



Original Research Article

## Proportion of Urinary Incontinence in Pregnant Women

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Received: 16/08/2015

Revised: 07/09/2015

Accepted: 09/09/2015

### ABSTRACT

Urinary incontinence is loss of urine due to increase pressure on bladder which is most commonly seen in pregnancy. Epidemiological studies on the UI during pregnancy show various variable factors associated with UI. Some risk factors like race, chronic diseases, and fetal size are non-modifiable risk factors. Aim of the present study was to determine the proportion of urinary incontinence in pregnant women. Objectives were to estimate severity of urinary incontinence among pregnant women, to compare urinary incontinence between multiparae and primiparae women and to compare urinary incontinence between 2<sup>nd</sup> trimester and 3<sup>rd</sup> trimester pregnant women. 200 subjects were selected from antenatal unit in their second or third trimester of pregnancy. Proportion of urinary incontinence was calculated with percentage. International Consultation on Incontinence Questionnaire – Urinary Incontinence - Short Form (ICIQ-UI-SF) was used as outcome measure. These studies have found out proportion of urinary incontinence in pregnant women which is a common disorder.

**Key words:** Urinary incontinence UI, Pelvic floor muscles, Quality of life.

### INTRODUCTION

Incontinence defined according to the International Continence Society's definition: 'a condition in which involuntary loss of urine is a social or hygienic problem and is objectively demonstrated'.<sup>[1]</sup> Urinary incontinence (UI) is a common condition in association with pregnancy. Incident UI in pregnancy or postpartum are significant risk factors for UI later in life.<sup>[2]</sup> Urinary incontinence is loss of urine due to increase pressure on bladder which is most commonly seen in pregnancy.<sup>[1]</sup> Prevalence of stress urinary incontinence rose during pregnancy and then declined after childbirth, indicating that the increased pressure from the growing fetus on the bladder may

temporarily cause leakage during pregnancy.<sup>[1]</sup> Pregnancy may be associated with the reduction of the pelvic floor muscle (PFM) strength which may lead to reduced strength and supportive and sphincteric function of the PFM which can develop the SUI.<sup>[3]</sup> The PFM plays an integral role in the maintenance of the continence mechanism by actively supporting the pelvic organs, and closing the urethral sphincter when contracting.<sup>[3]</sup> Pregnancy is one of the main risk factors for the development of SUI in young women.<sup>[3,4]</sup> Common unawareness and the lack of knowledge regarding UI make it difficult for physicians to perform early diagnosis and treatment.<sup>[5]</sup> An increased incidence of stress urinary

incontinence (SUI) during pregnancy and the postpartum period has also been associated with low pelvic floor muscle strength. [1] Which also occurs due to activity that creates a sudden increase in intra-abdominal pressure. [6] It is believed that excessive weight gain during pregnancy increases the risk of urinary incontinence during pregnancy. It is believed that a greater body weight acts on the pelvic tissue, causing tension, stretching and weakening of the muscles, nerves and pelvic floor fascias. [7] Epidemiological studies on the UI during pregnancy show various variable factors associated with UI. Some risk factors like race, chronic diseases, and fetal size are non-modifiable risk factors. However, several risk factors obesity, smoking, constipation, pre-pregnancy SUI, gestational diabetes mellitus (GDM), are modifiable and might be promoted to prevent UI during pregnancy. It can affect the quality of life (QoL) of approximately 54.3% of all pregnant women in four domains including physical activity, travel, social relationships and emotional health. UI had negative effect on QoL, but only severely-affected women sought medical care. Public health and clinical management programs are needed to determine diagnosis and management of these social problems. [8] The need of the study was to see urinary incontinence if present in higher severity, can affect the social life of the pregnant women leading to embarrassment, thus increasing psychological stresses in them. So it will be useful for health professionals in informing and advising the pregnant women to prevent and avoid several modifiable risk factors that contributing to the development of UI during pregnancy and also for early intervention. Aim of the present study was to determine the proportion of urinary incontinence in pregnant women. Objectives were to estimate severity of urinary incontinence among pregnant women, to

compare urinary incontinence between multiparae and primiparae women and to compare urinary incontinence between 2<sup>nd</sup> trimester and 3<sup>rd</sup> trimester pregnant women.

