

ORIGINAL ARTICLE

Prevalence of Urinary Incontinence in Post-Partum Females in Hayatabad, Peshawar

Zoha Gilani¹, Haider Darain², Sadia Aziz³, Mashal Javed Orakzai⁴, Laila Raheem⁵, Musarrat Jabeen⁶

ABSTRACT

Objective: The aim of the study was to determine prevalence of urinary incontinence in post-partum females in tertiary care setups in Hayatabad, Peshawar.

Study Design: Cross-sectional.

Place and Duration of Study: Tertiary care hospitals of Hayatabad, Peshawar from September 2016 to February 2017.

Materials and Methods: A cross-sectional survey was conducted and a total of 296 females between 17 years and 40 years were recruited from September, 2016 to December 2016. The mean age of the population was 27.20 ± 4.46 years. Participants were recruited by means of convenience sampling from tertiary care setups in Hayatabad and were included in the study according to specified selection criteria. All of the participants completed Bristol Female Lower Urinary Tract Symptoms Short Form (BFLUTS-SF) after consent was taken and were evaluated accordingly.

Results: The prevalence of post-partum urinary incontinence in females coming to in- and out-patients departments of tertiary care hospital Hayatabad Peshawar was 28.64%. Out of total, 96% had moderate urinary incontinence i.e. between one third to two third of the time (1/3-2/3) and the remaining 4% had severe incontinence. Majority of the women (84.4%) reported nocturia as their major symptom, while nocturnal incontinence/leakage was the lowest (9.8%). Bladder pain (48.3%) and intermittency (36.5%) were the next highest reported symptoms. Stress incontinence proved to be slightly more prevalent at 45.3%, whereas urge incontinence was at 43.9%. Less than half of the population 36.2% women reported an adverse effect on their overall quality of life ranging from a little to a lot on the "bother" scale.

Conclusion: It can be concluded that urinary incontinence is a common condition in post-partum women in Hayatabad with most patients reporting a mild to moderate effect on quality of life.

Key Words: BFLUTS-SF, Perpeurium, Post-Partum Female, Tertiary Care, Urinary Incontinence.

Introduction

Urinary incontinence is considered a significant health problem worldwide. According to the International Continence Society urinary incontinence is "The complaint of any involuntary leakage of urine".¹ It can be associated with significant physical, psychological, social and economic burden.² As a result of urinary incontinence, a big portion of population get frustrated, socially isolated and are rendered incompetent. Urinary incontinence is a common problem in woman population compared to their

counterpart's male population.³ Although urinary incontinence is not a mortal condition, still the consequences are severely affecting quality of life of all patients who are suffering from this condition.⁴ This issue is well documented and national and international networks have focused on this condition. However still organized, consistent and reliable data is deficient in developing country like Pakistan where female population has limited access to health care services. Urinary incontinence has various types which are mainly affected by specific conditions and therefore it may be described by specifying its relevant factors associated with those conditions.⁵ The various forms of urinary incontinence are stress, urge, and mixed urinary incontinence.⁶ Stress UI is the involuntary loss of urine during certain physical activities such as coughing, sneezing, laughing, jumping, or exercising etc., urge UI is the involuntary leakage of urine that is coupled with the lower urinary tract symptom urgency, and Mixed UI is accompanied by urgency and exercise, sneezing, or coughing.¹ Urinary

^{1,2,3,4,5} Institute of Physical Medicine and Rehabilitation
Khyber Medical University, Peshawar

⁶KMU Institute of Medical Sciences
Khyber Medical University, Peshawar

Correspondence:

Dr. Haider Darain

Assistant Professor & Director/Principal
Institute of Physical Medicine and Rehabilitation
Khyber Medical University, Peshawar

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incontinence is often associated with a variety of factors included pelvic floor muscles disorders, postmenopausal hypo-estrogenism, pregnancies and vaginal births, trauma of pelvic floor muscles, pelvic surgeries and the use of various medications like diuretics, chronic constipation, smoking, obesity and diabetes mellitus.⁷

