who did sportive recreational activities preferred doing these activities individually, while 68.5% stated that they preferred doing group activities.

A statistically significant relationship was found between the participation preferences of those healthcare professionals who participated in sportive recreational activities. It was determined that 79.4% participated in sportive recreational activities for social environment reasons, 70.7% for health-related reasons, and 60% for other reasons.

Evaluation of the differences between demographic characteristics and the HBSSRA sub-dimension scores

When the ANOVA comparison results of the HBSSRA sub-dimension scores of the participants and their demographic characteristics were examined, it was found that there was no statistically significant relationship between gender and any of the HBSSRA sub-dimensions.

A significant difference was found between the age factor and the *Psychosocial benefit* sub-dimension, observed in the 18–22 years and 23–28 years age groups.

As a result of the comparison of the income level and the HBSSRA sub-dimensions, some significant differences were found as regards *Perceived seriousness*, *Perceived barriers*, *Physical benefit* and *Psychosocial benefit*. No difference was found in the *Self-efficacy* sub-dimension.

It was further revealed that there were some significant differences between the reasons for participating in sportive recreational activities and the *Perceived seriousness*, *Physical benefit* and *Psychosocial benefit* sub-dimension scores (Table 4).

In addition, significant differences were noted between the marital status factor, and the *Perceived barriers* and *Psychosocial benefit* sub-dimension scores. Furthermore, statistically significant differences were found between participation in sportive recreational activities and the scores of *Perceived seriousness* and *Perceived barriers* sub-dimensions. However, no significant differences were observed in other sub-dimensions (Table 5).

When the occupational category and the HBSSRA sub-dimensions were compared, it was found that there was a significant difference in the *Perceived barriers*, *Psychosocial benefit* and *Self-efficacy* sub-dimensions.

Table 4. One-way ANOVA test comparison results pertaining to the relationship between the reasons for participation in sportive recreational activities* and the *Health-Belief Scale on Sportive Recreational Activities* (HBSSRA) sub-dimensions in the study conducted among healthcare professionals on active duty in 4 provinces of the Central Anatolia Region, Turkey, 2020

Variable	Participants (N = 940) [n]	HBSSRA scoring** [pts] (M±SD)	F	p	<i>post-hoc</i> ***
<i>Perceived seriousness</i>			5.163	0.006	1>3 2>3
social circle	344	4.08±0.60			
health	399	4.08±0.57			
other	197	3.86±0.57			
<i>Perceived barriers</i>			0.796	0.451	–
social circle	344	3.71±0.70			
health	399	3.74±0.68			
other	197	3.63±0.73			
<i>Physical benefit</i>			8.393	0.000	1>3 2>3
social circle	344	4.02±0.63			
health	399	4.08±0.56			
other	197	3.80±0.65			
<i>Psychosocial benefit</i>			8.947	0.000	1>3 2>3
social circle	344	3.86±0.66			
health	399	3.93±0.59			
other	197	3.63±0.65			
<i>Self-efficacy</i>			1.006	0.366	–
social circle	344	3.31±0.91			
health	399	3.39±0.87			
other	197	3.27±0.87			

* Social circle – 1, health – 2, other – 3.

** Likert-type scale of 1–5 pts.

*** Tukey honest significant difference test.

When the relationship between the spouse's employment status and the HBSSRA sub-dimensions was examined, it was observed that there were significant differences between the *Perceived barriers*, *Physical benefit* and *Psychosocial benefit* sub-dimension scores in terms of the spouse's employment status.

While there was no significant difference between the place of residence factor and the HBSSRA sub-dimen-

sions, a significant difference was observed between time spent at the place of residence and the *Perceived barriers* and *Self-efficacy* sub-dimension scores. The differences were particularly observed in these dimensions when the duration of residence was 2–3 years or >3 years.

