

INCONTINENCE OF URINE IN PREGNANT WOMEN

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ABSTRACT

Objective: To determine the frequency and types of urinary incontinence in pregnant women reporting to a tertiary care hospital.

Methodology: This descriptive study was carried out in the Department of Obstetrics and Gynaecology 'B' Unit, Hayatabad Medical Complex, from September 2017 to February 2018. All the pregnant women who had urinary incontinence were selected for the study by non-probability convenient sampling after taking informed consent. These patients were then sub-classified into either urge, stress or mixed urinary incontinence. Detailed history regarding their period of gestation, risk factors for incontinence, type of incontinence and gestational age at presentation of urinary incontinence were recorded. Data were analyzed using SPSS version 21.

Results: In our study, total 2880 antenatal women were interviewed; out of which 317 were having urinary incontinence making the frequency of urinary incontinence to be 11%. Maternal age ranged from 18-42 years with mean age of 28.04 ±2.3 years. Most of the patients presented in the last trimester followed by 2nd and 1st trimester respectively. Mixed urinary incontinence was the most common type of incontinence (n=133, 41.95%), followed by urge urinary incontinence (n=108, 34%) and stress urinary incontinence (n=76, 24%).

Conclusion: Incontinence of urine was a significant problem during pregnancy. Mixed urinary incontinence was the most common type of incontinence of urine.

Key Words: Urinary incontinence, Pregnancy, Gestational age

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INTRODUCTION

Continence of urine is the ability to retain urine within the bladder between voluntary acts of urination¹. According to the International Continence Society, urinary incontinence is defined as involuntary loss of urine which is both a social and hygienic problem and which is objectively demonstrable. Stress urinary incontinence is defined as the involuntary loss of urine that occurs when in the absence of detrusor contraction the intravesical pressure exceeds the maximum urethral pressure. Urge urinary incontinence/detrusor instability has been defined as a condition in which the bladder is shown to contract, either spontaneously or with provocation during bladder filling while the subject is attempting to inhibit micturation^{1,2}. Shershah et al³ have documented 20.5% frequency of incontinence of urine in Pakistani female population. In one of the local study 51.1% prevalence has been documented in pregnant women⁴.

There are several risk factors which contribute towards incontinence of urine. Pregnancy is one of the risk factors due to physiological and anatomical changes of pregnancy^{5,6}. In one of the study, 31% prevalence of urinary incontinence was documented in the 3rd trimester; out of which 70% of pregnant women were having stress urinary incontinence, 21.5% mixed and 3.4% were having urge urinary incontinence⁷. The exact mechanism of urinary incontinence during pregnancy is not clear as the anatomy of the bladder wall, urethra and their position within the pelvic cavity remains unchanged. Changes occur in the connective tissue during pregnancy with 8-10 fold increase in the collagenous fibers. Effect of hormones especially relaxin, structural changes in the pelvic support function and pressure of the pregnant uterus may contribute towards incontinence during pregnancy^{8,9}.

In developing countries women feel ashamed and embarrassed in reporting urinary incontinence due to the social norms^{10,11}. To address this social and hygiene

problem, we need to know magnitude of the problem in our local community. We selected this subject due to limited local data on incontinence of urine especially during pregnancy.

METHODOLOGY

This cross sectional study was conducted in the Department of Obstetrics and Gynecology, Hayatabad Medical Complex, Peshawar from September 2017 to February 2018. All the pregnant women who visited gynaecology OPD for various complaints were asked questions regarding urinary incontinence and those having incontinence of urine were selected for the study on the basis of convenient sampling technique after taking informed consent. Patients having coexisting risk factors including diabetes mellitus, urinary tract infection, prolapse of the urogenital tract and women having preexisting incontinence of urine before pregnancy were excluded from the study. These patients were then sub-classified into urge, stress or mixed urinary incontinence. Detailed history regarding their period of gestation, risk factors for incontinence, type of incontinence and gestational age at presentation were recorded on a predesigned proforma. Data were analyzed using SPSS version 21. Descriptive statistics were calculated in the form of frequencies and percentages.

Incontinence was defined as involuntary loss of urine. Stress urinary incontinence was defined as involuntary loss of urine with effort/exertion e.g. (coughing, sneezing, climbing stairs and weight lifting). Urge urinary incontinence was defined as involuntary loss of urine which is associated with symptoms of urgency. While

patients having both the features of stress and urge urinary incontinence were classified as having mixed urinary incontinence^{1,2}. The type of urinary incontinence was determined on the basis of subjective findings and was not objectively confirmed by investigations e.g. urodynamics.

RESULTS

During the study period, 2880 antenatal women were assessed in the outpatient department out of which 317 were included in the study on the basis of inclusion criteria making the frequency of urinary incontinence in antenatal patients to be 11%.

