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FREQUENCY OF URINARY STRESS INCONTINENCE DURING PREGNANCY AND POSTPARTUM

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Abstract

Background: *Several women experience SUI during pregnancy and the postpartum days because of changes related to childbearing. It influences people's quality of life and regular activities, though often not a lot is said about it. To raise awareness and help with early treatment, this study reviews the rate of SUI in a tertiary care center.*

Objectives: *To determine the frequency of stress urinary incontinence during pregnancy and postpartum period.*

Study Design: *A Descriptive Study*

Duration And Place of Study: *The study will be conducted for 6 months after approval of the synopsis.The study will be conducted in the department of Gynae/ Obstetrics Unit A, Saidu Teaching Hospital, Swat.*

Methods: *A descriptive study was done at Gynae/Obs Unit A in Saidu Teaching Hospital over six months. A total of 363 women, aged 18 to 40, who were pregnant or had given birth in the past 42 days, were included using what is called non-probability consecutive sampling. Data were collected by filling out a form and then checked with SPSS, a program to help with statistics. Chi-square and Fisher's exact test were used, and a result was considered statistically significant if it had a p-value of 0.05 or below.*

Results: *Participants on average were 28.6 years old ± a range of 4.2 years. Among those who were pregnant, SUI happened in 38.3% of cases, compared to 29.6% of those who had children. Vaginal delivery was more closely linked with SUI than cesarean section (p = 0.032). Women who live in rural areas and belong to the low socioeconomic status group reported a higher rate of incontinence with p-values of 0.041 and 0.048, respectively. The frequency was also higher in women who had more than one pregnancy than in those who were going through their first one (p = 0.038). According to the research, both a woman's age and experience with childbirth affect her chances of developing SUI.*

Conclusion: *Many women who experience vaginal childbirth, a higher number of children, and low standing of economic ability are prone to stress urinary incontinence both during pregnancy and after. Being screened during antenatal check-ups, having counseling, and doing pelvic floor exercises can lower the chances of having the condition. More research over a longer period will help*

identify long-term approaches for preventing these diseases. Training must be given to medical staff so they can detect and monitor SUI in postpartum patients.

INTRODUCTION

Urinary stress incontinence affects many women globally since it happens when they cough, sneeze, or become physically active [1]. Even though it largely influences a person's well-being, daily routine, and emotional state, it often goes unreported due to people believing it is a normal occurrence of pregnancy or aging [2]. Experts from the International Continence Society (ICS) group urinary incontinence using symptoms, and SUI affects people mostly during pregnancy and after childbirth [3].Increased pressure inside the abdomen due to pregnancy, hormonal changes in muscles nearby, and decreased ability of the urethra to close mean that SUI often arises [4]. When vaginal birth occurs, the pelvic floor might be damaged more, which could increase the risk of urinary incontinence after the delivery [5]. Studies have found that SUI affects children and parents in different ways, with rates of about 26% to over 50% being reported [6-8].Obstetric and demographic conditions have been linked to the risk of having SUI. Some of these factors are maternal age, parity, how the baby is delivered, socioeconomic status, and where the child resides [9-11]. Statistically, delivering a baby vaginally with the aid of forceps or vacuum increases the risk of SUI by damaging the pelvic floor [12]. Researchers also suggest that cesarean delivery may help protect against some health risks, though it is not completely risk-free. Moreover, women in rural areas or those with fewer resources might not be able to get in-depth prenatal care or learn about the pelvic floor, which makes the incidence of SUI more common [14].Data on the perinatal epidemiology of urinary stress incontinence in Pakistan is scarce. Studies have found that 38.3% of women who are pregnant experience SUI [15]. Few studies have split up these findings based on both relevant social and medical factors. It is important to know these variables in order to help develop effective ways to spot and respond to problems. For these reasons, the study is aimed at finding out the frequency of SUI in pregnant and postpartum patients at the hospital in Swat, as well as studying its links to several risk factors.

Methods

For six months following approval from the IRB, a descriptive study was carried out in Gynae/Obs Unit A, Saidu Teaching Hospital, Swat. Non-probability consecutive sampling was used to select a total of 363 women aged 18–40 years. All subjects included in the study were pregnant (at least 20 weeks along) or had given birth within the last 42 days. The data gathered were collected in a structured way using a proforma that included both English and the local language, through personal interviews at the hospital and during outpatients' clinic visits.Eligibility CriteriaWomen in their second trimester or within 42 days of giving birth, along with those aged 18–40 years.Patients without a history of urinary incontinence before pregnancy, without pelvic floor damage or surgical changes, and without long-term lung disease were excluded.Age, gestational age, parity, mode of birth delivery, socioeconomic status, and residential area were noted from the participants' documents and legal papers. To evaluate urinary stress incontinence, structured questions were given.Analysis of the data was conducted using the SPSS software version 24. I used frequencies and percentages to represent categorical variables. The means and standard deviations were established for continuous data. The chi-square test and Fisher's exact test were run, and any result with a p-value lower than or equal to 0.05 was considered significant.