Urinary incontinence is often considered a problem that occurs mostly after pregnancy and childbirth.⁸⁻¹⁰

Stanton et al. and Allen and Warell reported an increase in prevalence of stress urinary incontinence during pregnancy followed by a decrease after childbirth. The prevalence of urinary incontinence is around 20%-30% during pregnancy but it resolves shortly after delivery.¹¹ In contrast, in other trials, high prevalence of urinary incontinence was reported after delivery before gestation.^{12,13} Urinary incontinence is four times more common in women under 60 years age than in men of the same range of age.¹⁴ It is noteworthy that prenatal incontinence increases the risk of postpartum incontinence suggesting an increased risk of long-term persistent incontinence.¹⁵⁻¹⁸ The increased incidence rate of stress urinary incontinence during pregnancy and postpartum period is associated with low pelvic floor muscle strength. Variation in the number of female population suffering from the condition may be found in the literature ranging from 0.7% to 34%.^{19,20}

Similarly, in a systematic review prevalence of urinary incontinence during pregnancy was reported 16–60 % and after spontaneous and instrumental vaginal delivery 16–34%.²¹⁻²³

The exact mechanism of urinary incontinence remained a dilemma, still, it is assumed that the condition develops at least in part as a result of delivery trauma to the pelvic floor.²⁴ Pregnancy is a normal physiological phenomenon and many systemic changes occurring inside the body of a mother to meet the demands of a foetus. One of these changes included alteration in hormonal levels. It is well-known fact that the level of relaxing increases during pregnancy, which is thought to stimulate connective tissue remodelling consequently playing a vital role in the modifications female pelvis for delivery.²⁵

As urinary incontinence remained a major problem during pregnancy, therefore, a huge number of trials may be found in the literature. It is noteworthy that

majority of these studies have been carried out in developed countries. Data regarding the prevalence of post-partum urinary incontinence in female population in countries like Pakistani is scarce and need attention. Therefore, this study was carried out in order to report intensity of the problem in female population living in the country.

Materials and Methods

A descriptive cross-sectional study was conducted in the in- and out-patient gynaecology departments of tertiary care setups in Hayatabad, Peshawar. Major tertiary care hospitals in Hayatabad were included for this purpose. A total of 296 patients took part in the study after detailed information was provided to them and consent was taken. The participants all responded on standard questionnaire [Bristol Female Lower Urinary Tract Symptoms- Short Form (BFLUTS-SF)]. The questionnaire comprised of 5 parts and measured incontinence, severity of symptoms and its effect on the patient's quality of life. The five categories assessed by the questionnaire were a) filling symptoms which scored nocturia, urgency, bladder pain and frequency between voiding, b) voiding symptoms i.e. straining, hesitancy and intermittency c) incontinence symptoms i.e. pre-void dribbling, frequency daily, stress incontinence, unpredictable incontinence and nocturnal incontinence, d) sex symptoms i.e. spoiled sex life and urine leakage during sex, e) quality of life symptoms which were scored on a "bother" scale. Each question was scored from 0 to 4 with 0 pointing to no symptoms and 4 being worst possible symptoms. The last section i.e. the section consisting of questions pertaining to the quality of life assessed the degree of bother caused by the symptoms.

The sample was selected according to the inclusion criteria which consisted of female patients who were in the peripartum period i.e. day 1-day 40, and had complaints of urinary incontinence. Patients who had systemic diseases such as diabetes mellitus, previous urinary tract infection or any other neurological disorder leading to urinary incontinence were not included in the study. Non-probability sampling was carried out and patients were recruited according to convenience sampling. The total time duration for this study was 6 months. Data was analysed using SPSS version 20. Mean, range and standard deviation were measured for the

demographic data.

