Quality of Life in Patients with Urinary Incontinence: A Cross Sectional Study

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Abstract

Introduction: Urinary incontinence in women severely affects the physical, social and psychological aspects of life.

Methods: A cross-sectional, observational study was conducted. All non-pregnant women ≥21 years of age, attending the Gynecology OPD of a tertiary care hospital were included. After obtaining written informed consent, demographics, relevant medical and surgical history were noted. A validated 'Incontinence Quality of Life Questionnaire' (IQOL) and SF-36 were administered.

Results: The overall incidence of incontinence in this population was 17.0%, with a steadily rising incidence by age. The incidence was more in postmenopausal than premenopausal women. Menopausal women, compared to non-menopausal women, also had significantly higher incontinence Quality of Life scores (median of 5 vs. 3; p=0.001). Scores were studied. Items determining avoidance and limiting behavior and psychosocial impact had high correlation coefficients. But among the items determining social embarrassment, two items had no significant relationship with social embarrassment. Total Incontinence Quality of Life Questionnaire had significant relationship with all the items except one item of psychosocial impact and one item of social embarrassment. Incontinence Quality of Life Questionnaire mean scores with different domains of SF-36 questionnaire showed inconsistent correlation.

Conclusion: Urinary incontinence affects a large number of women and adversely affects the quality of life.

Keywords: Urinary incontinence, quality of life, SF36, psychology.

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Introduction

The process of urination is adapted in early childhood as an essential social behavior. Social and cultural norms demand that the act of urination be performed in private. Any degree of urine leakage or incontinence that compromises these norms results in discomfiture and initiates a social problem, as urine leakage may be associated with severe

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consequences on the mental well-being of women, feeling of alienation, depression or isolation, and may also adversely affect the personal and professional relations of women.[1]

The International Continence Society (ICS) in the year 1976 defined incontinence as "the involuntary loss of urine that is a social hygienic problem". To be termed as incontinence, the urine leakage has to typically occur in the absence of urinary tract infection. The terms 'social' and 'problem' in the definition highlight the compromise in quality of life that individuals who suffer from this problem have to make. In order to facilitate survey, the ICS has provided a simpler definition of incontinence i.e. "the complaint of any involuntary loss of urine". As per this definition, more than half the women above 20 years of age have reported one or more episodes of incontinence.[1]

The four main types of urinary incontinence are urge, stress, mixed, and functional incontinence. The clinical features of the various types of incontinences somewhat overlap, but each type has certain discrete features. Urge incontinence is characterized by the involuntary leakage of urine accompanied by or immediately preceded by urgency. Stress incontinence is associated with urine leakage that occurs as a result of increased abdominal pressure from laughing, sneezing, coughing, climbing stairs, or other physical stressors on the abdominal cavity and, thus, the bladder. It is the most common type of urinary incontinence in younger women, but the incidence is highest in women between 45 and 49 years of age. Mixed incontinence is a combination of urge and stress incontinence, marked by involuntary leakage associated with urgency and also with exertion, effort, sneezing, or coughing. Functional incontinence is the inability to hold urine due to reasons other than neuro-urologic and lower urinary tract dysfunction (e.g., delirium, psychiatric disorders, urinary infection, reduced mobility).[2]

Because of anatomical differences like short urethra, more chances of recurrent UTI and also because of pregnancy-childbirth or hysterectomy related injuries; urinary incontinence is more prevalent in women. Urinary incontinence is estimated to affect 200 million people worldwide. The exact prevalence of urinary incontinence in women is not available because of underreporting. But it is estimated to be as high as 55%.[3]

Urinary incontinence is associated with disturbance in day to day activities, sleep, sexual functions and also causes psychological problems. There are multiple facets of urinary incontinence that have the potential to affect health-related quality of life, because both evaluation and treatment may alter quality of life. The disorder may affect emotional and social facets and may also have an impact on activities of daily living and role fulfillment. Because there is a lack of data on the exact prevalence and quality of life in women with urinary incontinence, it was decided to conduct a cross sectional survey about Quality of life (QOL) in women with urinary incontinence in women attending a tertiary care hospital.

Methods

The study is a cross-sectional, observational study conducted in the Gynecology out-patient department (OPD) at King Abdullah University Hospital, Jordan University of Science and Technology, from September, 2012 to September, 2013.

Ethics Committee permission was obtained prior to commencement of the study. Written

informed consent was obtained from all the women prior to their inclusion in the study.