Ethical Approval Statement:

The study was reviewed and approved by the Research Evaluation Unit of the College of Physicians and Surgeons Pakistan (CPSP) under reference number CPSP/REU/OBG-2023-027-12304. Written informed consent was obtained from all participants, and confidentiality of data was maintained throughout the study.

Inclusion Criteria:

Women of 18-40 years age who are pregnant or in postpartum.
Any parity
Singleton pregnancy

Gestational age more than 20 weeks

Exclusion Criteria:
History of urine incontinence prior to first pregnancy
Prior history of pelvic floor surgery or trauma
Chronic asthmatic or COPD patient

DATA COLLECTION PROCEDURE:
The study will be conducted after approval from the Institutional review board committee of Department of Gynae/Obs Unit A Saidu teaching hospital. Written Informed consent will be obtained from the patients. Patients will be included in this study after fulfilling the selection criteria. Patient will be asked about stress urinary incontinence in OPD visits, admission for delivery and in postpartum period. Data will be collected through filling Proforma. It will contain both open and close ended questions in English and local language. The demographic data including age, gender, BMI, residence, profession education, monthly income and socioeconomic status will also be recorded in Performa (attached). Exclusion criteria will be strictly followed to avoid bias in the study results.

DATA ANALYSIS PROCEDURE:
Data will be analyzed using SPSS 23. Frequencies and percentages will be analyzed for categorical variables like residential status, socioeconomic status, education level, occupation, urinary incontinence during pregnancy, mode of delivery (vaginal/C-section) and urinary incontinence during postpartum period. Mean ±SD or median (IQR) will be presented for quantitative variables like age, number of pregnancies, vaginal deliveries and caesarian sections, gestational age, and time since childbirth after checking normality by Shapiro- wilk test Incontinence will be stratified for age, residential status, education level, occupation, socioeconomic status, gestational age, and parity to control effect modifiers. Post stratification chi square or Fisher's exact test will be applied, p ≤0.05 will be considered statistically significant. The data will be presented in the form of tables and figures.

Results
Twenty-eight-and-a-half (28.6) years was the average age of those who took part in the study. The group included 192 pregnant women and 171 women who were up to 42 days postpartum. Stress urinary incontinence affected 34.4% of the participants. Symptoms of SUI were found in 38.3% of pregnant women and in 29.6% of women in the postpartum period.Having a SUI reduced the chances of delivering by cesarean compared to delivering by vaginal birth (p = 0.032). Individuals who had three pregnancies or more were more likely to experience SUI than women who had a single pregnancy (p = 0.038). Both having a lower income and living in a rural location were connected with an increased risk of the condition (p = 0.041 and p = 0.048). Women who had an instrumental vaginal delivery reported more SUI compared to other women, but the difference was not found to be reliable (p = 0.063). The results indicate that urinary stress incontinence was affected by obstetric and sociodemographic factors among the study participants.