As far as the relationship between having children and the HBSSRA sub-dimension scores is concerned, it was seen that there was a significant difference in *Perceived*

Table 5. Independent samples t-test comparison results pertaining to the relationship between the marital status and participation in sportive recreational activities and the *Health-Belief Scale on Sportive Recreational Activities* (HBSSRA) sub-dimensions in the study conducted among healthcare professionals on active duty in 4 provinces of the Central Anatolia Region, Turkey, 2020

Variable	Participants (N = 940) [n]	HBSSRA scoring* [pts] (M±SD)	t	p
Marital status**				
<i>Perceived seriousness</i>			0.09	0.93
married	611	4.06±0.59		
single	329	4.06±0.56		
<i>Perceived barriers</i>			3.06	0.02
married	611	3.77±0.68		
single	329	3.63±0.70		
<i>Physical benefit</i>			1.61	0.10
married	611	4.07±0.57		
single	329	4.00±0.61		
<i>Psychosocial benefit</i>			3.26	0.00
married	611	3.94±0.60		
single	329	3.80±0.64		
<i>Self-efficacy</i>			1.08	0.28
married	611	3.39±0.86		
single	329	3.32±0.92		
Participation in sportive recreational activities***				
<i>Perceived seriousness</i>			2.65	0.00
participating	671	4.09±0.57		
not participating	269	3.98±0.60		
<i>Perceived barriers</i>			-2.54	0.01
participating	671	3.69±0.69		
not participating	269	3.81±0.68		
<i>Physical benefit</i>			1.62	0.11
participating	671	4.06±0.58		
not participating	269	4.00±0.60		
<i>Psychosocial benefit</i>			0.34	0.73
participating	671	3.90±0.62		
not participating	269	3.88±0.61		
<i>Self-efficacy</i>			0.14	0.89
participating	671	3.37±0.88		
not participating	269	3.36±0.89		

* Likert-type scale of 1–5 pts.

** Married – 1, single – 2.

*** Participating – 1, not participating – 2.

barriers, *Physical benefit* and *Psychosocial benefit* sub-dimensions.

No statistically significant relationship was observed between the participation preferences in sportive recreational activities and the HBSSRA sub-dimension scores.

DISCUSSION

Participation in sportive recreational activities, demographic characteristics and the HBSSRA sub-dimensions

It was determined that there was a statistically significant relationship between gender, the spouse's employment status, the place of residence and adequate leisure time, and participation in sportive recreational activities, while the relationship between occupation, one's marital status, having a child, the income level, time spent at the place of residence and participation in sportive recreational activities was not statistically significant. These results facilitated the interpretation of the HBSSRA sub-dimensions used to determine the health beliefs of healthcare professionals regarding sportive recreational activities, based on more robust evidence.

As far as studies on the participation of healthcare professionals in various sports activities are concerned, it was reported in a study on physical therapists in the USA that the participants were physically more active than the total adult population in the USA [23]. In a study carried out in the USA 2 years after this study, it was noted that physicians engaged in higher levels of physical activity compared to the general population in the USA, and their activity levels increased as they got older [24]. A study on female family physicians revealed that 92% of the participants were physically active [25]. A study conducted in Australia found that physicians and medical students adhered to national physical activity guidelines 30% more than the general population [26]. Another study conducted with healthcare professionals showed that the prevalence of physical inactivity among physicians was lower

than that of the general population; however, 84% of the inactive physician population wanted to increase their activity levels. On the other hand, those physicians who were physically active were also stated to be more likely than non-active physicians to recommend their patients to be physically active [27].

A study examining physical activity and the quality of life with the participation of 180 healthcare professionals revealed that healthcare professionals preferred doing exercise primarily to stay fit (61.7%), to get away from stress (58.5%), and to avoid health problems (55.7%). More specifically, most of the healthcare professionals considered body weight control (62.8%) to be the most important factor, followed by improving musculoskeletal disorders (40%), improving respiratory problems (24%), preventing osteoporosis (18.6%), blood glucose management (11%), and preventing hypertension (8.7%) [28].

