DOI: https://doi.org/10.54393/pjhs.v3i04.61

PAKISTAN JOURNAL OF HEALTH SCIENCES

https://thejas.com.pk/index.php/pjhs

Volume 3, Issue 4 (September 2022)

Original Article

Prevalence of Urinary Incontinence in Pregnant Women: A Cross Sectional Survey Study

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ARTICLE INFO

Key Words:
Incontinence, Pregnancy, Urine

How to Cite:
Razzaq, R. ., Muhammad, A. ., Shabbir, S. ., Naeem Malhi, M. ., Fatima, N. ., & Kiran, W. . (2022). Prevalence of Urinary Incontinence in Pregnant Women: A Cross Sectional Survey Study: Prevalence of Urinary Incontinence in Pregnant Women. Pakistan Journal of Health Sciences, 3(04). https://doi.org/10.54393/pjhs.v3i04.61

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Received Date: 29th August, 2022
Acceptance Date: 7th September, 2022
Published Date: 30th September, 2022

ABSTRACT

Although urinary incontinence is not life threatening, it is burdensome physically, mentally, emotionally and economically. During pregnancy many factors like emotional changes mechanical, hormonal and circulatory changes, musculoskeletal changes are occurring in the pregnant women and causing pelvic pain and urinary incontinence. **Objective:** To determine the prevalence of urinary incontinence among pregnant women. **Methods:** A cross sectional survey study was conducted in Jinnah Hospital and Services Hospital Lahore. All those females who were in healthy pregnancy condition were included in this study. This convenient sampling was conducted in which sample of 323 were included with estimated population of 2000 women with 95% of confidence interval and 5% margin of error. In this study statistical analysis was done by using SPSS version 16. **Results:** Majority of females having age groups of 20 to 24 years and 25 to 29 years had mild problems of urinary incontinence. There were 14 subjects of age group 25 to 29 years that had moderate problem of urinary incontinence. There were 3 subjects of age group 25 to 29 years that had severe problem of urinary incontinence. Urinary incontinence was common in females having 2 or 3 previous pregnancies or multiparous females. **Conclusions:** Hence, it is concluded that urinary incontinence is very common in pregnant females. Majority of females from age group 20 to 29 years had mild problem of urinary incontinence. Its incidence was greater in those females having 2 or 3 previous pregnancies or multiparous females.

INTRODUCTION

Life is a natural process which start from labor every human being especially women get through the process of labor for their children pregnancy is the complex process in which the females are passing through many physiological and anatomical changes [1, 2]. During pregnancy many factors like emotional changes mechanical, hormonal and circulatory changes, musculoskeletal changes are occurring in the pregnant women and causing pelvic pain and urinary incontinence [3, 4]. If these changes are not well being treated after pregnancy period cause many pathological problems like urinary incontinence, pelvic pain, low back pain and discomfort. However, women are suffering in pain and disability at social and economic level [5, 6]. Stress urinary incontinence (SUI) is defined as the involuntary loss of urine on effort or physical exertion, or on sneezing or coughing. Perineal muscle strength during pregnancy and postpartum: the correlation between perineometry and digital vaginal palpation. Results from either hypermobility of the vesicourethral segment due to weakness of the pelvic floor support or from intrinsic sphincter deficiency(ISD). This disorder is related to quality of life and daily activities, because patients feel less confident, depressed, embarrassed and anxious [7, 8]. It is most common in pregnant women and significantly affects

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their daily activities [1, 9]. Reviews of several European and US epidemiologic studies of older women living in the community estimate the prevalence of any experience of urinary incontinence at 10 to 40%. Among Asian women, the prevalence of urinary incontinence is about 10–38% [10]. Although urinary incontinence is not life threatening, it is burdensome physically, mentally, emotionally and economically. Urinary incontinence affects the quality of life in women through depression, functional limitations, social isolation and negative relation to partner and family [11]. A review of the published literature reveals the prevalence of urinary incontinence in Western countries particularly in urban areas [12, 13]. Furthermore, most previous studies among Asian women were conducted in health centers or hospitals located in big cities. Yet, relatively little is known regarding the epidemiology of urinary incontinence, for example, prevalence, associated factors and impact on daily activities of women in a rural area [14, 15]. The uterus exerts pressure on inferior vena cava that result venous congestion and hypoxia in lumbar spine and pelvis. Urinary incontinence problem reported in first trimester is mild, moderate in second trimester and more often seen in third trimester when there is significant change in the uterus size which exert pressures on the internal organs such as urinary bladder therefore involuntary voiding of bladder [16, 17]. Urinary incontinence is also due to the result of pelvic muscle weakness and tear of that muscle in normal vaginal delivery and due to episiotomy which case the over stretching and tear of pelvic floor muscle [7, 18]. Two major muscle of pelvic floor are levatoranii and coccygeus muscle these muscles are lacerated in episiotomy [19]. Laceration/cut in normal vaginal delivery is known as episiotomy. During normal delivery due the over stretching of pelvic musculature there may be compression at pelvic nerves occur and then become a reason of urinary incontinence [20]. The aim of the study was to investigate the prevalence of urinary incontinence in the pregnant women.