All non-pregnant women ≥ 21 years of age, attending the Gynecology OPD of King Abdullah University Hospital for various complaints were included in the study. After obtaining written informed consent, demographics, relevant medical and surgical history were noted. They were then administered a validated questionnaire 'Incontinence Quality of Life Questionnaire' (IQOL) by the same medical person. SF-36, a commonly used general QOL questionnaire was also administered to the women concurrently with IQOL.

The IQOL was divided into 3 subscales with a total of 22 items pertaining to the symptoms of urinary incontinence:

1) Avoidance and limiting behavior (ALB)
2) Psychosocial impact (PSI)
3) Social embarrassment (SE)

Each item was scored on a 5-point Likert scale of 0 (not at all) to 4 (extremely). A mean score for each subscale was calculated (averaging the scores for the items in each subscale) as well as a total score for all 22 items (sum of all subscale scores). The scores were transformed to a 'Scale score' ranging from 0-100 points for ease of interpretation: Scale score= (sum of the items – lowest possible score)/possible raw score range X 100.

For Interpretation of IQOL, higher scores indicated less impact of urinary incontinence on quality of life.

(Minimally Important Difference) MID was approximately 4 points when defined as that corresponding to a small effect size (0.2 SD at baseline) and approximately 11 points when defined as corresponding to a medium effect size (0.5 SD at baseline).

The IQOL questionnaire was translated into Arabic language, and depending upon the language that the woman was best comfortable with, either English or Arabic, the questionnaire was provided.

For statistical analysis, categorical variables were described using frequencies and percentages; continuous variables were described using range, mean and standard deviation (SD) if normal, and range, median, and inter-quartile range (IQR) if not. Comparison of groups and categorical variables (cross-tabulation) was conducted using Chi square if the variable was binomial or multinomial and gamma/Kendall's tau b if ordinal. Comparison of continuous variables (non-normal) was conducted using Mann-Whitney U test. An α of 0.05 was considered statistically significant. All statistical analysis was conducted using IBM SPSS Statistics 19.0 (IBM, Chicago, IL) using 2-tailed tests.

No formal sample size was calculated for this study. All non-pregnant women visiting the Gynecology OPD were sequentially enrolled in the study.

Results

The overall incidence of incontinence in this population was 17.0%, with a steadily rising incidence by age (Table 1). The differences were statistically significant (Kendall's tau b: 0.264; gamma=0.546; $p=4.1 \times 10^{-12}$). The incidence of incontinence was more than twice as much in menopausal women compared to non-menopausal women (27.2% vs. 12%; Table 2; $p=8.0 \times 10^{-6}$).

Table 1. Incidence of incontinence by age

Incontinence	Age (%)				Total
	≤ 30	31-40	41-50	> 50	
Yes (% of column total)	8 (4.6)	18 (12.9)	31 (23.5)	37 (33.9)	94 (17)
No (% of column total)	165 (95.4)	122 (87.1)	101 (76.5)	72 (66.1)	460 (83)
Total (% of row total)	173 (31.2)	140 (25.3)	132 (23.8)	109 (19.7)	554 (100)

Table 2. Incidence of incontinence by menopausal status

		Incontinence		Total
		No	Yes	
Amenorrhea	No	330 (88.0%)	45 (12.0%)	375
	Yes	131 (72.8%)	49 (27.2%)	180
Total		461	94	555

Total QOL incontinence score for all subjects (excluding "how do you feel about yourself" and women reporting of QOL because these are reverse scales compared to all other questions) was a non-normal variable: median: 3.0; range: 0-66 (maximum possible score=76); IQR (inter-quartile range): 10.

There was a high statistically significant difference between incontinence QOL score depending on whether subjects had incontinence or not: median: 22 vs. 2 (n=90 and 446); p=4.6 x 10-32. Although there was a trend toward a lower incontinence QOL score for those subjects aged 30 years or less, the differences between groups were not significant (Figure 1).

Menopausal women compared to non-menopausal women also had significantly higher IQOL scores (median of 5 vs. 3; p=0.001). However, when analysis was restricted to those subjects with incontinence, there was no difference in IQOL score (median=22) for those women who were menopausal versus non-menopausal.

Women reported QOL score was not statistically different with regard to presence or absence of incontinence: median=2, mean=2.17; no incontinence: median=2, mean=2.35). Likewise, there was even less difference by menopause status. However, respondents scored quite differently when they were asked whether they felt good about themselves; for incontinent subjects their mean/median scores were 1.87/2.0 compared to non-incontinent subjects whose scores were 2.31/3.0. This difference was statistically significant (p=0.003).

