



## Original Article

### Association of Quality of Life and Severity of Urinary Incontinence Among Post-Partum Females; A Cross-Sectional Study

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#### ABSTRACT

**Background:** Urinary incontinence has been known as a widespread problem that has been recognized to affect 20 to 30% of older females globally. The degree of severity and appearance varies from person to person. **Objective:** To determine the association between quality of life and severity of urinary incontinence among post-partum females. **Methods:** This is a cross-sectional survey in which non-probability convenient sampling technique was employed for sampling. The data was this study was collected from Medlane Medical Complex. The study was completed within six months after the approval of the synopsis. The age range of 139 females included in this study was 25 to 35 years old. The tools employed in this study were the SF-36 questionnaire and the urinary incontinence index. All the recruited females were asked to fill out the questionnaires. **Results:** About 59 Participants (42.4%) reported having poor quality of life, 75 (54%) participants reported having moderate quality of life and 5 (3.6%) participants reported having good quality of life. 73 females (52.5%) reported to have mild urinary incontinence, 65 females (46.8%) reported to have moderate urinary incontinence and only 1 (0.7%) female reported to have severe urinary incontinence. A total of one female with severe urinary incontinence, she reported to have moderate quality of life with a p-value of 0.00. Among the total of 65, 59 participants who reported suffering from moderate urinary incontinence had poor quality of life. About 3 had a moderate quality of life and 3 had a good quality of life with a p-value of 0.00. A total of 73 patients with mild urinary incontinence had a poor quality of life, 71 had a moderate quality of life and 2 had a good quality of life with a p-value of 0.00, proving that quality of life and urinary urge score were associated. **Conclusion:** It concludes that quality of life and urinary incontinence urge score are associated. Our study concludes that if a post-partum female has a poor quality of life, then she might have a greater urinary incontinence urge score and vice versa.

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**Keywords:** association; post-partum; quality of life; urinary incontinence  
**DOI:** 10.55735/hjprs.v3i10.229

**Citations:** Saeed A, Qadree M S, Rasool A G, Shah S N A, Chaudhary M, Hanif S. Association of quality of life and severity of urinary incontinence among post-partum females; A cross-sectional study. The Healer Journal of Physiotherapy and Rehabilitation Sciences. 2023;3(10):862-870.



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## INTRODUCTION

Urinary incontinence is defined as the complaint of involuntary loss of urine.<sup>1</sup> Urinary incontinence has been observed to be more prevalent in females, with the occurrence ranging from 5% to 69% globally.<sup>2</sup> Urinary incontinence during the postpartum period has been often characterized as an uncontrollable leakage of urine after the delivery of the baby. It has been observed to occur primarily because of the hyperextension of the ligaments of the pelvic floor and muscles present there during the pregnancy and the vaginal delivery. This occurs especially after the relaxation of the tissues that support the upper urethra and the floor of the urinary bladder.<sup>3</sup> The occurrence of postpartum urinary incontinence has been observed to be 50% in American and European countries.<sup>4</sup> A survey was conducted of 10,098 postpartum females in China which showed us that the incidence of Postpartum urinary incontinence at six weeks postpartum was 9.5% and at six months postpartum was 6.8%.<sup>5</sup> Previously conducted studies intended to focus on the risk factors, prevalence, treatments and long-term physical influence of postpartum urinary incontinence, while only a lesser number of studies work on examining or measuring the post-partum woman's quality of life suffering from urinary incontinence.

