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RESEARCH ARTICLE

Factors Associated with Stress Urinary Incontinence During Pregnancy at Pasar Kuok Community Health Center

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Abstract

Objective: *This study aimed to analyze the relationship between maternal age, parity, and trimester of pregnancy with stress urinary incontinence (SUI) severity, measured using the International Consultation on Incontinence Questionnaire (ICIQ) score, among 102 pregnant women at Pasar Kuok Health Center.*

Method: *A cross-sectional study was conducted involving pregnant women who completed the ICIQ questionnaire. Data on maternal age, parity, and trimester of pregnancy were collected and analyzed using statistical tests to determine their association with SUI severity.*

Result: *The mean ICIQ scores varied across age groups, parity, and pregnancy trimesters, with the highest scores observed in women aged 31–38 years, multiparous women, and those in the third trimester. However, statistical analysis revealed no significant associations between ICIQ scores and maternal age ($p = 0.584$), parity ($p = 0.945$), or trimester of pregnancy ($p = 0.136$).*

Conclusion: *These findings suggest that maternal age, parity, and trimester of pregnancy may not independently influence SUI severity during pregnancy. Further research is needed to explore other potential contributors to SUI. Early screening and management strategies, including pelvic floor muscle training, remain essential to improving maternal quality of life.*

Keywords: *Stress urinary incontinence, pregnancy, maternal age, parity, ICIQ score*

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INTRODUCTION

Urinary incontinence (UI) is defined as the involuntary leakage of urine and is commonly reported among pregnant women due to anatomical and physiological changes, including increased bladder pressure and weakened pelvic floor muscles.[1-3]

UI not only affects physical health but also impacts quality of life and psychological well-being.[4] Stress Urinary Incontinence (SUI), a subtype of UI, is particularly prevalent during pregnancy and is associated with increased intra-abdominal pressure and hormonal changes.[5]

Studies have shown that several factors influence the prevalence and severity of SUI during pregnancy, including maternal age, parity, and the trimester of pregnancy.[6,7] Older maternal age has been linked to decreased pelvic muscle strength, while multiparity contributes to cumulative damage to pelvic floor muscles.[8,9]

Additionally, pregnancy trimester plays a role, with the third trimester being associated with higher SUI incidence due to fetal growth and increased intra-abdominal pressure.[10] This study aims to analyze the relationship between maternal age, parity, and trimester of pregnancy with SUI as measured by the International Consultation on Incontinence Questionnaire (ICIQ) score.

Despite its high prevalence, SUI during pregnancy remains underdiagnosed and often underestimated, especially in primary healthcare settings. Many women do not report symptoms due to embarrassment or the belief that such leakage is a normal part of pregnancy. Furthermore, there is a limited number of local studies addressing this issue in community-based health centers, particularly in rural areas. Understanding the specific factors contributing to SUI in these settings is crucial to improving maternal care and quality of life. This study aims to analyze the relationship between maternal age, parity, and trimester of pregnancy with SUI as measured by the International Consultation on Incontinence Questionnaire (ICIQ) score.

METHODS

This analytical study involved 102 pregnant women visiting the Pasar Kuok Health Center. The severity of urinary incontinence was assessed using the International Consultation on Incontinence Questionnaire (ICIQ), a validated tool for evaluating the impact and severity of UI.[11] Parity was categorized into primiparous (first pregnancy) and multiparous (multiple pregnancies). Age groups were stratified into three categories (19–25 years, 26–30 years, and 31–38 years). The trimester of pregnancy was categorized into 1st trimester, 2nd trimester, and 3rd trimester. The relationship between ICIQ scores and age groups, parity, and trimester of pregnancy was analyzed statistically.

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RESULT AND DISCUSSION

Table 1. ICIQ Score based on maternal age, parity, and and trimester of pregnancy

Characteristic	n = 102	ICIQ Score Mean ± SD
Maternal Age (years Old)		
- 19-25	42	8.4 ± 4.4
- 26-30	36	7.7 ± 4.2
- 31-38	24	9.8 ± 4.3
Parity		
-	29	8.14 ± 3.77
-	73	8.46± 4.02
Trimester of Pregnancy		
-	20	7.48 ± 3.47
-	32	7.39 ± 4.27
-	44	9.06 ±4.53

