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Original article

## URINARY INCONTINENCE IN FEMALE VOLLEYBALL PLAYERS

HALE UYAR HAZAR<sup>1</sup>

### Abstract

*Aim.* Urinary incontinence (UI) is defined as "the complaint of any involuntary leakage of urine" by the International Continence Society (ICS). UI is more common in women of all ages than in men, however it is a condition under-reported.

UI is accepted as hygienic and social problem that may cause some psychological problems such as social isolation, depression, low self-esteem and may lead to decrease in the quality of life features. The prevalence rate of UI in athletes varies from 0% to 80%. UI is a prevalent condition among athletes that is not clearly discussed.

The purpose of this study was to investigate the UI in female volleyball players.

*Methods.* A total of 16 female volleyball players participated in the study voluntarily. The athletes participating in the study were aged 18 to 27 with an average age of  $21.19 \pm 2.76$  years. They had an experience of  $6.31 \pm 3.20$  years of volleyball training and  $4.56 \pm 2.45$  years playing in a volleyball team.

Female volleyball players were given an UI information questionnaire and Incontinence Severity Index (ISI) (Uyar Hazar & Şirin, 2008).

*Results.* The majority of female volleyball players (68.8%) had UI in the study. The frequencies of experiencing the urinary leakage of athletes were as 54.5% 'A few times a month' and 45.5% 'Less than once a month'. The amounts of urine leakage of female athletes were 63.6% as drops and 36.4% as small splashes.

The calculated ISI scores showed a big incidence in Slight severity with 72.8% and a small incidence in Moderate severity 27.2%.

None of female volleyball players spoke out or consult about UI with a health professional such as midwife/nurse/doctor etc.

Similarly, majority of players (72.7%) did not talk about UI with a friend but only a small percentage (27.3%) talked about UI with a friend.

Almost all of the female volleyball players (90.9%) did not know that UI is a worldwide problem in women.

*Conclusions.* UI is usually an unspoken or unmentioned condition that is consistent in the findings of this study too. UI is considered as normal or basically women feel embarrassed to consult or to take health care.

UI may be reason for the individual to stay away from her social environment and decrease the quality of life as well. Therefore the increase in awareness and knowledge level of the female athletes about UI gains much importance. Female athletes could be encouraged to consult a health professional about their UI condition.

*Key words:* Urinary incontinence, female, athlete, women health.

### Introduction

UI is defined as "the complaint of any involuntary leakage of urine" by the International Continence Society (ICS) (Abrams et al. 2002; Haylen et al. 2011).

UI is more common in women of all ages than in men (Bo and Borgen 2001), however it is a condition under-reported (Abrams et al. 2002; Casey & Temme 2017).

UI is accepted as hygienic and social problem (Abrams et al. 2002), that may cause some psychological problems such as social isolation, depression, low self-esteem and also may affect negatively the quality of life features (Teixeira et al. 2018; Murukesu et al. 2019). Similarly, many

incontinent women have emotional disturbances and psychologically stressed too (Seshan and, Muliira; 2014).

Many researches revealed that UI may lead to decrease in the quality of life in different groups (Heath et al. 2014; Dobrowolski et al. 2020; Senra and Pereira, 2015).

Current researches suggest that among athletes, the risk of UI development is 3 times higher than in non-athletes (Carvalho et al. 2017; Nygaard et al. 2015; Elliasson et al. 2002).

UI is a prevalent condition among athletes that is not clearly discussed (Jacome et al. 2011).

<sup>1</sup> Midwifery Department, Faculty of Health Sciences, Aydın Adnan Menderes University, Turkey.

E-mail address: hazarhale@gmail.com

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Exercise may be a risk factor for UI in female athletes because of increased intra-abdominal pressure generated during high-impact activities during exercises, which puts some overloads on the

pelvic organs, predisposing them to UI (Teixeira et al. 2018).

Therefore, the purpose of this study was to investigate the UI in female volleyball players.

### Methods

This research is a descriptive study. A total of 16 female volleyball players participated in the study voluntarily. The athletes participating in the study were aged 18 to 27 with an average age of  $21.19 \pm 2.76$  years. They had an experience of  $6.31 \pm 3.20$  years of volleyball training and  $4.56 \pm 2.45$  years playing in a volleyball team.

players were included in the study after investigating the UI in these female players.

Female volleyball players were given an UI information questionnaire and Incontinence Severity Index (ISI), validity and reliability study has been done by Uyar Hazar & Şirin, 2008.

A number of 11 female volleyball players had UI and the results are analyzed with these female players who had UI. That is 11 female volleyball

The parameters of frequency and amount of urinary leakage were used to determine the degree of UI in female athletes. The data obtained in the study were analyzed by numbers and percentages using descriptive statistics.

### Results

The majority of female volleyball players (68.8%;  $n=11$ ) had UI and the rest (31.2%;  $n=5$ ) did not have UI in the study. UI incidence of female volleyball players are expressed in Table 1.

After that point, the data were collected and analyzed on these 11 female volleyball players who had UI because other 5 players did not have UI.