Results

A total of 296 post-partum female patients with mean age 27.2 ± 4.4 years (range: 17-4 years) were included in this study. The mean marrying age of the participants was 21.32 ± 3.35 (range: 13-30). Majority (53%) of this female population had undergone caesarean section while a small number (9%) had instrumental deliveries. The remaining (38%) had normal vaginal deliveries. Majority of the female population (41%) was uneducated and the rest had completed their primary level (23%), secondary education (20%), graduation (15%) and post-graduation (1%). Nutritional levels were determined by calculating BMIs of the patients with most of them (38%) being in the overweight category. A total of 81% patients in this study were having moderately incontinence, while a small number of the patients (4%) were having severely incontinence and 15% of the patients had no symptom of incontinence i.e. they were continent. The mean total score for BFLUTS-SF was 12.0 ± 10.0 with the following mean subscale scores FS= 4.2 ± 3.2 , VS= 1.5 ± 2.2 , IS= 3.6 ± 3.2 , SS= 0.3 ± 0.8 , QOL= 2.3 ± 4.0 . Higher total sum scores were associated with higher chances of urinary incontinence.

Individually, nocturia remained the most reported symptom at 84% (64% moderate and 20% severe) while 16% reported no symptoms of nocturia. The lowest reported symptoms were 7% for the question pertaining to urine leakage during sex (see table 1 for frequency of severity of different symptoms). Effects on quality of life subsection showed that 36% of the patients had reported an adverse effect on their quality of life (22% moderate- 14% severe). Regarding changing their outer garments, 17% of the patients reported changing their outer garments once while 10% had to change them more frequently. Water intake percentages showed that 11% of the population had decreased water intake to prevent frequent urination most of the time whereas 14% reported that they had reduced their water intake occasionally. In response to effects on daily activities, 10% of the patients responded 'quite a bit' and 14% reported a minor effect on their activities of daily living. Avoidance of public places with no access to toilets was reported by 27% of the population with 18% avoiding them occasionally and 9% avoiding

them most of the time.

Cross tabulation between incontinence and other variables including age, parity, mode of delivery, duration of labor and BMI showed no significant differences suggesting that these factors have no major contributing role on incontinence in this population. The prevalence of urinary incontinence in this population was 85% with 82% moderately incontinent and 3% severely incontinent.

Discussion

The aim of this study was to find out the prevalence of post-partum urinary incontinence amongst female population of Hayatabad, Peshawar in tertiary care settings. Previous studies have shown post-partum urinary incontinence to be a significant problem with far reaching effects that considerably affects physical and psychological status of female population. A variation in the prevalence of post-partum urinary incontinence might be seen and it has been reported between 0.7% to 34%^{19,20} in some trials. On the other hand its prevalence has been reported between 16%-34%.^{21,22} In this study, we found the prevalence of post-partum urinary incontinence to be 28.% which in accordance to the previous trials carried out on the prevalence of the condition. Finding of our trial suggested that stress incontinence remained higher than urge incontinence. A disagreement about the type of incontinence may be found in the literature and higher ratio of developing post-partum stress incontinence in these patients have been reported,^{12,26} while in the other trials, post-partum incontinence was reported a rarely occurring situation in these patients.¹³ Our study revealed that nocturia was one of the most cited symptoms in this population and 85% of the participants had nocturia; almost one fifth reported severe symptoms and more than half reported mild to moderate symptoms. This was followed by bladder pain which was experienced by almost half of the participants. Other symptoms that also had high frequencies were intermittency, pre-void dribbling closely followed by starting strain, hesitancy and unpredictable miscellaneous incontinence. Similar findings were reported in the trials carried out on urinary incontinence in female population.²⁷

Quality of life assessment proved that the condition had severely affected quality of life in these patients.

It was found that the included population had reduced their water intake to help combat the problem while a quarter of the population confessed to avoiding public at places with no toilet facilities including markets or long journeys. The latter had severely affected their living style and majority of the population confined themselves to their homes or their movements were severely restricted. Moreover, it was found that female population were using toileting facilities hourly up to multiple times an hour with a big number rushing to toilet in urgency.