In addition to these findings, in examining the differences between healthcare professionals' participation in sportive recreational activities and the HBSSRA sub-dimension scores, it was found that there were statistically significant differences between the scores of *Perceived seriousness* and *Perceived barriers* sub-dimensions. These significant differences indicate that healthcare professionals are aware of the importance of participating in sportive recreational activities to protect health; however, some obstacles may arise in the process of ensuring this participation.

Preference for participation in sportive recreational activities, demographic characteristics and the HBSSRA sub-dimensions

It has been determined that there is a significant relationship between participation preferences (individual, group) and occupation. This study revealed that 47.1% of the healthcare professionals who participated in sportive recreational activities preferred individual participation, while 52.9% preferred participation in group activities.

It was observed that participation in group activities was above average in all 3 occupational categories (doctors, nurses, health officers). In addition, although there are no significant differences between participation preferences in sportive recreational activities and the HBSSRA sub-dimension scores, it is seen that participation in group activities is more preferable. This may be attributed to some reasons such as socializing, having fun, meeting new people, experiencing the sense of competition, and mental relaxation. A study conducted among women revealed some significant differences between *Psychosocial benefit* and *Self-efficacy* scores, and the researchers attributed these differences to the satisfaction women derived from being a part of the group during sportive recreation activities and to the fact that the activities they participated in met their expectations [29].

Reasons for participation in sportive recreational activities, demographic characteristics and the HBSSRA sub-dimensions

A significant relationship was found between the following demographic characteristics: age, gender, occupation and marital status, and the reasons for participation in sportive recreational activities (social circle, health, other).

In examining the differences between the healthcare professionals' reasons for participation in sportive recreational activities and the HBSSRA sub-dimension scores, it was determined that there were significant differences between the scores of *Perceived seriousness*, *Physical benefit* and *Psychosocial benefit* sub-dimensions. When the table is examined in further detail, it is noteworthy that there are significant differences between the social circle, health and other reasons in all 3 sub-dimensions, while there are no significant differences between the social circle and health reasons. One of the important findings is that health was chosen more as the reason for participating in sports activities. This result indicates that

healthcare professionals are aware of the importance of participating in such activities to protect their health and they do sports based on these health beliefs.

This study further revealed that 68.2% of the female participants and 75% of the male participants took part in sportive recreational activities. The significantly lower rate of female participants in these activities, compared to male participants, may be due to the fact that both spouses are working. The significant relationship between participation in sportive recreational activities and the spouse's employment status confirms this interpretation. These findings lead to a question of whether working women cannot find enough time to participate in sports activities due to working both outside and at home.

This study revealed that there was no significant difference between genders in terms of having adequate leisure time. Irrespective of gender, the rate of participation in sportive recreational activities was found to be very close. However, it should be borne in mind that there is a significant relationship between having adequate leisure time and participation in sports activities. Similarly, a study conducted on doctors and medical professionals showed that there were no significant differences between genders in terms of physical activity [27,30].

In the second phase of this study, differences between demographic characteristics and the HBSSRA sub-dimension scores of the participants were investigated. The data regarding healthcare professionals' participation in sportive recreational activities helped the authors make inferences about their health beliefs and determine their awareness of the effect of exercise on health protection.

A statistically significant positive relationship was found between the participants' age and *Psychosocial benefit* sub-dimension scores. It is noteworthy that as the healthcare professionals' age increases, the scores of the *Psychosocial benefit* sub-dimension increase as well. In one study, the *Psychosocial benefit* was defined as one's belief in the benefit of a protective behavior to avoid a disease or

disorder, or to reduce the degree of the disease or disorder [31]. Based on that definition, the reason why *Psychosocial benefit* scores increase with age can be explained by the fact that as people get older, they believe in the contribution of participation in sports activities to overcoming some physical or metabolic disorders that may occur with the effect of aging.

