

PREVALENCE OF SYMPTOMS OF DYSFUNCTION OF LOWER URINARY TRACT AMONG ATHLETES

Diana POPOVA-DOBREVA¹

Abstract: Upon reviewing literature by using MEDLINE world data base we have not found studies related to the distribution of the various dysfunctions of the lower urinary tract among women athletes. The main symptoms of the mentioned dysfunctions are presented in the introduction of the present study. The objective of the study is to establish the size of their distribution among women athletes. The contingent of the study covers 32 non-actively practicing sport women athletes, who are students at "V. Levsky" National Sports Academy, Sofia, Bulgaria. To evaluate the function of the lower urinary tract we have made use of a standardized questionnaire which is assessing the various types of dysfunctions of the lower urinary tract and their reflection on the quality of life. A distribution in percentages of the women competitors is presented depending on the availability or lack of the respective symptoms. The distribution of the various types of symptoms is also pointed out. The distribution of deficit symptoms upon emptying the urinary bladder is commented in details. It has been established from our study that the distribution of the stress urinary symptom and urge symptoms which provoke social worries is relatively small for the women competitors under our study. The results show large distribution of the deficit symptoms upon emptying the urinary bladder. We consider the study of the effect of these symptoms over the sports activity necessary. The availability of dysfunction symptoms of the lower urinary tract does not show considerable negative impact on the quality of life of the contingent we are studying. Additional researches are needed to disclose the interaction between the dysfunction of the lower urinary tract and practicing of sport.

Keywords: dysfunction of low urinary tract, athletes.

1. Introduction

There exist three main strands of dysfunction symptoms of the lower urinary tract: stress urinary symptoms, symptoms of deficient emptying and urge symptoms.

The stress urinary symptoms are expressed in loss of urine during sneezing;

coughing; exercise; walking; stooping, squatting or getting up off a chair.

Deficit symptoms upon emptying are manifested in the feeling that bladder isn't emptying; difficulty starting off urinary stream; slow stream; intermittent stream. Urge symptoms are feeling of uncontrollable desire to pass urine; involuntary loss of urine before arriving at toilet.

¹"Vassil Levski" National Sports Academy, Sofia, Bulgaria.

We have found a small number of publications in the methodological literature related to the problems of the women athletes with dysfunction of the lower urinary tract. Some of the available studies relate only to the availability of incontinence mainly with long distance women runners. The rest types of dysfunctions of the lower urinary tract among women athletes have not been subject of study.

2. Purpose

The objective of the study is to establish the distribution of dysfunction symptoms of the lower urinary tract among women athletes.

3. Research methods

The contingent of the study covers 32 non-actively practicing sport women athletes who are students at “V. Levsky”

National Sport Academy, Sofia, Bulgaria. Among those questioned, there are representatives of various sports – track and field athletics, gymnastics, sports games, swimming, rowing, martial arts, shooting, tennis, etc.

We have made use of a standardized questionnaire for evaluating the function of the lower urinary tract (Skilling PM, Petros P, 2003), where the various types of lower urinary tract dysfunctions are assessed as well as their reflection on the quality of life.

4. Results

The average age of the contingent under study is 22.4 years. None of the studied women athletes has given birth, neither undergone gynecological operation. Fig. 1 presents the percentage distribution of the women athletes depending on the availability or lack of lower urinary tract dysfunction (n=32).

Distribution of women according to presence or absence of symptoms of dysfunction of the lower urinary tract

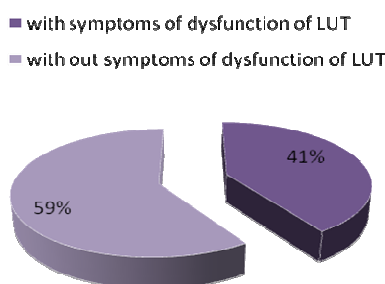


Fig.1

LUT – Lower Urinary Tract

Fifty nine percentage of the women athletes under study (n=19) have got some dysfunction symptoms of the lower urinary tract. The rest 13 women (41%) have no dysfunction symptoms of the lower urinary tract. Neither the type of the dysfunction

symptoms nor their degree have been considered upon reading that percentage.