**Table 1. Urinary Incontinence Incidence of Female Volleyball Players**

Urinary Incontinence	%	n
Yes	68.8	11
No	31.2	5
Total	100.0	16

The frequencies of experiencing the urinary leakage of athletes were as 54.5% 'A few times a month' and 45.5% 'Less than once a month'. The amounts of urine leakage of female athletes were 63.6% as 'drops' and 36.4% as 'small splashes'.

The calculated ISI scores showed a big incidence in 'Slight' severity with 72.8% and a small incidence in 'Moderate' severity 27.2% in female volleyball players.

**Table 2. ISI Scores, Experiencing and Feelings about UI of Female Volleyball Players with UI (n=11)**

	%	n
<b>ISI Scores</b>		
Slight	72.8	8
Moderate	27.2	3
<b>Mainly experiencing UI</b>		
In Training/Game Sessions	54.5	6
In Daily Life Sessions	45.5	5
<b>Feelings about UI</b>		
Uncomfortable	45.5	5
I'm used to-No effect	54.5	6
<b>Having UI for the first time after starting trainings</b>		

In the 1 <sup>st</sup> year	63.6	7
In the 2 <sup>nd</sup> year	18.2	2
In the 3 <sup>rd</sup> year	18.2	2

Female athletes experienced UI at a ratio of 54.5% in training/game sessions and 45.5% in their daily life courses. They also felt that they are used to or had no effect of UI as 54.5% and feeling uncomfortable as 45.5% about UI.

Majority of female volleyball players (63.6%) had UI for the first time in the first year of herself after starting trainings, 18.2% had UI in the second year and 18.2% had UI in the third year after starting trainings.

None of female volleyball players in this study spoke out or consulted about UI condition with

a health professional such as midwife/nurse/doctor etc.

Similar to previous result, majority of female volleyball players (72.7%) did not talk about their UI condition with a friend but only a small

### Discussion

Volleyball as a sport provides greater impact on the volume of pelvic floor muscles (Rimstad et al., 2014). Sport activities such as jumping and running have an increased risk of triggering urinary leakage in athletes, due to sudden increase in intra-abdominal pressure (Peschers et al. 2001). This may be an explanation of relatively high incidence of UI in female volleyball players of this study because volleyball game includes movements as jumping, rolling, taking a few steps, bending of waist toward front rapidly and/or powerfully during effort. The implications of these movements could be a risk factor for UI in female athletes.

Salvatore et al. (2009) also identified the prevalence of UI in amateur athletes by resulting out that 31.7% of the athletes presented urinary loss during sports practice and 47.5% only on a daily basis, with 29.8% reporting the symptom in both situations. In the present study female athletes had UI 54.5% in volleyball training/game session and 45.5% in their daily life course.

Heath et al. (2014) found out the prevalence of UI ranges between 28% and 80% in female athletes. This is in consistent with finding of this study that is 68.8% of UI in female volleyball players.

Roza et al. (2012) found mild and moderate UI in sports such as basketball, volleyball and handball. This result is consistent with our results

### Conclusion

UI is usually an unspoken or unmentioned condition that is consistent in the findings of this study too. UI is considered as normal or basically women feel embarrassed to consult or to take health care.

UI may be reason for the individual to stay away from her social environment and decrease the quality of life as well. Therefore the increase in awareness and knowledge level of the female athletes about UI gains much importance.

The awareness and knowledge level of the female athletes about UI may be facilitated by health professionals such as midwife/nurse/doctor.

Female athletes could be encouraged to consult a health professional about their UI

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percentage (27.3%) of female volleyball players talked about their UI condition with a friend of her.

Almost all of the female volleyball players (90.9%) in this study did not know that UI is a worldwide problem in women. They get this knowledge within this research study.

about slight to moderate severity of UI in female volleyball players were found out.

Almost half rate of female players felt uncomfortable about UI in the study. This is in consistent with the study of Heath et al. (2014) resulted that female athletes with UI have reported that the condition of UI has led to compromised their sports performance, embarrassment, and a limitation on social activities. Also Jacome et al. (2011) stated that UI causes regular changes in physical performance and daily life of athletes.

In the present study, none of the female volleyball players consulted to a health professional as midwife/nurse/doctor for their UI condition. Similarly, in a study of Ferreira et al. (2014), none of athletes resorted to a doctor for early intervention and to prevent worsening of the UI condition and in a study of Carls (2007), 92% with UI had never told anyone about their symptoms.

In another study by Thyssen et al. (2002) showed that only 3.3% of young dance athletes told a doctor about the symptoms of urinary incontinence. Therefore, our results in the present study are consistent with the results of these researches.

The present study introduced to the female volleyball players that UI is a worldwide problem for many women and increased their awareness and knowledge level about UI condition.

condition. This may helpful for their treatment of UI condition.

Some health professionals may be educated especially on UI; the anatomy of the pelvic floor, pathophysiology, etiology, diagnosis and treatment of UI, therefore they can provide education and referrals for management of UI.

Further researches are needed to increase awareness of UI and to develop prevention strategies for UI in women with different age and occupational groups as well.

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