## MATERIALS AND METHODS

Cross section observational study was carried out with 200 females from antenatal unit of SKNMC & GH Pune. Mean age of the participants was (24.15 +\_3.72). 2<sup>nd</sup> and 3<sup>rd</sup> trimester pregnant women were included in the study. 1<sup>st</sup> trimester pregnant women, women having urinary incontinence prior pregnancy, previous urogynecological surgery, neurological disorders were excluded. Materials used were pen, paper. Outcome measure was International Consultation on Incontinence Questionnaire – Urinary Incontinence - Short Form (ICIQ-UI-SF). [9] Institutional ethical clearance was obtained. Permission to perform study was taken from gynecology and obstetrics department. All participants were informed about the nature of the study and written consent was obtained from subjects. Demographic data of all the participants were taken. Participants were given International Consultation on Incontinence Questionnaire – Urinary Incontinence - Short Form (ICIQ-UI-SF). [9] Proportion of urinary incontinence was found out by statistical analysis.

**Statistical analysis:** Statistical analysis was done by calculating the percentage to find out the proportion of urinary incontinence.

## RESULTS

Total percentage of women having urinary incontinence was found to be 75.5%. Proportion of urinary incontinence in primiparae women was 74%. Proportion of urinary incontinence in multiparae women was 76%. Percentage of UI in second trimester women was 62% and that of third trimester was 96%. Very severe UI was present in 3.90% of pregnant women, severe

affection was 34.40%, moderate UI was found to be 60.20% and slight was 1.30%.

