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Quality of life of women with urinary incontinence in the eastern region of Saudi Arabia

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ABSTRACT

Introduction: One of the most widespread health problems affecting women across the board is urinary incontinence, which corresponds to any involuntary leakage of urine. It significantly affects physical health, interpersonal relationships, sleep, and the incidence of mental disorders. It is essential to ascertain how urinary incontinence affects the quality of life of women in the eastern region of Saudi Arabia. Therefore, this study aimed to assess the impact on the quality of life of women with urinary incontinence in the east area of Saudi Arabia. *Methods:* A cross-sectional study was performed across the eastern region of Saudi Arabia using a questionnaire. Five hundred thirty-eight women completed the questionnaire, which contains two sections. The first section focused on patient characteristics, and the second, which had 28 items, evaluated the quality of life of urinary incontinence among females. *Results:* Analysis of the responses demonstrated that 214 women (39.8%) had a good quality of life overall, 174 (32.3%) had an average quality of life, and 150 (27.9%) had a poor quality of life as a result of incontinence. *Conclusion:* Urinary incontinence significantly impairs the quality of life of women in the eastern region of Saudi Arabia. Factors such as older age, lower education level, and unemployment are associated with a poorer quality of life. Women with urinary incontinence in the region require effective interventions to enhance their quality of life.

Keywords: Saudi Arabia, eastern region, consequences, women, quality of life, urinary incontinence

1. INTRODUCTION

Urinary incontinence (UI) is a predominant clinical condition worldwide, affecting females more than males (Pizzol et al., 2021). The International Continence Society defined UI as "any involuntary urine leakage"

(Altaweel and Alharbi, 2012). The International Continence Society commonly divides UI into stress, urge, and mixed UI subtypes. Stress UI (SUI) is the loss of urine upon exertion, sneezing, or coughing. People with urge UI (UUI) experience the loss of urine along with a strong urge to urinate. Mixed UI (MUI) is a combination of both stress and urge UI. Accurate diagnosis and discrimination among these three types of UI are critical in assessing its impact on patients' quality of life (QoL) and in developing different treatment strategies (Minassian et al., 2013; Riss and Kargl, 2011; Senra and Pereira, 2015). The number of people with UI exceeds 200 million globally, as it can affect individuals of various cultures and races and increases as people age.

The prevalence of UI in females ranges from 10% to 60%—the expanded range of prevalence results from variations in definitions, study characteristics, and target populations. Previous studies conducted on Saudi Arabian women found that the prevalence of UI ranged from 30 to 41.4% (Almutairi et al., 2021; Ghafouri et al., 2014; Kwon et al., 2010). UI harms QoL Ghafouri et al., (2014), which is the degree to which a person enjoys significant opportunities in their life. It depicts a person's sense of well-being and fulfillment in life (Hebbar et al., 2015). Despite its high prevalence, UI is rarely reported due to its embarrassing nature, which negatively impacts the QoL of affected individuals (Elenskaia et al., 2011). It impacts patients' physical health, personal relationships, sleep, and social elements (Leroy and Lopes, 2012).

Additionally, it is associated with mental disorders such as anxiety and depression (Pizzol et al., 2021). Given the substantial consequences of UI on patients' lives, there is a need to determine the impact of UI on the QoL of women who live in the eastern region of Saudi Arabia. By identifying the implications in greater detail, healthcare providers can initiate, plan, and design targeted educational interventions to increase knowledge and understanding of the impact of UI on QoL. This can lead to improved management of the condition, better access to treatment, and, ultimately, a higher QoL for women living with UI. Such interventions could also reduce the stigma surrounding UI, encouraging more women to seek help and support. Therefore, this study aimed to assess the impact on the QoL of women with UI in the eastern region of Saudi Arabia.

2. MATERIALS AND METHODS

Study design

We performed a descriptive, qualitative, cross-sectional study based on a questionnaire that assesses the QoL among women with UI in the population of the eastern region. The study was conducted from 2022 to 2023.

Study population and sample size

The study population represented the participants who fulfilled the inclusion and exclusion criteria. The inclusion criteria were Saudi women from the eastern region over 18 years old with any UI. The exclusion criteria were non-Saudi women, Saudi women who were not from the East region, women without UI, and women under 18 years of age. As there is no accurate prevalence of women with UI in the eastern province in the literature, the sample size of the women population with and without UI in the east region was 1,093,92, and 385 respondents were considered the minimum sample size based on this population, which was calculated using the Richard Geiger equation with a 95% confidence level and a 5% margin of error.