The average value of BMI of the women athletes is 20,49 (respectively 20,43 are those having dysfunction symptoms of LUT and 20,56 are those without symptoms). Upon checking the statistic importance of the difference in both

average values, it has been established that $t_{emp} = 0,007$. The table value of t at a level of importance $\alpha=0,05$ is 2,04. The results show that there is not statistically reliable importance in the differences of the BMI indexes of the women with or without dysfunction symptoms of the lower urinary tract. It should be noted that the average values of BMI of all women under study are within the physiological norms.

SIS – Stress Incontinence Symptoms; SDS - Symptoms of Deficient Emptying; US- Urge Symptoms.

The figure is presenting the percentage distribution of the symptoms of the lower urinary tract only for those women having got such symptoms ($n=19$). The greatest percentages of the women have got deficit symptoms upon emptying the urinary bladder. These are the symptoms of having a feeling that bladder isn't emptying; difficulty starting off urinary stream; slow stream; intermittent stream. Five percents of the women competitors have got symptoms of stress incontinence. The same percentage of women has got the following combinations: Stress Incontinence Symptoms and Symptoms of Deficient Emptying; Stress Incontinence Symptoms and Urge Symptoms; Symptoms of Deficient Emptying and Urge Symptoms.

The results show large distribution of the deficit symptoms upon emptying the urinary bladder and small distribution of the stress urinary symptom and urge symptoms.

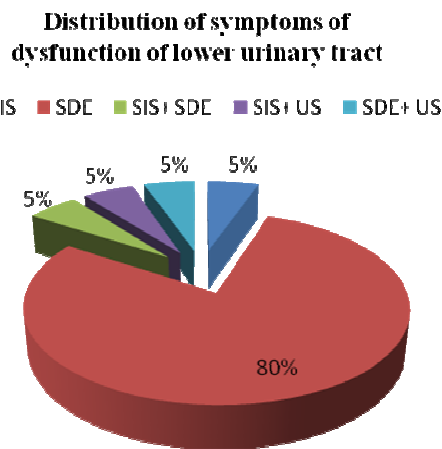


Fig. 2. *Distribution of symptoms of dysfunction of lower urinary tract*

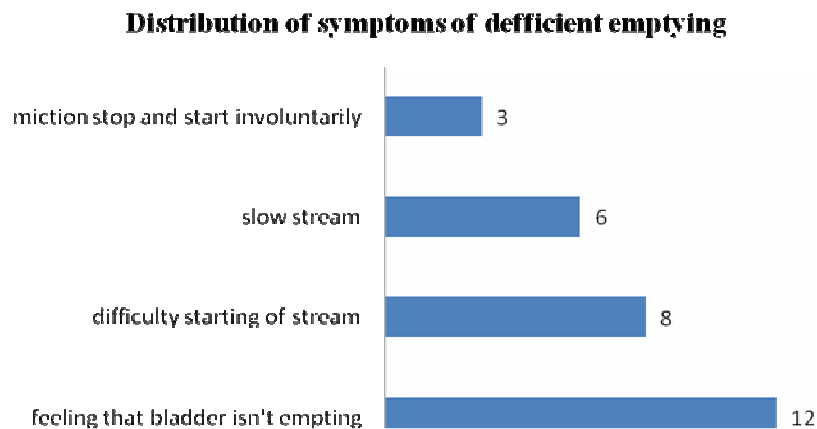


Fig.3. *Distribution of symptoms defficient emptying*

Fig. 3 presents the distribution of the separate Symptoms of Deficient Emptying. Total 17 women (65%) have got deficit symptoms of emptying the urinary bladder independently or in combination with other symptoms. Twelve from these have got the feeling that bladder isn't emptying; 8-difficulty starting of urinary stream; 6- slow stream and 3 - intermittent stream.

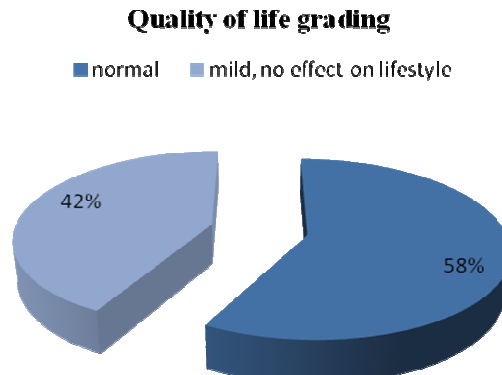


Fig.4

Fig. 4 presents the relationship of the availability of dysfunction symptoms of the lower urinary tract on the quality of life (n=19). Quality of life is graded by a mark from 1 to 5 depending to what degree the urinary tract impacts on it. The lack of impact on quality of life is marked by 1 and each successive mark increases the negative impact of the urinary tract on the quality of life. From total 19 women having dysfunction symptoms of the lower urinary tract, for 11 of them (58%) it does not impact quality of life while for the rest 8 women (42%) the impact is mild and there is no effect on lifestyle. There are no competitors to have pointed out higher mark for negative impact of their urinary problem.

