



Original Research

Prevalence and severity of urinary incontinence among females after normal vaginal delivery

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Abstract

Background: Urinary Incontinence is the most common disorder associated with women after vaginal delivery due to the weakening of pelvic floor muscles. More than 50% of females experience urinary incontinence. It is defined as the involuntary leakage of urine. The condition is common not only in older women but also in young nulliparous women. **Objective:** The key objective of the study was to determine the prevalence and severity of Urinary Incontinence after normal vaginal delivery. **Method:** The study was Cross-sectional and there were 160 participants in the study. The study was conducted at the Physical Therapy department and Gynaecology Ward of Fauji Foundation and Geo hospital Lahore. The data was collected from women who had delivered between the ages of 20-40 years. The data collection was done by using Incontinence Severity Index that was used as primary outcome measure. **Results:** A total of 160 responses were received, based on inclusion and exclusion criteria. Among respondents, females in the age group of 20-25 had a rate of urinary incontinence with 31.3 percent. Results showed that females in the age group of 25-30 had high BMI and had a high rate of urinary incontinence with the range of 61.3 percent. As result, there was a positive correlation of urinary incontinence between age and score that ranged from 0.185. There was a positive correlation of urinary incontinence between the score and BMI that ranged between 0.174. **Conclusion:** This analysis revealed that there was a high prevalence rate of urinary incontinence among females after delivery that had a correlation with age.



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Introduction: Urinary Incontinence is one of the most common disorders associated with women after vaginal delivery and postmenopausal women. It defines the leakage of urine involuntarily. Although, not only older age women are suffering from this disorder but, young, nulliparous female athletes also have the highest prevalence rates. Such athletes lack sufficient strength of pelvic floor muscles and coordination to overcome sport-related activities. This cause an increase in intra-abdominal pressure which ultimately results in sports-related [1]. A coordinated, sustained bladder contraction of sufficient size and duration is required for normal voiding. It requires a decrease in the bladder neck and urethral resistance as well as the absence of blockage [2]. Un-modifiable factors (e.g., age, gender, menopause, history of vaginal delivery) and modifiable factors (e.g., smoking, alcohol intake, toileting behaviors, constipation, and obesity) [3].

The pelvic floor can be divided into four compartments from an anatomical standpoint: Urinary or anterior (bladder, bladder neck, and urethra), genital or medium (vagina and uterus in women, prostate in men). The anterior or posterior (anus, anal canal, sigmoid, and rectum), The peritoneal cavity (endopelvic fascia and perineal membrane) [4]. The pudendal nerve receives motor and sensory axons from the sacral spinal nerves S2-S4's ventral rami [5].

Pregnancy, hormonal changes, alterations in the urethral angle, anatomical injury after birth all play a role in the pathophysiology of UI during pregnancy and the puerperium [6]. Uninhibited bladder contractions induced by irritation or a loss of neurologic regulation of bladder contractions are the pathophysiology of urge incontinence [7].

Urine incontinence in women is a prevalent problem, with up to 64% of women reporting some form of urinary incontinence. Many factors influence the prevalence of urine incontinence, including age, race/ethnicity, genetics, and other comorbidities [8]. Previous urological problems, pelvic traumas, parity, recurrent urinary infections, vaginal births, and obstetric trauma in women are all risk factors for urine incontinence [9]. High parity, a history of vaginal deliveries, and menopause are all risk factors for urine incontinence in women. Men who have had prostate surgery may also be at a higher risk of incontinence [10].

Urinary incontinence symptoms are extremely common in women, have a significant impact on health-related quality of life, and are linked to significant personal and social costs [11]. Estimates of prevalence range from 14 to 45 percent. Three months after giving birth, a systematic review found that the prevalence of any UI was 32-36 percent. [12] Female athletes in various sports had a 36 percent prevalence of UI, and athletes had a 177 percent higher chance of presenting with UI than sedentary women, according to a meta-analysis [13]. Ischemia-related bladder dysfunction is caused by atherosclerosis, which produces persistent bladder ischemia [14]. The prevalence of UI in men (3 percent–11 percent) is significantly lower than in women (3 percent–17 percent) [15]. Obese patients have around twice the probability of presenting with UI when compared to normal-weight patients. Excessive stretching can aggravate or induce pelvic floor issues by raising intra-abdominal pressure as well as chronic pressure on ligaments and nerves [16]. A cross-sectional

study done to describe that 641 women who gave birth vaginally and 224 women who gave birth by cesarean were given complete questionnaires. In the vaginal group, the mean UI score (ICIQ-SF) was 2.3 3.6, while in the cesarean group, it was 1.0 2.7 (P=0.005). Women experiencing UI symptoms had the highest risk of pelvic floor dysfunction following vaginal birth [17].