The data in Table 1 presents the ICIQ scores based on maternal age, parity, and trimester of pregnancy. Among patients aged 19–25 years, the mean ICIQ score was 8.4 ± 4.4, with 42 patients in this group. For those aged 26–30 years, the mean score slightly decreased to 7.7 ± 4.2, based on 36 patients, while patients aged 31–38 years had the highest mean ICIQ score of 9.8 ± 4.3, based on 24 patients. Regarding parity, primiparous women (first-time mothers) had a mean ICIQ score of 8.14 ± 3.77 (29 patients), whereas multiparous women (those who had given birth more than once) had a slightly higher mean score of 8.46 ± 4.02 (73 patients). In terms of pregnancy trimester, patients in the first trimester had the lowest mean ICIQ score of 7.48 ± 3.47 (20 patients), followed by those in the second trimester with a mean score of 7.39 ± 4.27 (32 patients). The third trimester had the highest mean ICIQ score of 9.06 ± 4.53, based on 44 patients. These findings suggest variations in ICIQ scores across different age groups, parity, and pregnancy trimesters.

Table 2. Relationship between ICIQ score with age group, parity, and trimester of pregnancy

Variable	p-value
Maternal Age (years Old)	0.584
Parity	0.954
Trimester of Pregnancy	0.136

Presents the relationship between the ICIQ score and three factors: maternal age, parity, and trimester of pregnancy. The p-values for maternal age (0.584), parity (0.945), and trimester of

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pregnancy (0.136) are all greater than 0.05, indicating that there is no statistically significant relationship between the ICIQ score and any of these variables.

The results indicate that the highest mean ICIQ score was observed among women aged 31–38 years (9.8 ± 4.3), while those aged 26–30 years had the lowest mean score (7.7 ± 4.2). This variation could reflect the cumulative effect of age-related changes in pelvic floor integrity.[12-14] However, the statistical analysis revealed no significant relationship between maternal age and ICIQ scores (p = 0.584), suggesting that age alone may not be a determining factor for the severity of SUI during pregnancy.[15-17] Regarding parity, multiparous women showed a slightly higher mean ICIQ score (8.46 ± 4.02) compared to primiparous women (8.14 ± 3.77). This aligns with existing evidence that multiple pregnancies can weaken the pelvic floor muscles, increasing the risk of urinary incontinence.[18-20] However, the statistical analysis (p = 0.945) did not identify parity as a significant predictor of ICIQ scores.

Trimester of pregnancy was another variable evaluated in this study. Women in their third trimester had the highest mean ICIQ score (9.06 ± 4.53), while those in the first trimester had the lowest (7.48 ± 3.47). This pattern is consistent with the progressive increase in bladder pressure and hormonal changes as pregnancy advances.[21-23]

Similar findings have been reported by Solans-Domènech et al., who noted that urinary incontinence tends to peak in the third trimester due to the mechanical impact of the growing fetus on the pelvic floor.[24-26] Nevertheless, the lack of statistical significance (p = 0.136) in this study indicates that trimester alone does not have a strong predictive relationship with SUI severity.

The absence of statistically significant associations in this study may be influenced by the study's limitations, such as sample size and the lack of control for confounding factors like BMI, previous pelvic surgeries, or lifestyle factors. Future studies with larger sample sizes and more comprehensive data collection are needed to better elucidate the relationships between these variables and SUI during pregnancy.

Despite the lack of statistically significant findings, the observed trends underscore the importance of regular screening and counseling for urinary incontinence during prenatal care. Addressing these symptoms early can help improve the quality of life for pregnant women and potentially mitigate long-term complications associated with untreated SUI. This aligns with recommendations emphasizing early intervention and pelvic floor exercises during pregnancy to prevent and manage SUI.

CONCLUSION

This study analyzed the relationship between maternal age, parity, and trimester of pregnancy with stress urinary incontinence (SUI) severity using ICIQ scores among pregnant women at Pasar Kuok Health Center. While variations in mean ICIQ scores were observed across age groups, parity, and pregnancy trimesters, statistical analysis showed no significant associations between these variables and SUI severity (p > 0.05). These findings suggest that factors such as age, parity,

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and pregnancy trimester may not independently influence SUI severity, highlighting the need for future studies to explore other potential contributors. Nonetheless, early screening and management, including pelvic floor muscle training, remain vital to improving maternal quality of life during pregnancy.

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