Survey

The questionnaire used in this study was translated into Arabic and then underwent cross-cultural validation to ensure that it was equivalent to the original Wagner TH questionnaire regarding its meaning and psychometric properties (Wagner et al., 1996). The questionnaire was conducted online and comprised two sections. The first section concerned patient characteristics, which include gender, age, marital status, residency, education level, and job. The second section assessed the QoL and consisted of 28 items. Each item had four responses, ranging from very much to not affecting the QoL. The questionnaire covered various aspects of quality of life, including physical, psychological, and social well-being. Some of the items included in the questionnaire were related to the impact of urinary incontinence on daily activities, emotional well-being, social relationships, and sexual function. A completed questionnaire was required for admission to the study.

Statistical analysis

After data were extracted, it was revised, coded, and fed to statistical software IBM SPSS version 22(SPSS, Inc. Chicago, IL). All statistical analysis was done using two-tailed tests. P value less than 0.05 was statistically significant. Regarding women's quality of life, the overall score was obtained by summing up all discrete items' scores, and then the score was transformed to 0-100. Participants with an overall score of less than 50% of the total converted score (100 points) were considered to have a poor quality of life. In comparison, others with an overall score between 50 and < 75% were considered to have an average quality of life, and others with an overall transformed score of 75% or more were supposed to have a good quality of life. Descriptive analysis was done based on frequency and percent distribution for all variable participants' demos, graphic data, education, and work. Also, women's quality of life and UI impact were tabulated while the overall quality of life level was graphed. Cross tabulation was used to assess factors associated with participants' UI-related quality of life, and the significance of relations was tested using Persons' chi-square test and exact probability test for small frequency distributions.

Ethical considerations

Ethical approval for this study was given by the Research Ethics Committee of King Faisal University (KFU- REC-2023-FEB-ETHICS587). The purpose of the study was explained to the participants, their consent was obtained, and the Information was kept anonymous.

3. RESULTS

Table 1 shows that 538 eligible women with UI were included. Women's ages ranged from 18 to more than 45 years, with a mean age of 33.1 ± 11.3 years old. A total of 312 (58%) were married, 198 (36.8%) were single, and only 28 (5.2%) were divorced or widowed. Considering education level, 302 (56.1%) were university graduates, 196 (36.4%) had a secondary level of education, and 40 had a below-secondary educational level. Also, 196 (36.4%) women were employed.

Table 1 Personal data of study women with urinary incontinence, Eastern Province, Saudi Arabia

Personal data	No	%
Age in years		
18-25	204	37.9%
26-35	124	23.0%
36-45	122	22.7%
> 45	88	16.4%
Marital status		
Single	198	36.8%
Married	312	58.0%
Divorced / widow	28	5.2%
Educational level		
Below secondary	40	7.4%
Secondary / diploma	196	36.4%
University / above	302	56.1%
Do you have a job?		
Yes	196	36.4%
No	342	63.6%

Table 2 shows the impact of quality of life among women with urinary incontinence in Alahsa, Saudi Arabia. A total of 69.5% documented that they need to make frequent trips to the toilet, 65.4% worry about coughing or sneezing because of their incontinence, 65.1% feel they have no control over their bladder, 63.9% feel embarrassed talking with others about their incontinence, 63.6% worry about where toilets are in new places, 62.5% worry about incontinence getting worse as they grow older, and 61.7% have to watch how much they drink because of

incontinence. Only 43.1% avoid hugging others because of their incontinence, and 46.1% worry about having sex because of their incontinence. Besides, 46.1% get less enjoyment out of life because of their incontinence.