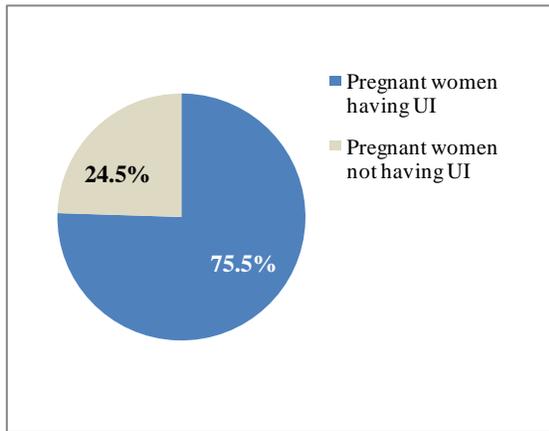


FIGURE NO.1--PROPORTION OF UI

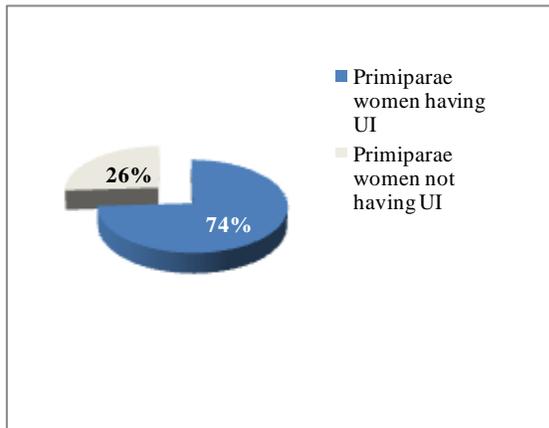


FIGURE NO.2-PROPORTION OF UI IN PRIMIPARAE WOMEN

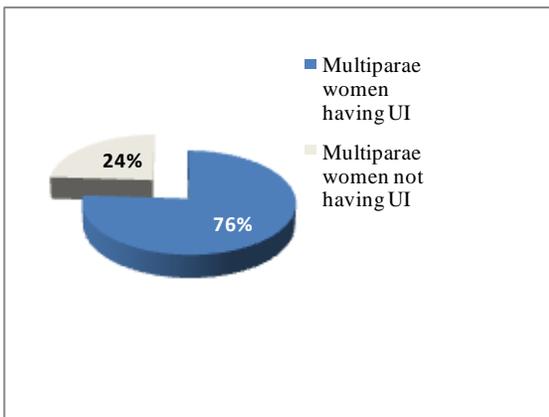


FIGURE NO.3-PROPORTION OF UI IN MULTIPARAE WOMEN

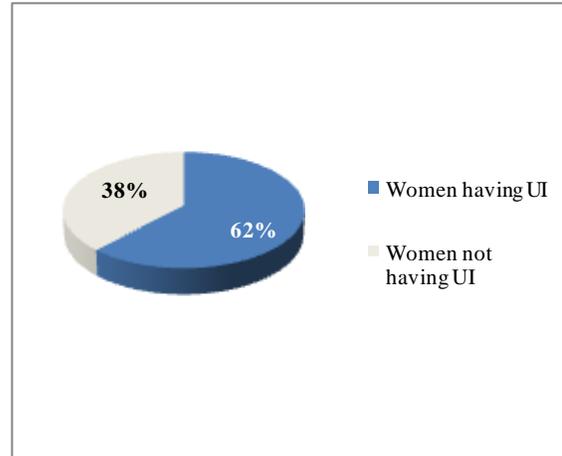


FIGURE NO.4-PROPORTION OF UI IN SECOND TRIMESTER WOMEN

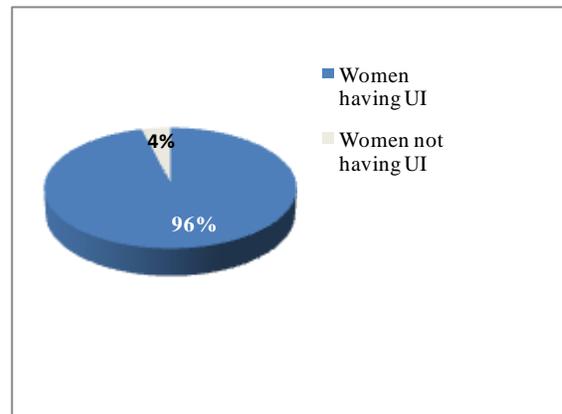


FIGURE NO.5 PROPORTION OF UI IN THIRD TRIMESTER PREGNANT WOMEN

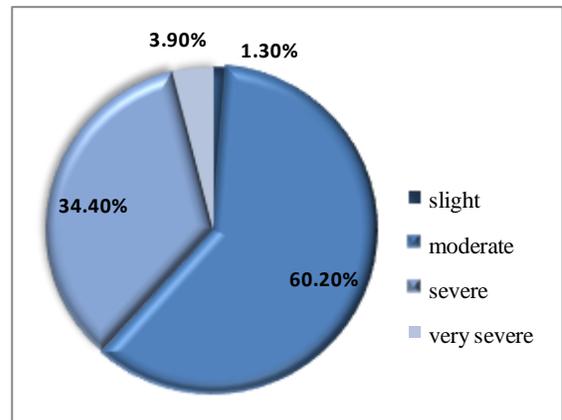


FIGURE NO.6 SEVERITY OF UI

## DISCUSSION

Urinary incontinence during pregnancy is extremely common, affecting

over half of pregnant women. <sup>[10]</sup> Urinary incontinence is caused by both mechanical and hormonal changes during pregnancy. The anatomical and physiological changes during pregnancy, the mechanism theory such as increasing pressure of the enlarged uterus and fetal weight on the PFM and the bladder throughout pregnancy. The hormonal theory, pregnancy-related hormonal changes such as increased progesterone which had a relaxing effect upon smooth muscle decreased relaxin which loosen and promote the relaxation of the pelvic floor and decreased the collagen levels. The majority of pregnant women have UI, negatively affecting the quality of their lives. <sup>[11]</sup> The prevalence of urinary incontinence was 27% (106/393). Factors significantly associated with urinary incontinence included age group, parity, previous urinary incontinence, constipation, urinary incontinence in mother and sister, previous urinary incontinence during pregnancy and postpartum. <sup>[12]</sup> These physiological changes during pregnancy may lead to reduced strength and supportive and sphincteric function of the PFM. <sup>[13]</sup> The PFM plays an integral role in the maintenance of the continence mechanism by actively supporting the pelvic organs, and closing the urethral sphincter when contracting. When coughing, sneezing, laughing or moving, the intra-abdominal pressure increases and this pressure is transmitted to the bladder. When the pressure inside the bladder is greater than the urethral closure pressure incorporated with the weakness of the urethral sphincter, this results in urine leakage or SUI. <sup>[14]</sup> The injuries to perineal muscles during delivery and repeated pregnancies without strengthening of PFM might have lead to the more proportion of multiparae women having UI. <sup>[15]</sup> Bussara Sangasawang showed that the prevalence of SUI among

pregnant women was 18.6-75% and the results are consistent with the study.

## CONCLUSION

This study has found out proportion of urinary incontinence in pregnant women which is a common disorder. Proportion of urinary incontinence is also seen in primiparae women but less than multiparae pregnant women. The severity of urinary incontinence is moderate among most of pregnant women. Clinical implication of the present study is, urinary incontinence is present in multiparae and in 2<sup>nd</sup> trimester women also so pelvic floor muscle strengthening should be started in early pregnancy. Obesity and other risk factors were not considered in the study. In future the study can be performed in postpartum women to find out proportion of women prone to urinary incontinence.

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How to cite this article: Patil P, Dhavale M, Fnjum MS. Proportion of urinary incontinence in pregnant women. *Int J Health Sci Res*. 2015; 5(10):175-179.

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