The demographic details of the patients are given in Table 1. Maternal age ranged from 18-42 years with mean age of 28.04 ±2.3 years. Most of the patients presented in the last trimester (n=130, 41.0%).

Mixed incontinence was the most common subtype of urinary incontinence present in 133 (41.95%) cases. Details are given in Table 2.

DISCUSSION

Pregnancy has significant detrimental effect on the mother's urinary tract system. Both hormonal and anatomical changes due to gravid uterus affects the bladder capacity which is 410 ml in 1st trimester and 272 ml in the last trimester⁸.

In our study, the frequency of urinary incontinence during pregnancy was 11% out of which 34.06% were having urge urinary incontinence, 23.97% stress urinary

Table 1: Demographic details of the sample (n=317)

Variables		Frequency
Parity	Nulliparous	72 (22.7%)
	Multipara	189 (59.6%)
	Grand Multipara	56 (17.67%)
Gestational Age	1 st Trimester	92 (29.02%)
	2 nd Trimester	95 (29.97%)
	3 rd Trimester	130 (41.01%)

Table 2: Type of urinary incontinence (n=317)

Type of Urinary Incontinence	Frequency	Percentage
Urge Urinary Incontinence	108	34.07%
Stress Urinary Incontinence	76	23.97%
Mixed Urinary Incontinence	133	41.96%
Total	317	100

incontinence and 41.95% mixed urinary incontinence. Erbil et al¹² has reported 40.4% incidence of urinary incontinence with stress urinary incontinence as the most common subtype (78.8%), while urge urinary incontinence was only 6.4% and mixed urinary incontinence 14.8%. In a local study by Sharif et al⁴ the overall incidence of urinary incontinence was 51.1%; with 45.5% having urge, 38.3% stress and 41.1% mixed urinary incontinence. The difference in the incidence is because of difference in the selection criteria. Erbil et al¹² has also included patients having risk factors e.g. Urinary and respiratory tract infection, diabetes etc.

Bekele et al¹⁰ has reported 11.4% prevalence of urinary incontinence in their study. Similarly 12% prevalence was reported in South Africa¹³. Both the studies correlate with our findings. In a review article published by Sangsawang et al⁸ there is a wide variation in the prevalence of urinary incontinence, with urge incontinence ranging from 2-35%, stress 18.6-6% and mixed 3.8-13.1%. A large population based survey conducted by Zhu et al¹⁴ in China has reported a lower incidence of urinary incontinence as compared to Europe, with overall incidence of urinary incontinence in pregnant women as 26.7%. Thomsan et al¹⁵ and Raza-Khan et al¹⁶ has reported a very high prevalence of incontinence in American population. Similar results were also published by Australian studies with 64% prevalence of urinary incontinence during pregnancy¹⁷. In India, the prevalence of urge, stress, and mixed incontinence of urine during pregnancy was 2.9%, 19.2% and 3.8% respectively¹⁸.

In our study, 29.02% patients presented with urinary incontinence during 1st trimester, 29.96% in 2nd trimester, and 41% in last trimester. Similar results were shown by Bekele et al¹⁰ with highest incidence during 3rd trimester (>60%) followed by 29.2% in 2nd trimester and 4.2% in 1st trimester. Tingthong et al¹⁹ has reported a clinically significant effect of multiparity on the incidence of incontinence of urine during antenatal period, with p value of 0.004. In our study only 22.7% were primigravida while rest of them were either multigravida or grand multigravida. Wesnes et al²⁰ in their study showed that parity is one of the strongest risk factor for urinary incontinence (OR= 2). It means repeated pregnancies is an important risk factor for urinary incontinence.

LIMITATIONS

There is high degree of subjectivity about incontinence in this study which can be potential selection bias. This needs to be screened with a validated tool and confirmed with urodynamic studies.

CONCLUSION

Urinary incontinence was a significant problem during pregnancy. Mixed urinary incontinence was the

most common type of incontinence of urine. Frequency of incontinence of urine increases with advancing pregnancy.

RECOMMENDATIONS

Further studies on large scale are required in our set-up to see the exact burden of the disease in antenatal patients and then follow these patients in the postnatal period to know whether the urinary incontinence symptoms persist after delivery. Different strategies can be implemented to decrease the severity of the problem. Pelvic floor muscle exercises can be safely done during pregnancy with good results. We also need to translate the incontinence impact questionnaire in local languages to know the impact of the disease on daily life of the pregnant patient having urinary incontinence

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CONTRIBUTORS

RK conceived the idea, planned the project and wrote initial manuscript. SB took care of ethical aspects, gave technical approval and supervised the study. SA and KFP helped review initial draft, collected and compiled data and carried out corrections during peer review. All authors contributed significantly to the submitted manuscript.