Prevalence and Impact of Urinary Incontinence in Female Athletes.

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Highlights:

- 72 athletes from different athletic academies of Lahore were included
- Incidence and effect of urinary incontinence in female athletes was checked.
- The Michigan Incontinence Symptom Index (M-ISI) questionnaire was used as a tool for measurement.

Abstract:

Urinary incontinence is defined as an unintentional loss of urine. Urinary incontinence is a common problem in female population with prevalence rates ranging from 10% to 55% in females aged 15-64.Urinary incontinence is the most common dysfunction of pelvic floor associated with physical activity.

Objective:

To assess the prevalence and impact of urinary incontinence in female athletes.

Methodology:

Cross-sectional Study was conducted and convenient sampling technique was used to collect data. 72 participants were taken in this study. After taking consent information data was collected by using (M-ISI) questionnaire. Data was analyzed by SPSS21.

Results:

The prevalence of urinary incontinence among the athletes was 11.91%.The mean age of the participants was 20.The mean weight of the participants was 52. Out of 72, 6(8.3%) respondents were practicing athletics, 10(13.9%)badminton, 13(18.1%)basketball, 20(27.8%)cricket, 7(9.7%)football, 11(15.3%) taekwondo and 5(6.9%) were volleyball players.

Conclusions:

An observational study was conducted with 72 sample size and collected data from different athletic academies of Lahore and it is concluded that urinary incontinence is 11.91% prevalent in female athletes and there were only 3% of the participants with adverse impact on their quality of life.

Key Words:

Urinary incontinence, Michigan Incontinence Symptom Index questionnaire.

Introduction:

Urinary incontinence (UI) is well-defined as an unintentional loss of urine.[1] Urinary incontinence (UI) is a common problem in the overall female population with the prevalence rate ranging from 10% to 55% in females aged 15 to 64.[2] Previous researches claims that SUI is stimulated by exercise and high influence physical activities.[3] Presently, females have turned out to be significant members in professional athletics, so consideration should be paid to sports related pathologies, including urinary incontinence which is a major problem in young ladies who are physically fit.[4] When there is no proper pelvic floor muscles (PFM) awareness, the athletes excessively contracts the abdominal muscles during high impact activities or strengthening activities which frequently increases the intra-abdominal pressure and results in urinary incontinence.[5] To measure the occurrence and public impression of UI in female players number of epidemiological examinations has been directed. Anyway information given by these examinations, about the connection between urinary disorders, incontinence and playing sports was

exceptionally limited.[6] Urinary incontinence in women is more common, because the urethra is less than that in men, the average urethra length in women is approximately 3 cm, while in men, the length is 20 cm.[7]The urination is controlled by the pontine mituration centre; this center keeps the bladder movement organized and incorporated. The pontine mituration center is like a control tower that absorbs various signals from different sites: fibers from the spinal cord and forms several cortical and sub-cortical structures of the brain,[8] The bladder offers an impermeable barrier to urine. When it reaches the empting capacity, usually 500–600ml it opens as a funnel and maintains a high urinary volume without adding to bladder load. This advanced expansion is completed by smooth muscle action.[9]The main aspects of urinary incontinence are high strength physical work, obesity and sporting power.[10] Stress or coughing also causes unintentional leakage due to changes in fasciocutaneous and pelvic tissue and muscles.[11] According to previous surveys, in high-power games, UI occurrences are higher between 28% and 80.6 Participants with UI often experience an impact on their way of life. Past studies show that almost 12 to 52% of women with SUI report an adverse impact on the way they live.[12] The most expressed feelings reported by patients with urinary incontinence are shame and embarrassment when the symptoms (urine leakage, odor) become noticeable by the others.[13] In patients with onset of UI along with detailed interviews a detail physical examination should be carried out which must include abdominal examination,check joint mobility, to rule out nervous disorders nervous examination performed.[14] Physiotherapy can benefit the women who experience inconvenience. To prevent the individual from embarrassment and distress associated with the urinary incontinence various physiotherapy strategies are being used, especially the pelvic floor exercises are helpful in improving bowel and bladder control.[15] The study was conducted to detect the occurrence and the effect of urinary incontinence in youthful sportswomen since the danger of developing urinary incontinences is higher for female competitors who take part in high effect sports. The aim of the study was to provide awareness about the causes, impacts, corrective action and treatment among the athletes as well as their athletic trainers, coaches and other health care professionals about the issue in order to reduce the incidence of SUI.