Table 2 Impact on the quality of life of women with urinary incontinence eastern region, Saudi Arabia

Quality of life items	Not at all		A little		Moderately		Very much	
	No	%	No	%	No	%	No	%
I worry about wetting myself	226	42.0%	130	24.2%	122	22.7%	60	11.2%
I feel embarrassed talking about my incontinence with others	194	36.1%	140	26.0%	128	23.8%	76	14.1%
I have to watch how much I drink because of my incontinence	206	38.3%	132	24.5%	134	24.9%	66	12.3%
I'm concerned about sneezing or coughing due to my incontinence.	186	34.6%	120	22.3%	122	22.7%	110	20.4%
My incontinence requires caution when getting up from a sitting position.	246	45.7%	110	20.4%	128	23.8%	54	10.0%
I worry about where the toilet is in new places	196	36.4%	140	26.0%	116	21.6%	86	16.0%
I feel depressed because of my incontinence	256	47.6%	132	24.5%	100	18.6%	50	9.3%
Because of my incontinence, I don't feel free to leave my home for long periods	230	42.8%	116	21.6%	122	22.7%	70	13.0%
Having incontinence hurts my self-confidence	276	51.3%	112	20.8%	98	18.2%	52	9.7%
I feel frustrated because my incontinence prevents me from doing what I want	268	49.8%	128	23.8%	92	17.1%	50	9.3%
I worry about others smelling urine on me	238	44.2%	116	21.6%	108	20.1%	76	14.1%
Incontinence is always on my mind	246	45.7%	146	27.1%	98	18.2%	48	8.9%
I need to make frequent trips to the toilet	164	30.5%	154	28.6%	104	19.3%	116	21.6%
I avoid laughing because of my incontinence	266	49.4%	108	20.1%	122	22.7%	42	7.8%
I feel ashamed because of my incontinence	228	42.4%	122	22.7%	122	22.7%	66	12.3%
Because of my incontinence, it's essential to plan every detail in advance	234	43.5%	138	25.7%	108	20.1%	58	10.8%
I am concerned about my incontinence getting worse with age	202	37.5%	116	21.6%	136	25.3%	84	15.6%
I have a hard time getting good because of my incontinence	228	42.4%	136	25.3%	106	19.7%	68	12.6%
I worry about being embarrassed or humiliated because of my incontinence	258	48.0%	100	18.6%	122	22.7%	58	10.8%
I avoid hugging others because of my incontinence	306	56.9%	118	21.9%	94	17.5%	20	3.7%
My incontinence makes me feel like I'm not a healthy person	256	47.6%	130	24.2%	104	19.3%	48	8.9%
My incontinence makes me feel helpless	286	53.2%	128	23.8%	86	16.0%	38	7.1%
I get less enjoyment out of life because of my incontinence	290	53.9%	106	19.7%	92	17.1%	50	9.3%
I worry about not being able to get to the toilet on time	206	38.3%	128	23.8%	126	23.4%	78	14.5%
I feel no like I have no control over my bladder	188	34.9%	132	24.5%	154	28.6%	64	11.9%
I have to watch what I drink because of my incontinence	206	38.3%	138	25.7%	116	21.6%	78	14.5%
My incontinence limits my choice of clothing	270	50.2%	108	20.1%	106	19.7%	54	10.0%
I worry about having sex because of my incontinence	290	53.9%	102	19.0%	84	15.6%	62	11.5%

The number who chose the answer is represented as Number (N) and %.

Figure 1 shows the overall quality of life among women with urinary incontinence in Alahsa, Saudi Arabia. About 214 (39.8%) had an overall sound quality of life level, 174 (32.3%) had an average quality of life, and 150 (27.9%) had a

poor quality of life due to incontinence. The overall quality of life score ranged from 10 to 100, averaging 65.9 ± 25.1 out of 100. Figure 1 represents the category of quality-of-life N (%)

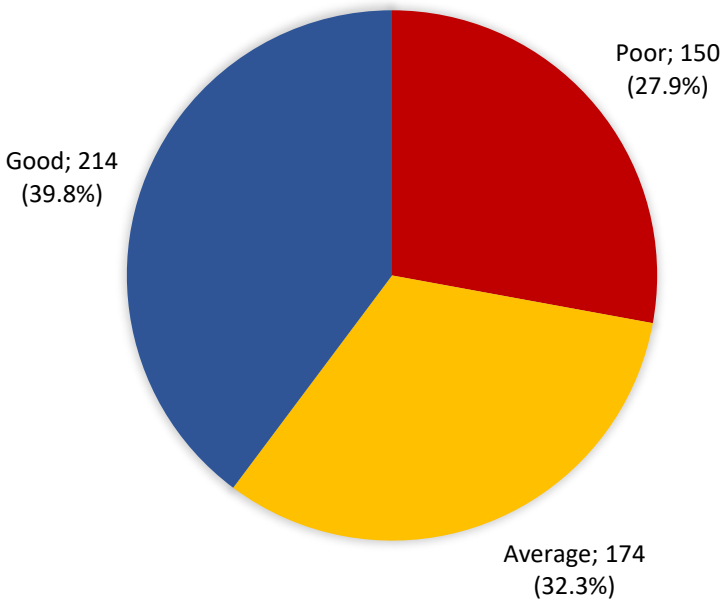

Figure 1 Overall quality of life level of women with urinaryincontinence in the eastern region, Saudi Arabia