Postpartum urinary incontinence has been observed not to cause a direct threat to the health and life of the females suffering from it<sup>6-8</sup> but it is known to affect a woman's mental health and interpersonal communication which ultimately results in lower self-esteem and depression and might also lead to a long sick leave and getting absent from work.<sup>9</sup> A recently conducted systematic review<sup>10</sup> provides us with an overview of the psychological, physical and social categories of quality of life and status of health of postpartum females. Their review

concluded that urinary incontinence is associated with quality of life. However, the literature is vague regarding the magnitude of its effects and is ambivalent about whether females with more severe postpartum urinary incontinence experience a higher marked diminished quality of life or not. Some factors that have been recognized to contribute to the inadequate transparency in the literature include some researchers employing generic, rather than incontinence-specific and quality-of-life instruments. Numerous risk factors have been identified for urinary incontinence which includes, body mass index, age, vaginal delivery and parity.<sup>11</sup>

The epidemiological evidence shows us that females who experience pregnancy and delivery, especially vaginal delivery are at a higher risk of developing urinary incontinence.<sup>12</sup> Various factors might be linked with urinary incontinence during pregnancy, hormonal levels, increased pressure in the abdomen due to an enlarged uterus and the pressure on the pelvic floor muscles coming from the growing fetus.<sup>13</sup> A study conducted in China showed the prevalence of urinary incontinence to be 26.7% during pregnancy and 9.5% at six weeks postpartum in 2009.<sup>5</sup> Although, the occurrence of urinary incontinence varies from 7.7%<sup>14</sup> to 36%<sup>14</sup> in pregnant females and from 3.8%<sup>14</sup> to 38%<sup>15</sup> in postpartum females in various regions of China. A study conducted in Nanjing, a city in China reported the prevalence of urinary incontinence among pregnant females and postpartum females to be 36% and 14.4% respectively. They did not assess the influence of urinary incontinence on a female's quality of life.<sup>14</sup> This is a huge research gap especially considering developing countries like Pakistan. Our current study would fill this gap focusing on the quality of postpartum Pakistani females suffering from urinary incontinence. Urinary

incontinence has been observed to have a huge impact on a female's quality of life including her social activities, sexual relationships and physical exercises.<sup>16</sup> This needs to be addressed concerning the Pakistani postpartum females. Our study will cover this region to add authentic knowledge to the literature in this field. Pregnant and postpartum females with urinary incontinence have been observed to have a significantly lower quality of life than females without urinary incontinence and quality of life eventually gets worse as the gestational age upsurges.<sup>17</sup> Since Pakistan is a developing country majority of females come from a class where quality of life is already low. Therefore, it is very important to examine and evaluate the impact of urinary incontinence and its severity on a female's quality of life. The aim of our current study is to work on this. The aim of our study is to provide a generalized description of females with postpartum urinary incontinence and to find the effects of various types of postpartum urinary incontinence with varying severity of female's quality of life in Pakistan. Our current study also aims at creating awareness and to improve the healthcare practice of medical staff in helping postpartum females to manage urinary incontinence. The objective of our study is to find out an association between the quality of life and severity of urinary incontinence among the postpartum females of Pakistan.

## METHODS

Our current study is a cross-sectional survey. Non-probability convenient sampling technique was employed for sampling. The data for this study was collected from Medlane Medical Complex. Our study was completed within six months after the approval of the synopsis. The age range for the participants to be recruited in this study was 25 to 35 years old. The sample size of our

study was calculated to be 139. Raosoft software was employed to calculate the sample size.<sup>18</sup> Post-partum females with ages ranging from 25 to 35 years, primigravida and females with normal vaginal delivery and normal vaginal menstrual cycle were recruited in this study. Females who were diagnosed with urinary incontinence, urge incontinence and stress incontinence were also recruited in this study. Postpartum females with depression, any neurological deficit, Polycystic ovaries, issues other than stress and urge incontinence and females with thyroid issues were excluded from our study.<sup>19-21</sup> The data collecting tools employed were the SF 36 questionnaire and urinary incontinence index. The SF 36 questionnaire is an outcome-measuring instrument that has been used a lot globally and is a self-reported measure of health. SF-36 is a collection of coherent, generic and easily administrated tools for measuring quality of life.<sup>22</sup> The urinary incontinence symptom severity index is a tool that is used for self-assessing the severity of voiding symptoms and urinary storage of females.

