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Investigation of Sport Injury Anxiety Levels of Sitting Volleyball Players

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ABSTRACT

The aim of this study is to examine sport injury anxiety levels of sitting volleyball players. The research group consists of a total of 64 licensed sitting volleyball players, 7 women and 57 men with an average age of 35,56 ± 12,11. The demographic information form created by the researchers and the Sports Injury Anxiety Scale (SIAS) were used as data collection tools. The data was obtained through Google Forms. SPSS 25.0 statistical package program was used for the analysis of the data obtained. As a result of the normality test, it was found that the data did not show a normal distribution. Therefore, Mann-Whitney U test was used for paired comparisons and Kruskal Wallis H test was used for comparing more than two groups. In the analysis results, no significant difference was found according to the variables of gender, age, education level, economic income, type of beginning to sports, cause of disability and having a sports injury (p> 0.05). A significant difference was found in favor of the non-workers in the re-injury anxiety sub-dimension according to the variable of employment status (p<0,05). The high level of re-injury anxiety among disabled individuals who do not work can be explained by the fact that the areas in which non-working disabled individuals will socialize may be limited compared to employees. According to the variable of doing sports in another branch besides sitting volleyball, a significant difference was found in the anxiety of loss of social support in favor of those who do sports in another branch (p <0.05). It can be concluded that individuals who do sports in more than one branch adopt the athletic identity more and therefore experience more anxiety about losing social support.

1. INTRODUCTION

Sports positively affects the individual mentally, physically and socially [1]. Besides the positive effects of sports, some experiences made through sports result in negative consequences [2]. And one of these negative consequences is sports injuries. Sports injuries are defined as temporary or permanent trauma to parts of the body [3]. As a result of sports injuries, athletes take a break from sports and in some cases even end their sports careers [4].

Sports disciplines are one of the factors affecting the risk of sports injury [4]. For example, the incidence of injury is high in some sports disciplines (66.25% in football, 15% in combat sports) and low in others (5% in basketball, 5% in volleyball and 2.5% in swimming) [5]. Injuries also occur frequently in paralympic sports played by individuals with special needs such as wheelchair basketball [6], alpine skiing, snowboarding, wheelchair curling [7], judo and 7-a-side football [8]. However, there are not enough studies in the literature examining injuries in some paralympic sports disciplines [9]. In addition to the frequency of injury, sports disciplines vary in terms of factors such as the cause of injury [5]. the setting in which the injury occurred [10], the site of injury [11] and the duration to return to activity after injury [12].

Other factors that cause sports injuries are physical factors such as body weight, anatomy, inadequate muscle flexibility, and environmental factors such as poor field conditions, improper sports equipment and adverse weather conditions [13]. In addition, psychological factors [14] such as anxiety [15] and loss of self-confidence [16] also cause injury, although they are often

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overlooked. According to the literature, it was concluded that athletes with pre-season anxiety symptoms were more likely to be injured during the season [17].

Individuals with disabilities may stay away from sports or experience a secondary disability as a result of injury. In the literature, there are various studies on sports injury anxiety levels [16, 18, 19]. However, no study has been found to examine the sports injury anxiety levels and injury condition of sitting volleyball players. Accordingly, this study aims to find out the sports injury anxiety levels of sitting volleyball players, to examine the frequency of injuries and to find out the relationship between different variables.

2. MATERIALS AND METHODS

2.1. Research Group (Population-Sample)

In the study, survey design, one of the quantitative research methods, and criterion sampling, one of the purposeful sampling methods, were used [20]. The criterion was defined as being physically disabled and being a licensed sitting volleyball player. In the study, 64 players playing in the 1st League in the sitting volleyball discipline participated voluntarily. Descriptive statistical information about the participants of the study is shown in Table 1. The ethics committee approval of the study was obtained from the Clinical Research Ethics Committee of Atatürk University with the decision number B.30.2.ATA.0.01.00/100 dated 25.03.2021.

All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki Declaration and its later amendments or comparable ethical standards.

Table 1. Demographic characteristics of the participants

Variables	Groups	f	%
Gender	Female	7	10,9
	Male	57	89,1
Age	13-24	15	23,4
	25-44	30	46,9
	45+	19	29,7
Employment status	Yes	32	50,0
	No	32	50,0
Playing another sport	Yes	24	37,5
	No	40	62,5
Sports injury history	Yes	20	31,3
	No	44	68,8
Location of injury	Training	8	12,5
	Match	10	15,6
	Total	18	28,1
Site of injury	Lower extremity	13	20,3
	Upper extremity	7	10,9
	Total	20	31,3
Time to return to activity after injury (week)	Less than 1	8	12,5
	1-3	6	9,4
	4-6	1	1,6
	More than 6	5	7,8
	Total	20	31,3
Cause of injury	Opposition team player	6	9,4
	Teammate	6	9,4
	Environmental conditions	7	10,9
	Total	19	29,7

2.2. Data Collection Tools

In the study, the Sports Injury Anxiety Scale (SIAS), and a personal information form, which was developed by the researchers, were used.