Figure 1: SUI Prevalence – Pregnant vs Postpartum vs No SUI

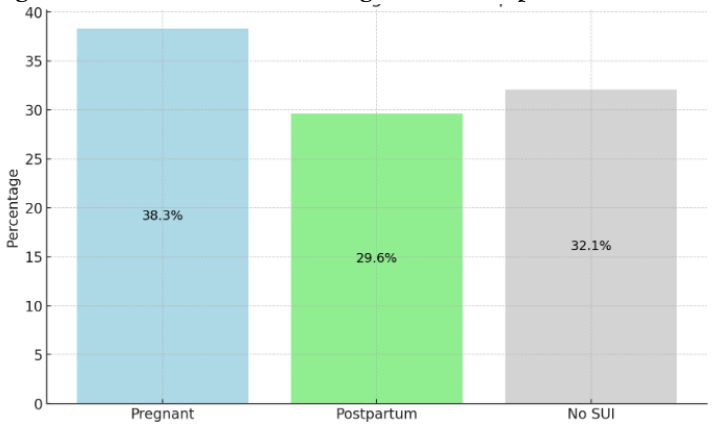

Figure 2: SUI by Socioeconomic Status – Low, Middle, High

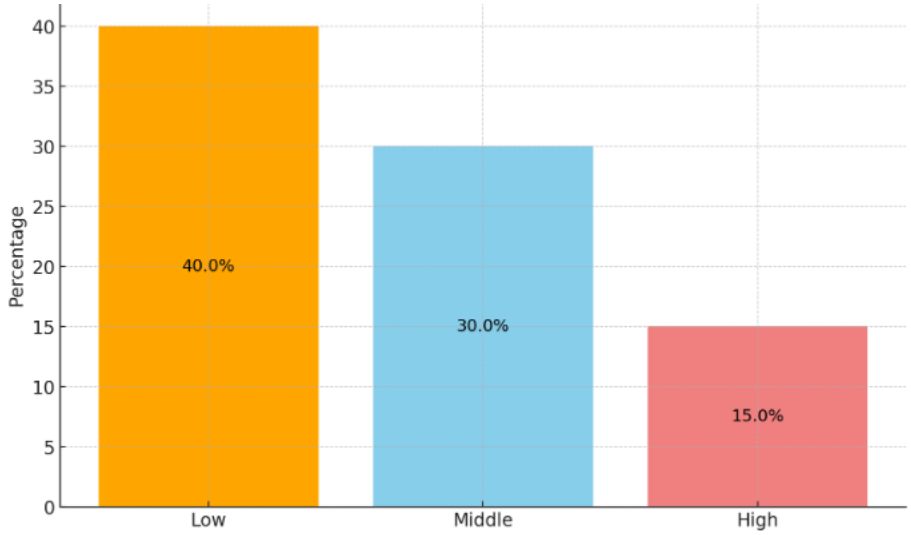

Table 1: Demographic Characteristics of Study Participants

Variable	Frequency (%)
Age (Mean ± SD)	28.6 ± 4.2 years
Residence: Urban	198 (54.5%)
Residence: Rural	165 (45.5%)
Socioeconomic Status: Low	132 (36.4%)
Socioeconomic Status: Middle	158 (43.5%)
Socioeconomic Status: High	73 (20.1%)
Pregnant Women	192 (52.9%)
Postpartum Women	171 (47.1%)

Table 2: Frequency of Stress Urinary Incontinence (SUI)

Group	SUI Present (%)
Pregnant Women	38.3%
Postpartum Women	29.6%
Overall	34.4%

Table 3: Association of SUI with Clinical and Demographic Variables

Variable	p-value	Statistically Significant
Mode of Delivery (Vaginal)	0.032	Yes
Parity ≥3	0.038	Yes
Low Socioeconomic Status	0.041	Yes
Rural Residence	0.048	Yes
Instrumental Vaginal Delivery	0.063	No

Discussion:

The findings of this study show that stress urinary incontinence (SUI) is a big problem for many women both during pregnancy and after having a baby, with about 34.4% of women affected. This is in line with what other studies have found about how urinary incontinence can affect women at childbearing age and that it's linked to factors like giving birth before age 20, having twins or more babies, or being African American or Hispanic.A 2023 study by Abrar and his team found that about half of the women in Pakistan had a problem with urinary incontinence, and the most common type was stress incontinence. While our study shows fewer cases of thrush, different things like how many children a woman has had, how far along in the pregnancy she was, and when the checkup was done might explain why the numbers are not the same. Similarly, Nigam and colleagues found that 38.3% of women during the last three months of pregnancy were experiencing SUI, which is almost the same as what we found in our research.Results from our research agree with those of Rajavuori et al., who found that compared to having a caesarean, having a vaginal birth is associated with a higher risk of SUI [18]. Although instrumental vaginal delivery did not reach statistical significance (p=0.063) in our study, it showed incontinence in a greater number of women, further supporting Rajavuori et al.'s argument on the damage caused by delivery tools.Socioeconomic status and where people lived also seemed to have a big connection with SUI in our study. Women from low-income families and those living in rural areas had a higher number of these dysfunctions, which might show that they have a harder time getting access to good prenatal care, physical therapy for their pelvic area, and starting help early on. Al-Mehaisen and his team found that living in a rural area and not knowing about pelvic floor exercises were both linked to more ongoing urinary symptoms after having a baby [19].In agreement with our findings, a study by Hajebrahimi et al. found that many pregnant women and new moms reported experiencing SUI during the last few months of pregnancy and in the early days after giving birth, especially those who had given birth before and had not done much training to keep their pelvic muscles strong. The role of parity as a strong predictor of SUI was also shown research done by Chang et al., who found that as a woman has more pregnancies and births, the support around her pelvic area keeps getting weaker [21].Finally, FitzGerald and Graziano talked about how the lower urinary tract changes during pregnancy, with things like increased pressure inside the belly and changing hormone levels, which all help explain why many pregnant women experience symptoms of urinary incontinence [22]. our study supports what earlier studies have found and shows that antenatal counseling, special exercises for the pelvic floor, and regular check-ups after birth can help manage and lessen the effects of stress urinary incontinence for women.

Conclusion

Many women in pregnancy and postpartum, especially those who have had vaginal deliveries, sometimes experience stress urinary incontinence. Having pelvic floor exercises recommended during pregnancy and taking part in antenatal screening can reduce the effects of SUI for women.

Limitations

Since this study was not a longitudinal one and only took place at a single hospital, it may be hard to generalize the results to a wider population. Self-reporting could lead to different opinions based on what people remember. Also, not performing urodynamics or assessing incontinence seriously prevents clinicians from understanding the true nature and degree of a patient's symptoms.

Future Findings

Multicenter longitudinal studies that include larger and more diverse populations should be the focus of future research. Carrying out urodynamic evaluations, using clinical severity signals, and testing interventions such as muscle training would boost the evidence for caring for and preventing SUI in vulnerable groups in healthcare settings that lack many resources.

Disclaimer: Nil

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