The scoring of this tool; 0 represented none of the time, 1 represented rarely, 2 meant occasionally, 3 represented often, 4 represented most of the time and 5 represented all of the time. Responses to the scores 1, 2 and 3 were summed up for the stress score and responses for the scores 4, 5 and 6 were summed up for urge score. Every recruited post-partum female was requested to fill the questionnaires. Statistical package for social sciences version 23 was employed to analyze data.

## RESULTS

Table- I shows us that 73 (52.5%) participants had mild urinary incontinence urge score, 65 (46.8%) had moderate urinary incontinence

urge score and only 1 postpartum female had severe urinary incontinence urge score. Table 2 shows us that 40 (28.8%) postpartum females had mild urinary incontinence stress score, 88 (63.3%) had moderate urinary incontinence stress score and 11 (7.9%) postpartum females had severe urinary incontinence stress score. Table 3 showed us that from the total of 1, no participant with severe urinary incontinence had a poor quality of life, 1 participant had a moderate quality of life and no participant had a good quality of life with 0.00 p-value. From the total of 65, 59 participants who had moderate urinary incontinence had poor quality of life, 3 participants had moderate quality of life and 3 participants had good quality of life with a p-value of 0.00. From the total of 73, no participant who had mild urinary incontinence had a poor quality of life, 71 had a moderate quality of life and 2 had a good quality of life with a p-value of 0.00. Since the p-value is less than 0.05, hence this proves that quality of life is associated with urinary incontinence urge score. If the patient had a poor quality of life then the urinary incontinence urge score was greater for a post-partum female and if the patient had a good quality of life, then her urinary incontinence score was mild. The same goes for urinary incontinence stress score. Graph 1 showed us that the mean age of 139 participants was 30.59 years with a standard deviation to be 3.34 and minimum age to be 25 and a maximum age to be 35 years. Graph 2 showed us that the quality of life was poor for 59 (42.4%), moderate for 75 (54%) and good for 5 (3.6%) participants of this study.

## DISCUSSION

The results of our study show that quality of life and urinary incontinence among postpartum females are associated. In our current study, we recruited post-partum females who experienced leakage of urine and

we determined that more than half of the females verified to suffer from symptoms of urinary incontinence and reported them to be mildly, moderately and severely bothering. Our further analysis of results showed us that the more severe symptoms of urinary incontinence were the stronger the influence was on quality of life among post-partum females with urinary incontinence. Our study agrees with the findings of a longitudinal prospective study conducted in Spain. Their study included 546 healthy primiparas and they concluded that at the 6<sup>th</sup> week after giving birth, irrespective of the mode of giving birth, females with partum reported to have urinary incontinence and reported poor

**Table 1: Descriptive Statistics of Urinary Incontinence of Urge Score**

Urinary Incontinence Urge Score	Frequency	Percentage
Mild Score	73	52.5%
Moderate Score	65	46.8%
Severe Score	1	0.7%
<b>Total</b>	<b>139</b>	<b>100.0%</b>

**Table 2: Descriptive Statistics of Urinary Incontinence of Stress Score**

Urinary Incontinence Stress Score	Frequency	Percentage
Mild Score	40	28.8%
Moderate Score	88	63.3%
Severe Score	11	7.9%
<b>Total</b>	<b>139</b>	<b>100.0%</b>