Sports Injury Anxiety Scale (SIAS): The original scale developed by Rex and Metzler (2016) and consisting of 21 items was adapted into Turkish by Caz et al. (2019) [21, 22]. The SIAS adapted into Turkish consists of 19 items. The scale has no items that need to be reverse (negative) coded. The scale consists of 6 sub-dimensions: "anxiety of losing talent", "anxiety of being perceived as weak", "anxiety of experiencing pain", "anxiety of disappointment", "anxiety of losing social support", and "anxiety of re-injury". The score obtained from each item in the scale is between 1 and 5. It is accepted that the injury anxiety levels of the participants were low as the propositions approached 1 and high as they approached 5.

2.3. Data collection/processing method

Participants were reached through Google Forms. The data were collected in 2021 (April).

2.4. Data analysis/Statistical analysis

SPSS 25.0 software program was used to analyze the data. Cronbach's α coefficient of the scale was calculated as .877. It was found that the scale and its sub-dimensions had a high level of internal consistency and reliability. As a result of the normality test, it was found that the data did not have normal distribution. Therefore, Mann-Whitney U test was made for pairwise comparisons and Kruskal Wallis-H test was made for comparisons of more than two groups. A significance level of $p<0.05$ was considered in all hypothesis tests.

3. RESULTS

Table 2. Mann-Whitney U Test results of SIAS subscale scores by gender variable

Anxiety Type	Gender	N	Mean Rank	U	Z	p
Anxiety of losing talent	Female Male	7 57	34,29 32,28	187,00	-,276	,782
Anxiety of being perceived as weak	Female Male	7 57	35,43 32,14	179,00	-,459	,646
Anxiety of experiencing pain	Female Male	7 57	31,07 32,68	189,50	-,217	,829
Anxiety of disappoint-ment	Female Male	7 57	27,43 33,12	164,00	-,779	,436
Anxiety of losing social support	Female Male	7 57	38,57 31,75	157,00	-,966	,334
Anxiety of re-injury	Female Male	7 57	31,14 32,67	190,00	-,205	,837

According to Table 2, the SIAS sub-dimension scores of the participants do not show a significant difference by the gender variable ($p>0.05$).

Table 3. Kruskal Wallis-H Test results of SIAS subscale scores by age group variable

Anxiety Type	Age	N	Mean Rank	H	p
Anxiety of losing talent	13-24 25-44 45+	15 30 19	36,73 30,95 31,61	1,085	,581
Anxiety of being perceived as weak	13-24 25-44 45+	15 30 19	38,60 31,18 29,76	2,353	,308
Anxiety of experiencing pain	13-24 25-44 45+	15 30 19	33,30 33,72 29,95	,520	,771
Anxiety of disappointment	13-24 25-44 45+	15 30 19	33,90 32,67 31,13	,197	,906

Anxiety of losing social support	13-24	15	31,07	,326	,849
	25-44	30	32,05		
	45+	19	34,34		
Anxiety of re-injury	13-24	15	35,10	1,549	,461
	25-44	30	29,43		
	45+	19	35,29		

According to Table 3, the SIAS sub-dimension scores of the participants do not show a significant difference by the age variable (p>0.05).

Table 4. Mann-Whitney U Test results of SIAS subscale scores by employment status variable

Anxiety Type	AYU	N	Mean Rank	U	Z	p
Anxiety of losing talent	Yes	32	28,13	372,00	-1,932	,053
	No	32	36,88			
Anxiety of being perceived as weak	Yes	32	29,98	431,50	-1,125	,260
	No	32	35,02			
Anxiety of experiencing pain	Yes	32	34,83	437,50	-1,007	,314
	No	32	30,17			
Anxiety of disappointment	Yes	32	33,55	478,50	-,459	,647
	No	32	31,45			
Anxiety of losing social support	Yes	32	29,41	413,00	-1,404	,160
	No	32	35,59			
Anxiety of re-injury	Yes	32	27,88	364,00	-1,998	**,046****
	No	32	37,13			

***AYU:** Are you employed? ; **p<0,05

According to Table 4, there was a significant difference (p>0.05) in the SIAS sub-dimension of "anxiety of losing talent" in favor of those who were not employed.