A cross-sectional study was conducted to find the prevalence of UI in women was 29.76 percent during pregnancy and 12.50 percent at 6 weeks postpartum, respectively. Advanced maternal age, a higher postpartum body mass index (BMI), macrosomia, multiparity, and vaginal birth were all found to be risk factors for postpartum UI in multivariate analysis [18].

A cross-sectional survey was done, and it was found that 479 pregnant women were interviewed during the inclusion period, 381 attended the 6-month follow-up appointment, and 315 were assigned to the research group. SUI was found in 36 of 44 (81.8%) of the women. According to the ISI, 52.8 percent of these women have mild incontinence, 41.7 percent have moderate incontinence, and 5.6 percent have severe incontinence [19].

Rationale of Study: Urinary incontinence is a very common problem among females, especially after vaginal delivery so, this study checked the prevalence and severity of urinary incontinence and associate it with age and BMI.

Materials and Methods: Cross sectional survey was conducted with a sample size of 160 females. Convenient Sampling technique was used. The duration of the study was 4 months after the approval of synopsis. The study was conducted in two hospitals; the physical therapy department and gynecology ward of Fauji Foundation Hospital and Geo Hospital, Lahore. The study population consisted of females who had been diagnosed with urinary incontinence after delivery in Fauji Foundation Hospital and Geo Hospital of Lahore. The Inclusion Criteria included: Only female participants were taken in this study, Females in the age group of 20-40 years were included, Females who had normal vaginal delivery were included. The Exclusion Criteria included: Taken physical therapy sessions in the last 2-3 months for the treatment of urinary incontinence, complain of urinary incontinence due to any other reason or issue other than after vaginal delivery, those females who had BMI under 18.5kg/m² were excluded from the study. Incontinence Severity Index (ISI) questionnaire was used in this study. The questionnaire consists of three parts. The first part consists of consent taken from all participants. Every participant which took part in this study should read and fill out the consent first. The second part consists of personal information, this information involve name, age, contact no, weight, and height. This information is an important part of the study. The third part consists of ISI. The participant was asked to fill the questionnaire and each section of the questionnaire carefully. This consists of two sections related to urinary incontinence after vaginal delivery. These sections include questions related to frequency and amount. For frequency, there is a total of five responses in which 0 means none and 4 means every day and night. For amount, there is a total of 4 responses in which 0 means none and 3 means more. The test can be interpreted severity index, with a maximum score of 12 indicating very severe urinary incontinence and 0 indicating none. For data collection, the Incontinence

Severity Index questionnaire was used to assess urinary incontinence after normal vaginal delivery in females. Data is collected by visiting different hospitals and after satisfying the consent form handed in the questionnaire to every female after vaginal delivery. This study revealed the purpose of the research and also its aims and objectives. Each section was explained in detail to all the participants to avoid any negligence.

Discussion: A questionnaire was utilized in a cross-sectional study to determine the prevalence of urinary incontinence and the severity of urinary incontinence among females following birth. They employed the incontinence severity index to show the prevalence of urinary incontinence after birth, which was part of the questionnaire used in our study. With the help of data collection tool i.e., ISI, the results were collected from two hospitals of the Lahore and then analyzed with the help of SPSS version 22. The results showed that out of a sample size 160, 105 had urinary incontinence and remaining 55 had not urinary incontinence. And it also shows positive correlation of urinary incontinence with age and BMI.

In the previous study, during the inclusion period, 479 pregnant women were interviewed, 381 attended the 6-month follow-up session, and 315 were allocated to the research group. SUI was discovered in 36 of the 44 women (81.8%). Mild incontinence affects 52.8 percent of these women, moderate incontinence affects 41.7 percent, and severe incontinence affects 5.6 percent of these women, according to the ISI [19]. This study filled questionnaires from 160 women who had a delivery at least once. According to ISI, 33.1 percent of these women have slight incontinence, 26.3 percent have moderate incontinence, 3.8 percent have severe incontinence, and 2.5 percent have very severe incontinence.

Conclusion: This analysis lets out the prevalence and severity of urinary incontinence after vaginal delivery. There were 33.1% reported slight incontinence and the rest of them have moderate or severe incontinence, there were 34.4% with no incontinence. Moreover, this study analyzed the association between age and urinary incontinence & BMI and urinary incontinence which gave a positive correlation between age and urinary incontinence & BMI and urinary incontinence.