Regarding the questions on sex, they appeared to not be applicable to one third of the population as it was their first pregnancy and they had not yet resumed the activity. Regarding those who had it, a small number reported that their sexual life was adversely affected by incontinence. These findings are in accordance to the previous trials where sexual hypo or sexual dysfunction was observed in female population with urinary incontinence.²⁸

The factors affecting postpartum urinary incontinence parity remained in accordance with other studies with multiparous women having more of a risk. Other factors such as mode of delivery, duration of labour, number of pregnancy and BMI have been found to be significantly related to postpartum urinary incontinence in some studies.²⁰ However, in our trial no significant results were found for then mentioned factors. Culturally, female population in Pakistan especially in Pathans culture is shy and we assumed that deviation of result from what is available in the literature might be caused by this issue. Such issues may be covered by conducting large scale trials in the culture with questionnaires modified to the culture. This might be one of the limitations of this study. Moreover, the questionnaire used in this study was in English language and data collectors have to explain it to the participants. The responses of the participants were then recorded by the data collectors.

Conclusion

In conclusion, the overall prevalence rate of postpartum urinary incontinence in periparturient women in tertiary care setups in Hayatabad, Peshawar was within the range reported in other cultures. Urinary incontinence may be regarded as one the major contributing factors that affects

significantly affects overall quality of life in female population.

Table I: showing the frequency values for severity of different symptoms

SYMPTOMS	Total %	Moderate	Severe
Nocturia	84	63	21
Urgency	43.9	31.1	12.8
Bladder Pain	48.3	39.9	8.4
Frequency between voiding	54.7	49.3	5.4
Starting strain	29.1	24	5.1
Hesitancy	22.6	17.9	4.7
Intermittency	36.5	31.1	5.4
Pre-void dribbling	35.5	32.1	3.4
Frequency daily	79	58.1	20.9
Stress incontinence	45.3	35.2	10.1
Unpredictable Incontinence	20.3	18.6	1.7
Nocturnal Incontinence	9.8	8.1	1.7
Spoiled Sex Life	16.2	15.5	0.7
Leakage of urine during sex	7.4	7.1	0.3

REFERENCES

1. Abrams P, Cardozo L, Fall M, Griffiths D, Rosier P, Ulmsten U, et al. The standardisation of terminology in lower urinary tract function: report from the standardisation subcommittee of the International Continence Society. *Urology*. 2003; 61: 37-49.
2. Yip SK, Cardozo L. Psychological morbidity and female urinary incontinence. *Best practice & research Clinical obstetrics & gynaecology*. 2007; 21: 321-9.
3. Nitti VW. The prevalence of urinary incontinence. *Reviews in urology*. 2001; 3: S2.
4. Szymona-Pałkowska K, Janowski K, Pedrycz A, Mucha D, Ambroży T, Siermontowski P, et al. Knowledge of the Disease, Perceived Social Support, and Cognitive Appraisals in Women with Urinary Incontinence. *BioMed Research International*. 2016; 2016: 12-7.
5. Sumeh AS, Tan CE, Jaffar A. Types of urinary incontinence, its symptoms bother and effect on quality of life among older women in penampang health clinic. 2014; 8: 13-9.
6. Wilson JA. The Management of Urinary Incontinence. *US Pharm*. 2016; 41: 22-6.
7. Tanrıverdi HA, Hakan S, Akbulut V. Üriner inkontinans ve pelvik prolapsusun epidemiyoloji, etiyoloji ve risk faktörleri. *Türkiye Klinikleri Journal of Gynecology and Obstetrics*. 2004; 14: 231-8.
8. Thomas TM, Plymat KR, Blannin J, Meade T. Prevalence of urinary incontinence. *Br Med J*. 1980; 281: 1243-5.
9. Sommer P, Bauer T, Nielsen K, Kristensen E, Hermann G,

