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Prevalence of urinary incontinence in pregnant women: A cross-sectional analysis

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Urinary incontinence is the complaint of involuntary leakage of the urine. It is a common condition in the woman with an estimated prevalence of 8.2% worldwide. This can affect neuromuscular and musculoskeletal impairments along with a person's quality of life. This study is aimed to determine the prevalence, types, and psycho-social impacts of urinary incontinence in pregnant females. This descriptive cross-sectional study was conducted at Railway General Hospital Rawalpindi, Pakistan from (January to June 2020) and included a sample of 100 pregnant females diagnosed with a history of Urinary incontinence and urinary tract infections using non-probability convenience sampling. We used validated Incontinence impact and quality of life satisfaction, questionnaires. Data were analyzed using SPSS Version 20. A Pearson correlation test was used and a (P-value <0.05) was considered significant. The findings revealed that, out of 100 participants, the mean and S.D were 32.65±13.30. The questionnaire for female urinary incontinence diagnosis showed 48% with stress and 40% with urgency whereas, 12% with mixed type. The Pearson correlation for incontinence diagnosis and impact questionnaire showed a significant impact on quality of life with a (P-value <0.001). In conclusion, Stress urinary incontinence was prevalent with mild severity that had a slight psycho-social impact, and the patient's quality of life was moderately affected.

Keywords: Psychosocial Impacts, Quality of Life, Stress, Satisfaction Questionnaire, Urinary Incontinence.

INTRODUCTION

Urinary Incontinence (UI) is a common medical condition that is prevalent in both genders but has more ratios in females, as defined by the International Continence Society (ICS). The complaint of any involuntary leakage of urine (Hickling et al. 2017, Petros et al 1990, Abrams et al. 2003). UI was found to be prevalent in 23% of ladies, who were reported to visit gynecological out-patient emergency departments with complaints of pelvic floor muscle weakness or

prolapse (Petros et al. 1990). The risk factors associated with UI include the history of multiple pregnancies, complicated labor, diabetes mellitus, chronic cough, constipation, fecal incontinence, menopause, hypertension, family history, age more than 40 years, hysterectomy, and obesity (Colby et al 2007). This condition can be divided into three major types namely: stress, urge, and mixed urinary incontinence (Irwin et al. 2011). UI has an impact on both the psychosocial impact aspect and the quality of life, It is found to be

affecting people's lives and limiting them from performing the normal activities of daily living (Singh et al. 2013). UI is also a common disorder in Europe. The Prevalence of women of four European countries found that Spain had the lowest prevalence of urinary incontinence 23%, followed by Germany 41%, the UK 42%, and France at 44%. (Perera et al. 2014) found that stress urinary incontinence was a more prevalent type. A study in Sri Lanka from (Singh et al. 2013) determined the prevalence of stress urinary incontinence among women., in which about 23% out of a sample of 400 OPD patients of more than 20 years of age.

In India a study was carried out by (Shershah et al. in 2013) to evaluate the prevalence and risk factors of urinary incontinence in women, This showed 21.8% of the 3000 sample size had urinary incontinence. Whereas, Stress urinary incontinence was more frequently found being 73.8%, followed with mixed urinary incontinence at 16.8% and urge urinary incontinence at 9.5%. This condition tends to affect in person's physical health, psychological state, level of independence, social relationships, personal beliefs, and their relationships and environment (Jokhio et al. 2013).

In a country like Pakistan, the prevalence of urinary incontinence was found to be 45.9% in general (Abrams et al. 2003). However, there are few studies available about the prevalence of UI but there is no literature particularly on the type, severity, and impact on quality of life, that needs to be addressed to get a clear image of the situation so that awareness can be raised and preventive measures can be taken. Thus, our study is aimed to determine the prevalence, types, severity, psychosocial impact, and quality of life in females with urinary incontinence.

MATERIALS AND METHODS

This descriptive cross-sectional study was approved by the ethical committee at Riphah international university AHS/REC/337. Informed consent was taken from all participants and interviewed voluntarily. This study was conducted at Railway General Hospital, Rawalpindi Pakistan for a duration of 6 months (January to June 2020) with a sample size of 100 pregnant females of various age groups with a non-probability convenient sampling technique.

We included diagnosed cases of Urinary incontinence and urinary tract infections (UTI). We excluded male and paraplegic female patients

from this study. In the data collection process, we used a validated structured questionnaire for interviewing the patients that was based on the Incontinence impact and quality of life satisfaction questionnaire. In the Incontinence impact questionnaires, We categorized the patients scoring less than <50 indicated the good quality of life and score between 50-70 having the moderate quality of life, and those having score above 70 we termed as having poor quality of life.

Statistical Analysis

The data was analyzed using SPSS version 21. Descriptive statistics were applied to calculate the demographics and the Pearson correlation test was also applied. The continuous and categorical variables were represented in terms of the percentages, mean, and St. deviation. P-value > 0.05 was considered statistically significant.

RESULTS AND DISCUSSION

Table 1 represents types of urinary Incontinence based on diagnosis, In our questionnaire stress UI consisted of 48 cases with 48%. The Urge UI was present in 40 females and mixed UI in 12% of our sample.

Table 2 shows the association between UI and QOL impact questionnaire in which about 45% of respondents resulted in severe stress category, while 1% had moderate and 2% fall in mild. In the urge category, about 25% of cases were severe, 15% moderate. In remaining mixed type cases were diagnosed 5% in severe, whereas 7% cases had a mild impact, with a (P <0.001) overall.