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Table. 1. This table shows a Correlation between Score and Age

Score	Age
	Pearson Correlation 0.185 P value 0.05

Table. 2. This table shows a Correlation between Score and BMI

Score	BMI
	Pearson Correlation 0.174 P value 0.05

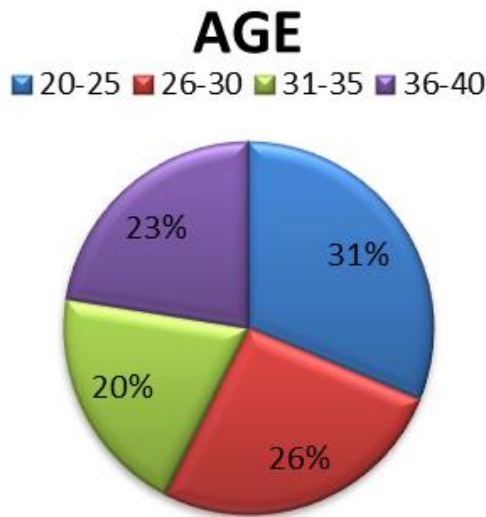


Fig. 1. This figure shows the Demographic Description of Age Collected from Study Participants

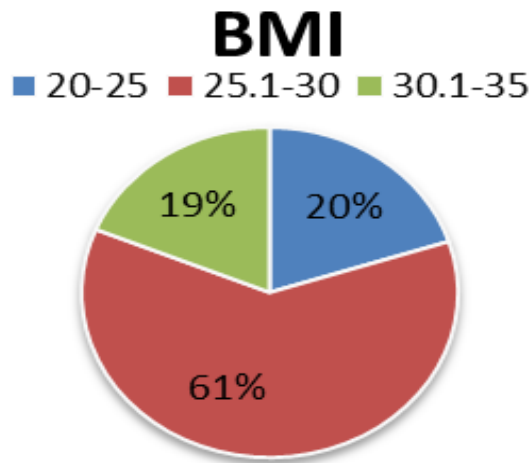


Fig. 2. This figure shows the Demographic Description of BMI Collected from Study Participants

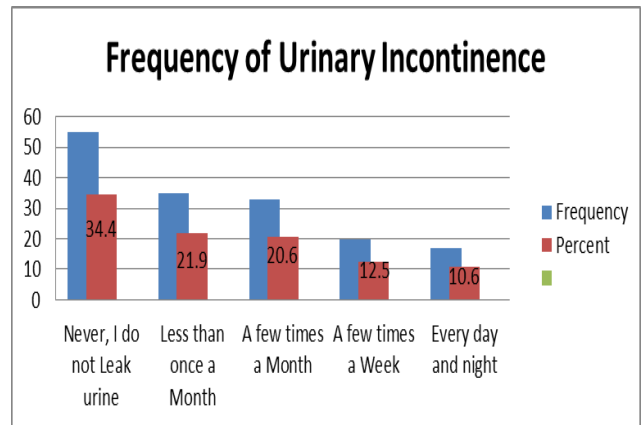


Fig. 3. This figure shows the Frequency of Urinary Incontinence among Participants

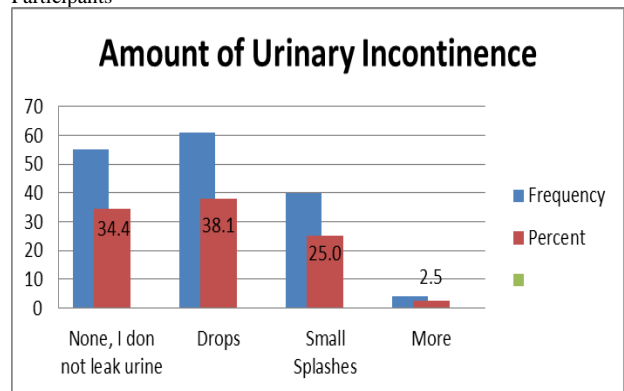


Fig. 4. This figure shows the Amount of Urinary Incontinence among Participants

Score of Urinary Incontinence

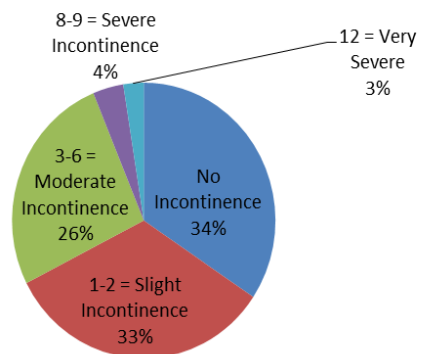


Fig. 5. This figure shows a Score of Urinary Incontinence among Participants