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Original Research Article

A study to determine the prevalence of urinary incontinence in antenatal women at a tertiary care centre in central India

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ABSTRACT

Background: Urinary incontinence is a common condition in pregnancy and postpartum. There are more than a thousand articles on urinary incontinence (UI) in pregnancy but very limited literature from Indian subcontinent is available. Incidence and prevalence figures of UI in association with pregnancy vary substantially. Not many reviews have focused solely on incidence and prevalence of UI in association with pregnancy. Prevalence of UI in pregnancy ranges from 32% to 64%.

Methods: A cross sectional observational study was conducted in the department of obstetrics and gynecology, MGM Medical College and M.Y. Hospital, Indore over the period of 6 months on 1000 pregnant women who were following antenatal care (ANC) clinic. Pregnant women, who were severely sick, diagnosed with kidney or urinary infection and vaginal infections women were excluded from the study. The data were collected using a structured questionnaire. After the purpose of the study was explained, written consent was obtained from each voluntary participant. This study was approved by institutional ethical committee. The data was recorded in predesign coded case report form and statistical analysis was performed using the STATA 12.1.

Results: In the present study the prevalence of urinary incontinence reported is 16.4% of women during pregnancy.

Conclusions: In this study the prevalence of UI during current pregnancy was found to be lower compared to previous studies conducted. The previous history of surgery, constipation, obesity and respiratory problems were found to be significantly associated with UI during pregnancy.

Keywords: Antenatal women, Quality of life, Urinary incontinence

INTRODUCTION

The urinary incontinence (UI) is currently defined by the International Continence Society (ICS) as the “complaint of any involuntary leakage of urine”. The characterization of the UI is classified as effort UI (EUI) - simultaneous urinary loss to effort, exercise, coughing or sneezing; urgent UI-involuntary loss of urine accompanied by or immediately preceded by sudden and uncontrollable urge to urinate, difficult to be delayed or mixed (MUI)-when there are signs and symptoms of both types.¹ It has been reported to affect 5-69% of women.² The most common form of UI in women is stress urinary incontinence (SUI),

followed by mixed urinary incontinence (MUI) and urge urinary incontinence (UUI).³ The prevalence of UI is higher in specific subgroups, such as pregnant women, The incidence of UI is significantly higher in adults and appears two to four times more often in women than in men. The prevalence of urinary incontinence in women varies between 12% and 56%.^{4,5} Recent studies indicate that the UI is a high prevalence problem or worldwide public health disorder Pregnancy is a well-known risk factor for UI, this is due to the physiologic and anatomic changes, especially in the third trimester, that can result in weak pelvic floor muscles (PFM).^{6,7} Other risk factors could be the age of the mother, parity, previous delivery,

body mass index [BMI], and UI before pregnancy.^{2,6} The prevalence of UI during pregnancy in Europe has been reported to be 26-71%, similarly, in north and South America estimated to be 43-63%.^{6,8,9} Since women in low-income countries are vulnerable to the risk factors like being multiparous, lack of adequate health infrastructures, lack of intervention for UI and low attitude towards it.¹⁰⁻¹² It is possible that UI being common and affect the daily life of pregnant women more severely than suggested by reports. Data showed women being ashamed, embarrassed and fear of being discriminated led to hiding their problem.¹² Despite, other factors like high fertility rate, a difference in lifestyle, environmental and genetic factors, a different health care system especially antenatal Care (ANC) and delivery care affecting the prevalence of UI there was no study conducted so far.

Most prevalence studies have been conducted in Caucasian populations. However, recent studies have found a lower prevalence of SUI in black and Asian women compared with white women. These differences have been hypothesised to be the result of differences in the collagen and muscle morphology, but to date there is scant knowledge about the underlying mechanisms.¹³

The aim of the present study was to investigate the prevalence of UI at tertiary level hospital on pregnant population using the ICIQ-UI-SF, and to assess the possible associations between UI with age, parity, gestational age, education level, increased abdominal pressure.

METHODS

This cross-sectional observational study was conducted in the department of obstetrics and gynecology, MGM Medical College and M.Y. Hospital, Indore, Madhya Pradesh over the period of 6months on 1000 pregnant women who were following antenatal care (ANC) clinic. A total of 1000 pregnant women who were following ANC during the study period were included in the study. The study samples were selected using systematic sampling from, the total pregnant women who had follow-up at the ANC whereas pregnant women who were severely sick, diagnosed with kidney or urinary infection and vaginal infections women were excluded from the study. The data were collected using a structured questionnaire ICIQ-UI-SF. After the purpose of the study was explained, written consent was obtained from each voluntary participant. During the data collection and examination, a separate room was used. Participants were allowed to quit at any time of the data collection if felt uncomfortable. They have also informed their participation in the study has no effect on the care that they receive. All the information was kept confidential at any stage of the study. All participants with UI were referred to the department of physiotherapy for further management.