Table 5. Mann-Whitney U Test results of SIAS subscale scores by playing another sports variable

Anxiety Type	DYPAOS	N	Mean Rank	U	Z	p
Anxiety of losing talent	Yes	24	36,17	392,00	-1,254	,210
	No	40	30,30			
Anxiety of being perceived as weak	Yes	24	35,38	411,00	-,996	,319
	No	40	30,78			
Anxiety of experiencing pain	Yes	24	37,00	372,00	-1,508	,131
	No	40	29,80			
Anxiety of disappointment	Yes	24	33,55	358,50	-1,718	,086
	No	40	31,45			
Anxiety of losing social support	Yes	24	40,44	289,50	-2,791	**,005****
	No	40	27,74			
Anxiety of re-injury	Yes	24	38,33	340,00	-1,952	,051
	No	40	29,00			

***DYPAOS:** Do you play any other sports? ; **p<0,05

According to Table 5, there was a significant difference (p>0.05) in the SIAS sub-dimensions of "anxiety of losing social support" in favor of those who play any other sports.

4. Discussion

In this study, both the survey developed by the researchers and SIAS were used. According to the results of the survey, 31.3% of the sitting volleyball players who participated in the study had sports injuries. In sports competitions, the frequency of injury increases as contact with the opponent increases [23]. It was concluded that the frequency of injury is relatively less in sitting volleyball discipline due to the limited contact with the opponent.

In this study, it was found that the injury occurred mostly in the lower extremity and the injury was caused by environmental conditions.

According to the literature, upper extremity injuries are common in wheelchair basketball players [6] and according to international

literature, upper extremity injuries are common in sitting volleyball players [9]. The reason for this difference between the findings of the study and the findings in the literature may be that national league matches in sitting volleyball in Türkiye are played in court where standing volleyball is occur more frequently during the matches. Studies on various sports disciplines in the literature also show that injuries occur more frequently during competitions [24, 25, 26].

Participants reported that the time to return to activity after injury was less than 1 week. In parallel with the findings of this study, it was also found in the literature that more acute injuries occur in paralympic disciplines [8]. The results obtained from the scale show that there is no significant difference in the SIAS subscale scores of the participants by the gender variable. There are studies in the literature that support [27, 28]. and do not support [4, 29, 30] this study.

The age range of the players participating in this study was 13-45+. According to the findings of the study, there was no significant difference in SIAS subscale scores by the age variable. Güler (2022) found similar results to our study in his study with handball players aged under 20 years and over 23 years and Ekin and Bülbül (2020) found similar results in their study with badminton players aged 12-16 years [31, 32]. However, Budak et al. (2020) found a significant difference in the "anxiety of being perceived as weak" sub-dimension and SIAS total scores by the age variable in a study conducted with football players aged 15-20+ years. It is interpreted that the main reason for such inconsistency between the studies is that the age categories are very different from each other [33].

A significant difference was found in the sub-dimension of "anxiety of losing social support" in favor of the participants who played another sport other than sitting volleyball. This result of the study can be interpreted as that individuals who play sports in more than one discipline adopt the athlete identity more and experience more anxiety about losing social support in case of a sports injury.

According to the employment status of the participants, a significant difference was found in the SIAS sub-dimension "anxiety of losing talent" in favor of those who were not employed. The settings where individuals with disabilities who do not work can socialize are limited. This can be associated with the possibility of being completely alienated from their social circle in case they are injured again.

played by drawing field lines without any changes on the field. It is believed that as a result of this, various substances on the floor of the court cause various injuries in the lower extremities of the players in contact with the floor. In addition, according to the findings of this study, injuries

5. Conclusion

As a result, it is believed that the data obtained are important in determining the injuries of athletes and examining the factors that will cause injury anxiety. Furthermore, although the duration to return to activity after injury in sitting volleyball players is less than 1 week, such injuries, especially during the matches, may cause disruption of the match and the athlete to disconnect from the match. For these reasons, it is recommended that national league matches be played on grounds that are in compliance with international standards.

This research is significant as it is the first study to examine the injury anxieties and injury frequencies of sitting volleyball athletes. However, the study has some limitations. The small number of participants and the inclusion of only first league athletes are among the limitations of the research.

Conflict of Interest

No conflict of interest is declared by the authors. In addition, no financial support was received.

Ethics Committee

The ethics committee approval of the study was obtained from the Clinical Research Ethics Committee of Atatürk University with the decision number B.30.2.ATA.0.01.00/100 dated 25.03.2021.

Author Contributions

Study Design, SSD; Data Collection, SSD; Statistical Analysis, AFA; Data Interpretation, AFA; Manuscript Preparation, SSD, AFA; Literature Search, SSD, AFA. All authors have read and agreed to the published version of the manuscript.

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