Table 3 shows factors associated with quality of life among women with urinary incontinence in Alahsa, Saudi Arabia. An exact 54.5% of women aged more than 45 years had poor QoL compared to 19.6% of others aged less than 26 years with recorded statistical significance (P =.001). Also, 50% of divorced or widowed women had poor QoL due to UI compared to 23.2% of single women (P =.015). Likewise, 35% of low-educated women had poor QoL versus 29.1% of university-graduated women (P =.004). Additionally, poor quality of life was detected among 34.7% of working women compared to 24% of non-working groups (P =.018).

Table 3 Factors associated with the quality of life of women with urinary incontinence in the eastern region, Saudi Arabia

Personal data	Quality of life						p-value
	Poor		Average		Good		
	No	%	No	%	No	%	
Age in years							
18-25	40	19.6%	64	31.4%	100	49.0%	0.001*
26-35	22	17.7%	42	33.9%	60	48.4%	
36-45	40	32.8%	48	39.3%	34	27.9%	
> 45	48	54.5%	20	22.7%	20	22.7%	
Marital status							
Single	46	23.2%	60	30.3%	92	46.5%	0.015*$
Married	90	28.8%	108	34.6%	114	36.5%	
Divorced / widow	14	50.0%	6	21.4%	8	28.6%	
Educational level							
Below secondary	14	35.0%	20	50.0%	6	15.0%	0.004*
Secondary / diploma	48	24.5%	70	35.7%	78	39.8%	
University / above	88	29.1%	84	27.8%	130	43.0%	
Do you have a job?							

Yes	68	34.7%	62	31.6%	66	33.7%	0.018*
No	82	24.0%	112	32.7%	148	43.3%	

P: Pearson X2 test #: Exact probability test * P < 0.05 (significant)

4. DISCUSSION

Our study aimed to assess UI's impact on women's QoL in the eastern region of Saudi Arabia. A total of 538 eligible women with UI were included in the study, with an age range of 18 to more than 45 years and a mean age of 33.1 ± 11.3 years old. Approximately 36.4% of women were employed, with most participants being married (58%) and most having at least a secondary level of education (92.5%). The results indicated that women with UI in the eastern region of Saudi Arabia experienced various challenges that negatively affected their QoL. A substantial number of participants (69.5%) reported the importance of frequent toilet trips. This finding suggests that UI may significantly affect women's mobility and independence, leading to interruptions in their daily activities and lifestyle (Aoki et al., 2017). A proportion of 65.4% of the participants expressed concerns about experiencing urinary leakage during activities such as coughing or sneezing.

This result is consistent with that of previous research, which indicates that SUI is a prevalent type of incontinence among women and can significantly impact their confidence and social interactions (Sensoy et al., 2013). Additionally, 65% of the participants reported feeling a lack of control over their bladders. This feeling of loss of control may lead to emotional distress and anxiety among affected women, as they may constantly worry about potential accidents or being unable to manage their condition effectively. Furthermore, the study found that a significant number of women (63.9%) felt embarrassed discussing their incontinence with others. This emotional aspect reflects the social stigma associated with UI, which can lead to isolation and a reluctance to seek help or support (Southall et al., 2017). The results also showed that a considerable proportion of women (63.6%) worried about the availability of toilets in new places.

This concern may influence their participation in social activities and travel, limiting their overall engagement in various aspects of life. Moreover, 62.5% of the participants worried about their incontinence worsening with age, highlighting the long-term impact on their health and well-being. Such concerns might lead to heightened anxiety and a diminished sense of control over their future. In terms of coping strategies, 43.1% of women reported avoiding hugging others because of their incontinence. This finding indicates that UI affects the physical aspect and has implications for personal relationships and intimacy (Corrado et al., 2020). Similarly, a notable proportion of women (46.1%) worried about engaging in sexual activities owing to their incontinence. This finding is consistent with that of other studies that have shown how UI can negatively impact sexual function and satisfaction among women (Chu et al., 2015).