Another study revealed that physical activity has positive effects in conditions such as cardiovascular diseases, respiratory system problems, dementia and cancer that are more likely to occur as people get older [32]. Considering the fact that the participants in this study were healthcare professionals, one could say that they were aware of all these disorders that might occur as a result of inactivity or advancing age. In parallel to these results, a different HBSSRA study on women found that the perceived disability and *Psychosocial benefit* sub-dimension scores increased as women got older [29]. The researchers attributed the increase in the perceived disability scores with age to a fear of injury during exercise. On the other hand, they attributed the increase in the *Psychosocial benefit* scores to believing that participation in sportive recreational activities would increase the mental health of people, their sleeping habits and their capacity to carry out their daily activities, and there would be a positive progress in social environment and family relations. In a study conducted among university students aged 16–21 years, unlike in the other 2 studies, it was stated that there were no significant differences between age and the sub-dimensions concerned, and the difference was significant only in the *Perceived seriousness* dimension [33].

This study revealed that, among the participants, 68.2% of the women and 75% of the men participated in the activities, and these differences were found to be statistically significant. Although it was determined that there were significant differences between genders and participation in recreational activities, no significant differences were found between genders and the sub-dimensions

concerned. The results of this study show parallelism with the results reported by Kayhan and Üstün [34], who examined the relationship between genders of physical education and sports teachers and the HBSSRA sub-dimensions, and found that there was no significant difference between genders of the participants in terms of any of the sub-dimensions. They evaluated this result as that male and female teachers have similar health beliefs in sportive recreational activities.

A similar study using the HBSSRA in relation to a different occupational group reached comparable findings. The study revealed that there were no significant differences between genders and the sub-dimension scores (above average) [35]. The sub-dimension scores in the study are above average, which means that physical education graduates have a high level of health beliefs and awareness of participating in recreational activities to protect their health. A study aiming to determine the relationship between sports health beliefs and life satisfaction of individuals working in a private company reported that there were no significant differences between the sports health-belief scores and the life satisfaction scores, and the gender factor. In their interpretation of the results, the authors stated that gender was not a determining parameter in life satisfaction [36].

The findings of some studies do not coincide with those of this study. A study on volunteers engaged in recreational activities in municipal sports facilities revealed that there was no significant difference in the *Self-efficacy* sub-dimension of the HBSSRA and gender, while the difference was significant as far as other sub-dimensions were concerned [37]. Another study conducted among university students reported that there were significant differences between the *Physical benefit* and *Psychosocial benefit* sub-dimensions of the HBSSRA and gender, while there were no significant differences between the *Perceived seriousness*, *Perceived barriers* and *Self-efficacy* sub-dimensions, and gender [33]. In this study, the HBSSRA

sub-dimension scores of the participants were found to be above average and also very close between the genders, indicating that both the female and male participants are well-aware of the fact that recreational activities protect their health.

It was observed that there were significant differences between the occupational categories and the sub-dimensions of *Perceived barriers*, *Psychosocial benefit* and *Self-efficacy*. The differences were found to be significant between doctors/nurses and the health officers, but not between doctors and nurses. This finding may be attributed to doctors' and nurses' high levels of perception that they may encounter more obstacles in terms of participating in recreational activities. Nevertheless, they have high levels of perception that their participation in recreational activities would benefit them psychosocially. At the same time, the high *Self-efficacy* scores indicate that doctors and nurses are aware of the need for some sacrifices to participate in these activities. A study conducted with physical education and sports college graduates found that there were no significant differences between these graduates working in 4 different occupational categories and the sub-dimension scores of the HBSSRA [35]. It is noteworthy that in all of the occupational categories, the sub-dimension scores were above average.

It was found that there were some significant differences between the income levels of the healthcare professionals and the *Perceived seriousness*, *Perceived barriers*, *Physical benefit* and *Psychosocial benefit* sub-dimensions, while no such difference was observed in the *Self-efficacy* sub-dimension. When the differences between all demographic characteristics and the sub-dimensions are examined, it is understood that the demographic characteristic with the highest level of difference is the income level. Similar to this finding, one study [33] available in literature revealed significant differences between the income level and the *Physical benefit*, *Psychosocial benefit* and *Self-efficacy* sub-dimensions, whereas another study [29]

found a significant difference between the income level and the *Self-efficacy* scores. In another study [35], it was stated that there were no significant differences between income status and any of the sub-dimensions. The findings in the literature and the findings obtained by the authors of this study are different, which indicates the need to question the relationship between the income level of a person and his/her participation in sportive recreational activities.