Table 3 has illustrated a Quality of life enjoyment and satisfaction questionnaire in which, 44% were fairly satisfied with their physical health and 50% were fairly satisfied with their mood, work, and household activities. About 50% and 53% rated their satisfaction with social and family relationships as good. About 36% were poorly satisfied with their ability to get around physically without feeling dizzy or unsteady or falling. 36% rated their vision in terms of ability to do work or hobbies as good. About 42% were fairly satisfied with their overall sense of wellbeing. About 39% rated their satisfaction with medications as good. The overall life satisfaction and contentment were rated well by 45% of the patients.

Table 1: Type of female Urinary Incontinence diagnosis

Type of incontinence	No of cases	Percentage	Mean	S.D
Stress UI	48	48%	32.65	13.30
Urge UI	40	40%		
Mixed UI	12	12%		

Table 2: Association between urinary incontinence and quality of life

Urinary Incontinence diagnosis	Incontinence impact questionnaire			P-value
	Severe Impact	Moderate Impact	Mild Impact	
Stress	45 (45%)	1 (1%)	2 (2%)	<0.001
Urge	25 (25%)	15 (15%)	0 (0%)	
Mixed	5 (5%)	0 (0%)	7 (7%)	

Table 3: Quality of life enjoyment and satisfaction questionnaire (q-les-q sf)

Questions	Percent				
	Very Poor	Poor	Fair	Good	Very Good
Physical Health	4	15	44	37	0
Mood	27	0	50	20	3
Work	6	16	50	25	3
Household activities	3	17	54	19	7
Social relationships	3	14	30	50	3
Family relationships	5	12	27	53	3
Leisure time activities	9	19	52	17	3
Ability to function in daily life	2	26	25	44	3
Sexual drive, interest and/or performance	26	26	20	28	0
Economic status	3	10	32	51	4
Living/ housing situation	0	19	18	50	13
Ability to get around physically without feeling dizzy or unsteady or falling	1	36	25	35	3
vision in terms of ability to do work or hobbies	3	23	35	36	3
Overall sense of wellbeing	3	17	42	35	3
Medication	3	12	5	39	8
Overall life satisfaction and contentment during the past week	0	17	20	45	18

The study results have determined that the most prevalent type of urinary incontinence was stress urinary incontinence, which was consistent with our study and found that stress urinary incontinence was a more prevalent type about 48% of the population presenting in gynecological wards in hospital care settings in regions of America (Haylen et al. 2012, Oliveira et al. 2013). Another research carried out by Wyman JF et al showed that if detrusor instability along with or without associated sphincter incompetence is present, it will cause a greater psychosocial impact, thus severity and psychosocial impact however had a composite relation (Skevington et al. 1997). Their study finding correlates with the present study, as mild urinary incontinence has about 31.4% impact on patient lives.

Former Studies from (Ridner et al. 2013, Mollica et al. 1999) have also found that stress urinary incontinence does not affect a person's QOL, showing the consistency in the present study results that did not show a greater effect of urinary incontinence on the improvement of quality of life. Similar research estimated, by (Camm et al. 1999) that spontaneous vaginal delivery is more associated with urinary incontinence; their results are coherent with this study as the results also showed that most females with urinary incontinence fell in the category of spontaneous vaginal delivery.

The results from (Valerius et al. 1997) in a randomized control trial on the elderly population also found that urge and mixed urinary incontinence types had higher emotional disturbance as compared to stress urinary incontinence and the control group, who had no difference in emotional evaluation. Our empirical findings are consistent with the fact that stress incontinence is more frequent and prevalent among the subjects that had a less psychosocial impact from trauma.

A cross-sectional study by (Jokhio et al. 2013) based in the province of Sindh including the women of the rural population, of ages 15 and above in which they determined 45% of cases had a great or moderate impact on their daily lives. Another study on the population aged 25 to 45 by (Valerius et al. 1997) determining whether there was any difference of psychosocial impact between the three types of UI, i.e. urge stress and mixed UI. There was no significant difference among the types, However, individuals showed a significant moderate correlation between UI and impact.

Research by (Grimby et al. 1993) on the

elderly population aged 65 to 84 years, showed that UI caused an emotional and social disturbance, whereas Urge and mixed urinary incontinence types had higher emotional disturbance as compared to subjects who did not suffer from UI. However, stress urinary incontinence and the control group had no difference in emotional evaluation. However, In the present study subjects of all three types of urinary incontinence suffered from social isolation which found that urge urinary incontinence also caused sleep disturbance.

CONCLUSION

Stress urinary incontinence was more frequent in the given population as compared to urgency or mixed urinary incontinence. The severity of urinary incontinence was found to be mild urinary incontinence. Urinary incontinence had a slight psychosocial impact. The Quality of life of the patients was moderately affected.

CONFLICT OF INTEREST

The authors declared that the present study was performed in absence of any conflict of interest.

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AUTHOR CONTRIBUTIONS

KA: Provided concept/Research design, and data collection.

HR and HG: Did statistical analysis and data collection.

SI: Did literature review and drafting of the manuscript.

RT & MS: Did critical revision of the manuscript for important intellectual content.

KA and SI: Takes the responsibility and are accountable for all the aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

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