A proportion of 46.1% of the participants experienced reduced enjoyment of life due to incontinence. This decrease in life satisfaction suggests that UI has a significant psychological and emotional toll on affected women, reducing their overall well-being and QoL. The encouraging finding is that approximately 40% of women with UI in the eastern region of Saudi Arabia reported an excellent overall QoL. It suggests that many individuals with this condition have adapted well and maintained a satisfactory QoL despite experiencing UI. These women may have developed effective coping mechanisms, sought appropriate medical treatment, or engaged in lifestyle adjustments contributing to their positive well-being (Anders, 2000). On the other hand, it is concerning that more than a quarter of the participants (27.9%) reported poor QoL owing to UI. This highlights the substantial impact of the condition on the physical, psychological, and social aspects of these women's lives.

UI can lead to embarrassment, reduced social interactions, and limitations in daily activities, which might contribute to a lower QoL score in affected individuals (Biswas et al., 2017). The average QoL score was 65.5 ± 25.1 out of 100, indicating a moderate overall QoL level among the participants. This suggests that although many women have adapted well, a considerable proportion still face challenges managing their condition and maintaining a satisfactory QoL. The comprehensive standard deviation also indicates significant variability in QoL scores among the participants, signifying UI's diverse experiences and impacts on individuals. Other factors that impacted the QoL were marital status, education level, and work. A proportion of 54.5% of women above 45 years old had poor QoL compared to 19.6% of those aged less than 26 years with poor QoL.

This finding is consistent with other studies, which found a strong correlation between UI and advancing age (Agarwal and Agarwal, 2017; Lasserre et al., 2009). However, this conclusion contrasts with other studies, which showed that QoL was lower for younger age groups (18 to 44 years), but it got better as you got older (Patrick et al., 1999). In addition, poor QoL was reported by 35% of women with limited education, compared to 29.1% of women with university degrees. Further, 34.7% of working women and 24% of non-working women reported having an impaired QoL. Personal characteristics such as marital status, employment status, and literacy have little impact on the frequency of UI (Agarwal and Agarwal, 2017).

This study has several limitations. First, its cross-sectional design hinders the establishment of causal relationships between age, education level, employment status, and QoL of women with UI. Second, potential recall bias may have affected the accuracy of the data, as participants self-reported their QoL and personal Information. Additionally, the study's sample may need to be more representative of the diverse population of women with UI, potentially limiting the generalizability of the findings. Moreover, relying on self-report measures could introduce response bias, further impacting the validity of the results.

5. CONCLUSION

UI significantly impacts the QoL of women in the eastern region of Saudi Arabia. Nearly 40% of women reported having a good QoL, whereas 32.3% had an average QoL, and 27.9% had a poor QoL due to incontinence. The study also found that factors such as younger age, higher education level, and employment status were positively associated with better QoL, while older age, lower education level, and unemployment were negatively associated with the poorer QoL of these women. The results of this study underscore the need for effective interventions to improve the QoL of women with UI in the eastern region of Saudi Arabia.

Healthcare workers can use these findings for targeted interventions that meet the needs of women with UI in the area. For instance, education and awareness programs may be particularly beneficial for women with limited education or those unemployed. Behavioral interventions could be helpful for women with mild to moderate UI, while pharmacological or surgical interventions may be necessary for women with more severe UI. By addressing this issue, healthcare professionals can help improve women's experience with UI and promote better health outcomes for all women in the region.

Additional Information Disclosures

Human subjects: Every person in this study consented, or it was declined. KFU-REC-2023-FEB-ETHICS58 has received permission from King Faisal University. The Research Ethics Committee at King Faisal University provides the protocol with its ethical approval after reviewing the Information the applicant supplied on the research above study.

Animal participants: Every author has attested that neither tissue nor animal participants were used in this investigation.

Disputes involving interests: According to the ICMJE uniform disclosure form, each author certifies Information about payments and services. Every author stated that no organization provided financial support for their submitted work.

Financial ties: Every author has declared that they have no economic ties to any organizations they may have in the past three years or at this time.

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Conflict of interest

The authors declare that there is no conflict of interests.

Data and materials availability

All data sets collected during this study are available upon reasonable request from the corresponding author.

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