- Steven K, et al. Voiding Patterns and Prevalence of Incontinence in Women.: A Questionnaire Survey. *British Journal of Urology*. 1990; 66: 12-5.
10. Jolleys JV. Reported prevalence of urinary incontinence in women in a general practice. *BMJ*. 1988; 296: 1300-2.
 11. Nygaard I. Urinary incontinence: is cesarean delivery protective? *Seminars in perinatology*. 2006.
 12. Allen R, Warell D. The role of pregnancy and childbirth in partial denervation of the pelvic floor. *Neurourol Urodyn*. 1987; 6: 183-4.
 13. Stanton S, Kerr-Wilson R, Harris VG. The incidence of urological symptoms in normal pregnancy. *BJOG: An International Journal of Obstetrics & Gynaecology*. 1980; 87: 897-900.
 14. Sharifiaghdas F, Tajalli F, Taheri M, Najji M, Moghadasali R, Aghdami N, et al. Effect of autologous muscle-derived cells in the treatment of urinary incontinence in female patients with intrinsic sphincter deficiency and epispadias: A prospective study. *International Journal of Urology*. 2016; 7; 581-6.
 15. Groutz A, Rimon E, Peled S, Gold R, Pazner D, Lessing JB, et al. Cesarean section: does it really prevent the development of postpartum stress urinary incontinence? A prospective study of 363 women one year after their first delivery. *Neurourology and urodynamics*. 2004; 23: 2-6.
 16. Diez-Itza I, Arrue M, Ibañez L, Murgiondo A, Paredes J, Sarasqueta C. Factors involved in stress urinary incontinence 1 year after first delivery. *International urogynecology journal*. 2010; 21: 439-45.
 17. Wesnes SL, Hunskaar S, Bo K, Rortveit G. The effect of urinary incontinence status during pregnancy and delivery mode on incontinence postpartum. A cohort study. *BJOG: An International Journal of Obstetrics & Gynaecology*. 2009; 116: 700-7.
 18. Fritel X, Fauconnier A, Levet C, Bénifla JL. Stress urinary incontinence 4 years after the first delivery: a retrospective cohort survey. *Acta obstetricia et gynecologica Scandinavica*. 2004; 83: 941-5.
 19. Viktrup L, Lose G, Rolf M, Barfoed K. The frequency of urinary symptoms during pregnancy and puerperium in the primipara. *International Urogynecology Journal*. 1993; 4: 27-30.
 20. Wilson P, Herbison R, Herbison G. Obstetric practice and the prevalence of urinary incontinence three months after delivery. *BJOG: An International Journal of Obstetrics & Gynaecology*. 1996; 103: 154-61.
 21. Thom DH, Rortveit G. Prevalence of postpartum urinary incontinence: a systematic review. *Acta obstetricia et gynecologica Scandinavica*. 2010; 89: 1511-22.
 22. Burgio KL, Zyczynski H, Locher JL, Richter HE, Redden DT, Wright KC. Urinary incontinence in the 12-month postpartum period. *Obstetrics & Gynecology*. 2003; 102: 1291-8.
 23. Brown SJ, Donath S, MacArthur C, McDonald EA, Krastev AH. Urinary incontinence in nulliparous women before and during pregnancy: prevalence, incidence, and associated risk factors. *International urogynecology journal*. 2010; 21: 193-202.
 24. Arrue M, Diez-Itza I, Ibañez L, Paredes J, Murgiondo A, Sarasqueta C. Factors involved in the persistence of stress urinary incontinence from pregnancy to 2 years post partum. *International Journal of Gynecology & Obstetrics*. 2011; 115: 256-9.
 25. Marshall SA, Senadheera SN, Parry LJ, Girling JE. The role of relaxin in normal and abnormal uterine function during the menstrual cycle and early pregnancy. *Reproductive Sciences*. 2016; 24: 342-54.
 26. Morkved S, Bo K. Prevalence of urinary incontinence during pregnancy and postpartum. *International Urogynecology Journal*. 1999; 10: 394-8.
 27. Mustafa M. Transurethral Resection of the Bladder Neck in Female Patients with Bladder outlet Obstruction. *Transylvanian Review*. 2016.
 28. Salonia A, Zanni G, Nappi RE, Briganti A, Deho F, Fabbri F, et al. Sexual dysfunction is common in women with lower urinary tract symptoms and urinary incontinence: results of a cross-sectional study. *European urology*. 2004; 45: 642-8.

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