As far as the relationship between participation in sportive recreational activities and the income level in this study is concerned, it was determined that there was no significant relationship between them. This result reveals that the income level of healthcare professionals is not an important factor in participating in sportive recreational activities. The fact that the occupational group in this study was composed of healthcare professionals and their monthly income level was \geq TL 4000 may be one of the reasons why income did not create a negative effect on participation. In addition, as a result of the education they receive on the protection of personal health, healthcare professionals are aware that participation in sportive recreational activities is one of the most important behaviors that should be exhibited to protect health, which can be seen as another reason that ensured participation.

When the marital status of the healthcare professionals involved in this study was compared with respect to the sub-dimension scores, it was found that there were significant differences between the *Perceived barriers* and *Psychosocial benefit* scores. Although the level of *Perceived barriers* of the married healthcare professionals was found to be high, it was revealed that their perception of the *Psychosocial benefit* was also high. This shows that healthcare professionals have a belief that participating in sportive recreational activities will benefit their mental state; however, they have a high level of perception that they will encounter some obstacles. A study conducted with physical education and sports college graduates de-

terminated that there was no significant difference between the marital status and any of the HBSSRA sub-dimension scores [35]. Another study with a similar participants group (101 male and 185 female physical education teachers) reported that there were only significant differences between the *Psychosocial benefit* scores and the marital status [34]. While this finding was similar to that of this study, some differences were also remarkable.

When these differences were examined, it was observed that the *Psychosocial benefit* scores of single teachers were higher than those of married teachers [34]. In addition, different from this study, the researchers determined that there were significant differences between the marital status and the *Perceived barriers* sub-dimension scores. This result shows that there are differences in health beliefs in terms of marital status between this study, conducted with healthcare professionals, and the study conducted with physical education and sports teachers [34]. It is understood that the marital status of teachers is not a barrier to the realization of sportive recreational activities.

When the spouse's employment status and the sub-dimensions were compared, it was determined that there were significant differences between the *Perceived barriers*, *Physical benefit* and *Psychosocial benefit* scores. These findings in this study reveal that although healthcare professionals are aware that participation in sportive recreational activities will have both physical and *Psychosocial benefits*, they believe that if one of the spouses works, they may encounter many different types of obstacles. In another study where the same scale was used, it was stated that there was no significant difference between the spouse's employment status and any of the sub-dimension scores, contrary to the results of this study [35].

In examining the differences between the place of residence and the scores obtained for the HBSSRA sub-dimensions, it was observed that there was no such statistically significant difference. Another study revealed that

when people resided in rural areas, they were less interested in recreational activities. As a result of this finding, the authors emphasized the necessity of using special adaptive methods to eliminate the rural-urban inequality in order to effectively encourage participation in recreational activities [38].

In this study, when time spent at the place of residence and the HBSSRA sub-dimension scores were compared, it was seen that there were significant differences between the *Perceived barriers* and *Self-efficacy* scores. These differences were observed only in those who spent 2–3 years or >3 years in the same place of residence. This may be attributed to the fact that adaptation to the place of residence is achieved after 2 years and although adaptation is achieved, there may be some obstacles to participating in sportive recreational activities and various sacrifices must be made to overcome them. However, another study revealed that there were significant differences between the place of residence and the *Perceived seriousness*, *Physical benefit* and *Psychosocial benefit* sub-dimensions, while it was stated that there were no significant differences between time spent at the place of residence and any of the sub-dimensions [35]. The difference between the 2 studies may be due to the differences in occupational groups. In addition to the high level of daily workload of healthcare professionals, the fact that their working hours are not regular can be seen as the most determining reason for the emergence of this result.

In a study conducted among women, the participation in recreational activities sub-dimension scores were compared with the place of residence and, similar to this study, no significant differences were found. The researchers stated that the reason for this result might be that women did not want to make sacrifices about their jobs, economic conditions, social environment and families during their urban life [29].