Methodology:

72 athletes of different athletic academies were approached in this study. All the athletes were included in this study on the basis of inclusion exclusion criteria. Prevalence and the impact of urinary incontinence on the lives of female athletes were checked using the Michigan Incontinence Symptom Index questionnaire.

Results:

Total 72 subjects participated in the recent study in which the minimum age of the athletes was 16 and the maximum age was 25 out of which the mean age of athletes being involved was ± 20 as well as the minimum weight was 39 and maximum weight was 77 out of which the mean weight of overall athletes involved in this study was 52.

	Age	Weight
Mean ±S.D	20.64 ± 2.346	52.76 ± 8.909
Minimum	16	39
Maximum	25	77
Total	72	72

Table 1: Demographics of Age and Weight

The total number of athletes recruited for this study were 72, out of which 6(8.3%) were in athletics,10(13.9%) badminton player, 13(18.1%) basketball players, 20(27.8%) cricket players, 7(9.7%) football players,11(15.3%) were part of taekwondo and 5(6.9%) were volleyball players.

Sports	Frequency (%)
Athletics	6(8.3)
Badminton	10(13.9)
Basketball	13(18.1)
Cricket	20(27.8)
Football	7(9.7)
Taekwondo	11(15.3)
Volleyball	5(6.9)
Total	72(100)

Table 2: Response regarding type of sports

Total number of athletes recruited for this study was 72 out of which 51(70.8%) were playing since 1 or ≤ 5, 19(26.4%) for more than 5 years but less than 10 years, only 2(2.8%) of the athletes were playing for more than 10 years.

Years	Frequency (%)
1 or ≤ 5	51(70.8)
>5 or ≤10	19(26.4)
>10	2(2.8)
Total	72(100)

Table 3: Demographics of Response regarding duration of practicing sports:

The mean value for the total severity score is 11.91, std.deviation is 4.69.Out of which the minimum percentage of athletes reporting incontinence is 7% and the maximum number of athletes reporting SUI, UUI and pad use are 30%.

TOTAL SEVERITY SCORE	
Mean	11.9167
Std.Deviation	4.69267
Minimum	7.00
Maximum	30.00

Table 4: Demographics of Response regarding total severity score

Discussion:

This study was conducted to evaluate the prevalence of the incontinence in female athletes and its impact on the quality of their life. This was a cross sectional study. Data was collected from 72 young athletes. Data was collected using the Michigan incontinence symptom index questionnaire. It was convenient and appropriate for the participants to fill form and to collect data. In this study the mean age of the athletes was (mean ± SD) 20.83 ± 2.301 regardless of the presence of UI because the study was conducted among young athletes. And the mean weight of the athletes was (mean ± SD) 52.83 ± 8.763. As the previous study reported that the urinary incontinence is associated with lower body weight.[16] According to recent research 11.91% of the athletes reported urinary leakage either during the activities of daily life or during athletic activities. This prevalence is among the differences in prevalence values (28–68%) reported in various studies. According to the previous research by Nygaard et al. 54% of the young athletes losses urine during the physical activities.[17] And a research by Thyssen et al. it was reported that 44% of the athletes faces incontinence during the sports activities.18 According to a previous research it is reported that there is ritual of urinated before physical athletes among athletes which may potentially influence the result of prevalence of urinary incontinence in young athletes.[6] According to recent study only 5.39% of the athletes with incontinence specifically reported stress urinary incontinence. Justified by a previous researches stress urinary incontinence is more frequently reported by the athletes as compared to the non-athletic women. This is because the athletes constantly increases the intra-abdominal pressure during sports activities which leads to the structural injuries to the pelvic ligaments , fascia and muscles which alters the mechanism of urinary continence.[19] Another study suggest that intra-abdominal pressure can also be increased by activities like (sneezing, coughing, lifting) leading to SUI.[18] Athletes may also use

different strategies for the prevention of symptoms which might include restricted liquid intake and the use of pad or absorbent undergarments.[2] According to the recent research only (7%) of the overall athletes reported using these preventive strategies. Mostly athletes do not talk about incontinence because of embarrassment and minimal information about the prevention and treatment and they continue with the problem faking that incontinence do not interfere with their activities.[20] Like the past studies athletes involved in recent study also reported only a slight impact of (3%) on their quality of life. This limitation in the results of recent study regarding the prevalence and impact of urine loss was probably because of the small number of athletes and the unawareness of the athletes about the problem.

Conclusions:

An observational study was conducted with 72 sample size and collected data from different athletic academies of Lahore and it is concluded that urinary incontinence is 11.91% prevalent in female athletes and there were only 3% of the participants with adverse impact on their quality of life.

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