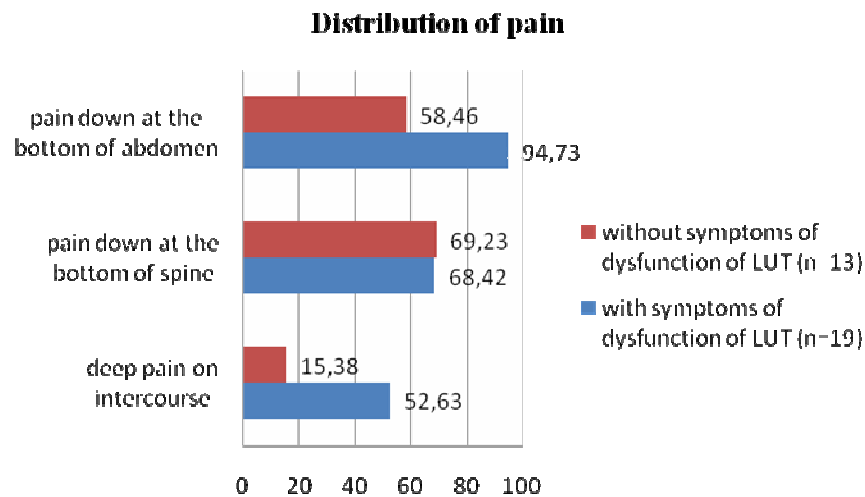


Fig.5. *Distribution of pain*

Fig. 5 presents the distribution in percentages for the presence of deep pain on intercourse; pain down at the bottom of spine and pain down at the bottom of abdomen. 94,73% of the women having symptoms suffer from pain down at the bottom of abdomen, while this percentage for the women without symptoms is 38,46%. Pain down at the bottom of spine have got 69,23% of the women without dysfunction symptoms and 68,42% of the women with symptoms. Deep pain on intercourse have got 15,38% of the women without symptoms and 52,63% of the women athletes with dysfunction symptoms of LUT. The diagram shows that considerably higher number of the women athletes with dysfunction symptoms suffer more often from deep pain on intercourse and pain down at the bottom of abdomen.

Presence of pain reasonably should be discussed with a gynecologist.

5. Discussion

Many studies have been published estimating the prevalence of urinary incontinence among women. More than 240 titles have been published in MEDLINE during the year 2009 and the current 2010 only. Distribution is varying depending on various factors. It is accepted to consider the advanced age, high number of births, over weight and white race as risk factors for the appearance of incontinence. On the background of knowing the problem as a whole well, the interrelation between the incontinence and sport is not well identified. From the literature review we have made since the last twenty years of the last century till today, we have found twenty two titles only related to the women athletes' incontinence. The questions as to what degree the strenuous physical exercises related to the increase

of the abdomen inner pressure might increase the risk of incontinence appearance and in what way sport impacts for many years to come the function of the lower urinary tract stay open. It has to be noted that upon structuring and analyzing the researches, it is reasonable to take in mind the type of sport and the intensity of the training.

The imperative symptoms of LUT dysfunction are also in large discussed in literature as related to the availability of overactive bladder. For comparison, 40 papers are published in 2009 and 2010 related to the overactive bladder in between womens.

Deficit symptoms upon emptying urinary bladder are much less known; that theme is still to be developed on world wide scale.

6. Conclusions

This study has allowed us to investigate the prevalence of lower urinary tract symptoms among athletes. The most common symptoms were those of feeling that bladder isn't emptying; difficulty starting of urinary stream.

The symptoms mentioned do not considerably impact the lifestyle of the women athletes under our study.

Having in view the great distribution of the deficit symptoms upon emptying the urinary bladder we consider it necessary to study the interrelation of these symptoms with the sports activity. As a beginning it is necessary to juxtapose these results to the results from the distribution of the symptoms in between non-sport practicing women as well as in between women more actively practicing sport.

Finding out the interrelations between the dysfunction of the lower urinary tract and sport is still to come.

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