In examining the differences between having children and the sub-dimension scores, it was determined that

there were significant differences between the *Perceived barriers*, *Physical benefit* and *Psychosocial benefit* scores. These findings indicate that, according to healthcare professionals, participation in sportive recreational activities will have positive effects on the physical and psychosocial structure of the person; however, they believe that having children may be a barrier to participating in such activities. This study revealed that, regardless of gender, everybody would benefit from doing exercise both when it comes to the *Physical benefit* and *Psychosocial benefit* sub-dimensions. Participating in sportive recreational activities is specifically beneficial for women with children in that their mental health, sleep patterns, working capacity, daily work skills, and interaction with their social environment and family are positively affected. The perception that men and women can benefit significantly from sportive recreational activities is clearly due to their high belief in these activities.

One of the important demographic characteristics that determines participation in sportive recreational activities is having adequate leisure time. It is an undeniable fact that especially healthcare professionals complain about not having enough leisure time due to long working hours, shifts, and urgent needs. In this study, when the relationship between participation in sportive recreational activities and having adequate leisure time was examined, it was found that there was a statistically significant relationship between age, the marital status and the spouse's employment status. A study on healthcare professionals reported that female professionals are more likely to be physically inactive in their spare time than their male counterparts [39]. The study conducted with physical education and sports college graduates revealed that there was no significant difference when the demographic variables and the HBSSRA sub-dimension scores were compared and analyzed to determine whether they had enough leisure time [35].

CONCLUSIONS

The aim of this study was to examine the health beliefs of healthcare professionals regarding sportive recreational activities. The authors found that the health belief levels of healthcare professionals are very high since they are aware of the importance and effectiveness of participation in sportive recreational activities to protect their health.

One interesting situation encountered during the implementation of the study is that almost all the healthcare professionals asked the researchers whether a sports facility would be opened in the hospital where they worked and whether they would have to pay for it once opened. These questions show that the most important factors that prevent participation in sportive activities are the presence of sports facilities, distance to home/workplace and the facility's fee.

The majority of the healthcare professionals (71.4%) who participated in the study were physically active, and there was no difference between occupational categories in this respect. The healthcare professionals who did not participate in sportive recreational activities were quite confident that they would participate as soon as they removed or reduced the barriers they faced. Healthcare professionals were aware that participation in sportive recreational activities would have positive physical and psychosocial effects on individual health. This awareness is understood from the fact that the majority of the healthcare professionals who participated in this study stated that the reason for their participation was to protect their health. These results indicate that healthcare professionals participating in the activities will be more likely to advise their patients or people close to them to do physical activity due to its health protection effect compared to those who are non-active or who represent other occupational groups.

In addition, healthcare professionals are aware that there are some factors that prevent them from participating in sportive recreational activities. These factors are

the income level, the marital status, the spouse's employment status, having children, and time spent at the place of residence. In addition to these obstacles, they also have some occupational obstacles such as busy working hours, shifts and being on standby. Despite all these obstacles, the majority of the healthcare professionals participate in sportive recreational activities as they know that physical activity is essential to protect health, and their high level of participation shows that they make some sacrifices to be able to ensure participation.

As a result, regardless of the occupational group, this study is expected to help people gain a perspective about participation in sportive recreational activities, and to provide more evidence about raising people's awareness of the protection of individual health. In addition, it is expected to affect people's beliefs about their health and direct them to adopt behaviors aimed at being healthy.

Recommendations

In order to increase participation in sportive recreational activities, private and official sports institutions need to raise people's awareness about health protection, more sports facilities should be opened, courses that address the effects of exercise on the protection of health should be in the curriculum at every stage of education starting from primary education, and theory should definitely be put into practice.

All these approaches will increase the level of knowledge of people about protecting their health from childhood to adulthood, and will ensure their participation in sportive recreational activities. When these approaches are adopted, participation in sportive recreational activities may increase and a healthier generation may be raised.

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