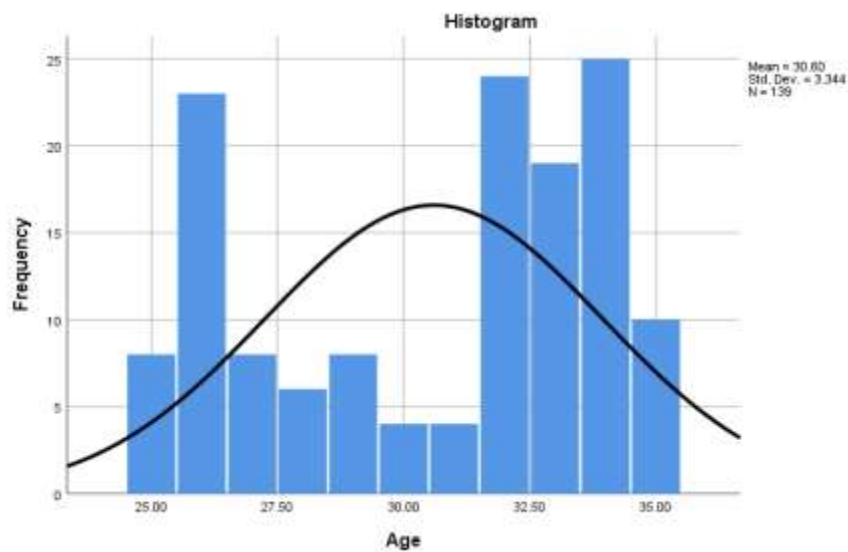
**Table 3: Descriptive Statistics of Association of Quality of Life and Urinary Incontinence Urge Score (Cross-Tabulation, Chi-Square)**

		Severe urinary incontinence	Moderate urinary incontinence	Mild urinary incontinence	Pearson Chi-Square (P-Value)
Quality of Life	Poor	0	59	0	0.00
	Moderate	1	3	71	
	Good	0	3	2	
	Total	1	65	73	

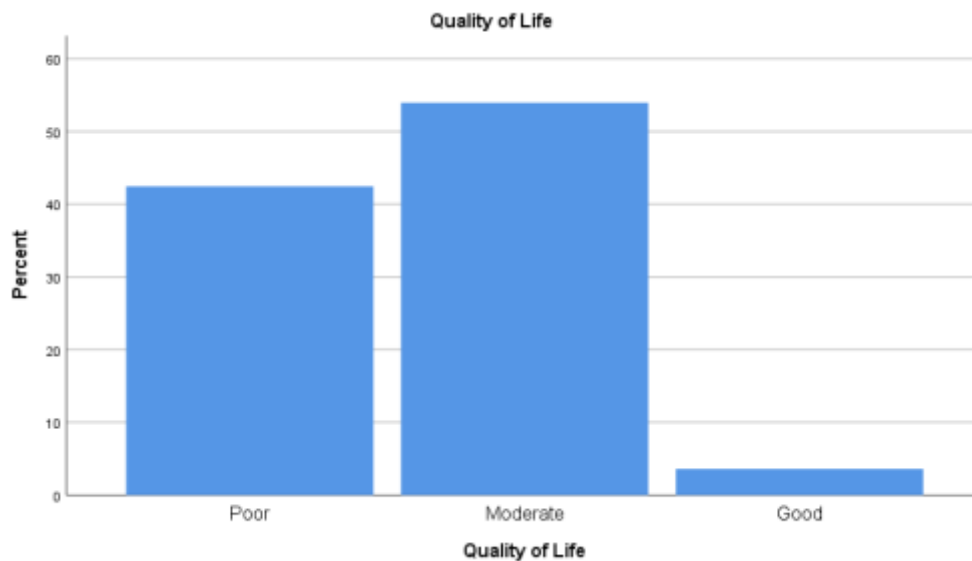
**Table 4: Descriptive Statistics of Quality of Life and Urinary Incontinence Stress Score Cross-Tabulation (Chi-Square)**

		Severe Stress	Moderate Stress	Mild Stress	Pearson Chi-Square (P-Value)
Quality of Life	Poor	10	33	16	0.00
	Moderate	1	52	22	
	Good	0	3	2	
	Total	11	88	40	