METHODS

This cross sectional survey study was conducted using sampling method such as convenient sampling at Diagnostic Radiology, Department of Jinnah Hospital Lahore and Services Hospital Lahore. Total sample size was 323 with estimated population of 2000 women with 95% of confidence interval and 5% margin of error. Real-time gray-scale ultrasound machine and 3.5-5 MHz curvilinear probe were used for the abdominal imaging. All healthy pregnant women without any disease and those who agreed to be part of the study were included in this study. The women with a high risk pregnancy, pregnant women with diabetic condition and those women who did not agree to comply with the formalities of the consent form and questionnaire were excluded from this study population. Face to face interviews were conducted and questionnaire of urinary incontinence were filled by patients after informing all terms and conditions.

RESULTS

There were 93 subjects with age group 20 to 24 years and 25 to 29 years. There were 40 subjects of age group 15 to 19 years and 58 subjects of 30 to 34 year. Only 39 subjects were of age group 35 to 40 years. Hence, majority of subjects were from age group of 20 to 29 years. There were 93 subjects of age group 25 to 29 years that were having severe problem of urinary incontinence. Hence, majority of subjects were presented with mild problem of urinary incontinence, Table 1.

Age	Frequency (%)
15-19	40 (12.4%)
20-24	93 (28.8%)
25-29	93 (28.8%)
30-34	58 (18.0%)
35-40	39 (12.1%)
Total	323 (100%)

Table 1: Frequency of patients according to age groups

Table 2 shows that most of subjects of age groups 20 to 24 years and 25 to 29 years had mild problems of urinary incontinence. There were 14 subjects of age group 25 to 29 years that were having moderate problem of urinary incontinence, Tavle 2.

Age of patients	Mild	Moderate	Severe	Total
15 to 19	35	5	0	40
20 to 24	79	13	1	93
25 to 29	76	14	3	93
30 to 34	51	7	0	58
35 to 40	35	4	0	39
Total	276	43	4	323

Table 2: Severity of urinary incontinence according to age groups

Table 3 shows that 112 respondents having 2 previous pregnancies had mild issue of urinary incontinence and 20 subjects had moderate issue of urinary incontinence. There were 3 subjects having 3 previous pregnancies and severe problem of incontinence and 74 subjects were having mild problem of urinary incontinence. Therefore, those patients who have had two or three previous pregnancies had a problem with urinary incontinence.

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Number of pregnancies	Mild	Moderate	Severe	Total
1	56	9	0	65
2	112	20	1	133
3	74	11	3	88
4	25	2	0	27
5	2	1	0	3
6	1	0	0	1
7	6	0	0	6

Table 3: Urinary incontinence according to number of pregnancies

Table 4 shows that among urban area females there were 131 females with mild problem, 14 females with moderate problem and 4 females with severe problem of urinary incontinence. In the rural area there were 145 females with mild problem, 29 females with moderate problem of urinary incontinence. Majority of females having problem of urinary incontinence were from rural area. Hence, majority of subjects from age group 20 to 29 years were having urinary incontinence problem and presented with mild problem of urinary incontinence. Its incidence is greater in those subjects having 2 or 3 previous pregnancies and in rural area.

Area of living	Mild	Moderate	Severe	Total
Urban	131	14	4	149
Rural	145	29	0	174
Total	276	43	4	323

Table 4: Urinary incontinence according to area

DISCUSSION

In the past there was a cross-sectional study conducted on 750 pregnant females in which 40% pregnant females had urine incontinence. The most prevalent type of incontinence during pregnancy was stress urine incontinence. Urinary incontinence was seen in 41.7% of nulliparous women, 38% of primipara women, and 20.3% of multipara women. From the results of this study, it is evident that incontinence occurs frequently in pregnant women [21]. There was another study carried on the investigation of the prevalence, occurrence, and risk factors for urine incontinence during pregnancy. Before pregnancy, the prevalence of incontinence was 26%; by week 30, it was 58%. Incidence was less in nulliparous women as compared to multiparous females. Stress incontinence was the most prevalent form in week 30 of pregnancy, affecting 31% of nulliparous women and 42% of multiparous women. Hence, it was concluded pregnancy significantly increases the prevalence of urine incontinence and was common in multiparous females [22]. The results were consistent with the findings of another study on prevalence of urine incontinence during pregnancy. In that study, pregnant females were at a higher risk of developing urinary incontinence additional risk factors included excessive weight gain, a history of urinary incontinence, maternal age, and gestational diabetes. The most typical problem was stress urine incontinence, which affected 40% to 80% of pregnant women [23]. There was another study conducted on the prevalence of urinary incontinence and related risk factors among pregnant females of age 18 to 45 years in Nigeria. Total sample consisted of 442 pregnant females. The prevalence of UI was 27.7% and 28.7%, respectively, in multiparous and nulliparous women. The most prevalent (17.4%) was stress incontinence. More than a quarter of pregnant women experience urinary incontinence causing significant lifestyle adjustments. The results were consistent with previous findings in which majority of pregnant females and multiparous females have urinary incontinence that affected their lifestyles [24].

CONCLUSIONS

Urinary incontinence is very common in pregnant females. Majority of females from age group 20 to 29 years were having mild problem of urinary incontinence. Its incidence was greater in those subjects having 2 or 3 previous pregnancies or multiparous females.

Conflicts of Interest

The authors declare no conflict of interest.

Source of Funding

The authors declare no conflict of interest.

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