Basic demographic characteristics clinical presentations were recorded in predesigned case report from all studied cases. Numerically coded data entered in MS excel 2007 worksheet and logical validation and editing was done before analysis. Categorical variables were summarized as frequency distribution and mean±SD was analysed using chi square or fisher's exact test as appropriate. Statistical analysis was performed using stata12.1.

RESULTS

Table 1: Demographic characteristics of the study group.

Variable	N	%
Age (years)		
18-25	320	32
26-30	486	48.6
31-35	102	10.2
> 35	92	0.92
Locality		
Rural	648	64.8
Urban	452	45.2
Religion		
Hindu	527	52.7
Muslim	473	47.3
Education		
Illiterate	164	16.4
Primary	219	21.9
Middle	427	42.7
Secondary	108	10.8
Graduate	182	18.2
Occupation		
Daily wage worker	134	13.4
Farmer	198	19.8
Service	268	26.8
Housewife	400	40
Gravida		
Primi	368	36.8
Multi	642	64.2
Prior abortion		
None	582	58.2
Once	274	27.4
Twice or more	144	14.4
Mode of previous delivery		
None	368	36.8
Vaginal	515	51.5
caesarean	117	11.7

The overall prevalence of Urinary incontinence amongst participants was 16.4%. The background characteristics of studied group revealed most of the women 48.6% were between 26-30 years of age followed by 32% in the age group of 18-25 years. 64.8% were belonging to rural area. 52.7% of women were Hindu by religion. 16.4% of women not educated and by occupation 40.0% of women were housewife. 27.4% women had history of one prior

abortion while 14.4% had 2 or more abortions. 36.8% women were primigravida and 64.2% were multigravida (Table 1).

Table 2: Correlation of various factors with urinary incontinence.

factors	Urinary incontinence		p value
	Yes	No	
Parity			
Primi	100	64	
Multi	89	75	
Gestational age up to 13 weeks			
Primi	72	9	< 0.0001
Multi	24	18	
14-28 weeks			
Primi	18	22	
Multi	13	35	
29-40 weeks			
Primi	28	15	
Multi	52	22	
h/o UI during previous pregnancy	96	68	
h/o of UI (life time)	37	127	
Chronic cough or asthma	102	62	
Constipation	79	85	

Almost 51.5% women had vaginal delivery with or without episiotomy and 11.7% had caesarean section during their previous delivery and 96 had experienced UI during their earlier pregnancy and 80 patients experienced UI during the 3rd trimester which was also statistically significant. p value < 0.0001 (Table 2). 19.8% women had chronic cough while 0.64% had history of asthma /allergy/sinusitis. From the total women with UI 21% had constipation sometimes and 10.2% women having constipation often.

DISCUSSION

Pregnant women with urinary incontinence, the loss of urine does not seriously affect their life, but it affects their physical, mental and social domains of QOL, causing discomfort/anxiety.⁶ Women with urinary symptoms feel a greater need for care and health information and are impacted in various areas of social, emotional, sexual activity, worsening of general health perception, and the sleep/disposal areas and limitations of daily activities that get the worst scores, and have little participation in leisure activities and negatively affecting their QOL.^{14,15}

The prevalence of urinary incontinence reported in present study is 16.4% of women during pregnancy.

Regarding the prevalence of UI in pregnancy, it we found varying rates of 63.8% in 500 pregnant women with all

types of UI; 41.7% of 722 pregnant women as well as 58.2%, which is divided into patients with stress urinary incontinence (50.4%), MUI (28.3%) and urge incontinence (21.3%), showing that the pregnancy, this change worsens.^{6,16,17} The UI was cited by up to 35% of pregnant women in the previous study.⁷ Survey of 620 pregnant women found that in nulliparous, 53.2% had UI during pregnancy, most of the effort (48.2%), emergency then (26.1%) and mixed (25.7%) and the multiparous group the prevalence was 69.7%, as follows: EUI (54.2%), MUI (32.8%) and urgent UI (13%).¹⁷ Lowest rates were found in a study of 500 pregnant women, with a prevalence of 7.4% in pregnant and in women with previous pregnancies was 11.6%.¹⁸

CONCLUSION

Urinary incontinence negatively affects the women's quality of life, their physical, mental, emotional and social domains, leading her to seclusion from the social relationship and to daily tasks changes, for the generated discomfort and anguish. From this, behavioural strategies will be adapted to this disorder and unconsciously absorbs more worry and anxiety, in addition to those already imposed pregnancy. It is up to health professionals trying to create strategies to minimize the consequences in quality of life generated by the accidental loss of urine.

Limited data is available from Indian sub-continent on prevalence of urinary incontinence in pregnancy which comes very high in our study. More such studies need to be conducted at different centres to overall prevalence of condition and both pregnant women and treating doctors needs to be sensitised for the condition and available remedies for it.

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