**Graph 1: Graphical representation of Age**



Graph 2: Graphical Representation of Quality of Life



health-related quality of life.<sup>23</sup> Because of the severe symptoms of urinary incontinence the females had to alter their lifestyle, such as using pads to avoid getting their clothes wet and reducing their social activities to avoid being laughed at by other people. These alterations in their social activities and these restrictive behaviors might lead to psychological discomfort. Mental health has also been observed to affect the physical health and social relationships of these post-partum females. Previously conducted studies have confirmed that depression is directly related to poor quality of life in females with post-partum urinary incontinence.<sup>24,25</sup> When we did a comparison with non-depressed post-partum females, depressed post-partum females had poorer quality of life scores and urinary incontinence was reported as one of the major contributing factors.<sup>26</sup> A study was conducted on 866 females, who reported that urinary incontinence during the post-partum time had a very negative influence on females' health-related quality of life.<sup>27</sup> These outcomes coincide with what has been recognized in our study and in a systematic review that included 66 studies.<sup>28</sup> A study

conducted by Yi Lang and co-workers with the topic quality of life among females with post-partum urinary incontinence.<sup>26</sup> Their major objective was to provide a general description of postpartum females with urinary incontinence and to determine the effects of various types of post-partum urinary incontinence on the quality of life of the suffering postpartum females. Their objective and our objective coincided. They concluded that the more severe the symptoms of urinary incontinence the more negatively it affected the quality of life of the post-partum female. Their conclusion and our conclusion agree with each other. Hermansen and co-workers conducted an observational study among 75 females in Denmark,<sup>29</sup> The results showed that more than 1/3<sup>rd</sup> of the females who participated felt restrictions in their abilities to go to places where they were not sure about the availability of toilets, to participate in sexual intimacy and to participate in physical and recreational activities. Policymakers for the public need to aid these people who suffer from urinary incontinence to feel confident and to have the liberty to travel to new destinations. This should be a focus for

countries like Pakistan. The Australian government has introduced a website that provides details for over 14,000 toilet facilities across Australia. It might be very beneficial to employ this strategy in countries like Pakistan. Our current study has a smaller sample size which was one of the cause that this study was not conducted on a wider scale. Since, our study was just an observational study, only based on questionnaire surveys our study was small-scale and had limited findings. The study population of our current study was already limited and the time frame was short the participants' responses were also vague and less because of a lack of awareness and interest.

Our research project was specific because the area chosen for our study was specified. Although our study was a comprehensive one its analysis was laborious and provided respected intuitions for clinical nursing practice on postpartum females. Secondly, our study did not employ any control group of continent post-partum females, so some of the impaired quality of life findings would have been due to the stressors of the baby or any other social or physical issues other than incontinence. Future researchers are recommended to conduct these studies on a wide variety of regions of Pakistan for more widely specified results. Our results could have been more precise if the available population had been larger and greater sample size. Future researchers are recommended to conduct this study on a larger scale with pregnant and post-partum females as the target population. For more authentic results experimental and cohort studies are recommended so the progress and findings might be remarkable, more precise and accurate. Our current study also recommends that more focused nursing measures should be employed which focus on postpartum females with moderate and severe symptoms of

urinary incontinence, uteral prolapse and mild urinary incontinence.

## CONCLUSION

Our study concludes that quality of life is associated with the urinary incontinence urge score. Our study concludes that if the patient has a poor quality of life then the post-partum woman would have a greater urinary incontinence urge score. If the patient has a good quality of life, then the urinary incontinence score would be mild. Our study concludes that the quality of life of the sufferer and the severity of the signs and symptoms are associated with the urinary incontinence urge and stress score.

## DECLARATIONS

**Consent to participate:** Written consent had been taken from patients. All methods were performed following the relevant guidelines and regulations. **Availability of data and materials:** Data will be available on request. The corresponding author will submit all dataset files. **Competing interests:** None **Funding:** No funding source is involved. **Authors' contributions:** All authors read and approved the final manuscript. **CONSORT Guidelines:** All methods were performed following the relevant guidelines and regulations.

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