Fifty two out of 94 women who had urinary incontinence were assessed for ALB, PSI and SE due to urinary incontinence. The results are provided in Table 3, Table 4 and Table 5 respectively.

When ALB due to urinary incontinence was assessed, the item 'I have difficulty getting a good night's sleep because of my incontinence' had the maximum mean of 1.79, with SD of 1.14 and the item 'I worry about coughing/sneezing because of my incontinence' had the least mean of 1.5 with SD of 0.828.

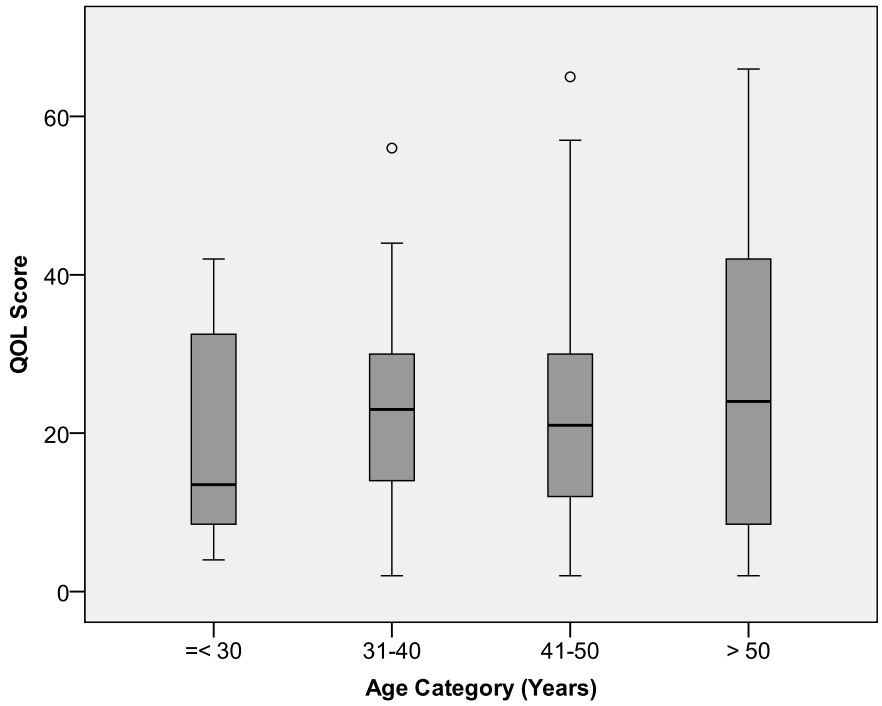

Figure 1. Quality of Life score by age group

Table 3. Avoidance and limiting behavior results

	N	Range	Mean ± SD
I worry about not being able to get to the toilet on time	52	1-4	1.73±0.992
I worry about coughing/sneezing because of my incontinence	52	1-4	1.50±0.828
I have to be careful standing up from sitting	52	1-4	1.62±0.932
I worry about where toilets are in new places	52	1-4	1.46±0.803
It's important for me to make frequent trips to the toilet	52	1-4	1.52±0.918
It's important to plan every detail in advance because of my incontinence	52	1-5	1.62±0.013
I have difficulty getting a good night's sleep because of my incontinence	52	1-5	1.79±1.143
I have to watch how much I drink because of my incontinence	52	1-5	1.63±1.103

Table 4. Psychosocial impact results

	N	Range	Mean ± SD
I feel depressed because of my incontinence	52	1-5	1.83±1.264
I don't feel free to leave home for long periods because of my incontinence	52	1-5	1.71±1.210
I feel frustrated because my incontinence prevents me doing what I want	52	1-5	1.71±1.091

Table 5. Social embarrassment results

	N	Range	Mean ± SD
I worry about having sex because of my incontinence	52	1-4	1.42±0.801
I worry about others smelling urine on me	52	1-5	1.73±1.239
I worry about my incontinence getting worse as I get older	52	1-5	1.73±1.239
I worry about being embarrassed or humiliated by my incontinence	52	1-5	1.96±1.427
I worry about wetting myself	52	1-5	1.81±1.299
I feel I have no control over my bladder	52	1-4	1.60±0.934

Table 6. Correlation between individual items and total scores of Avoidance and limiting behavior (ALB), Psychosocial impact (PSI), Social embarrassment (SE) and total Quality of Life (QOL)

	ALB	PSI	SE	Total QOL
Avoidance and limiting behavior (ALB)				
I worry about not being able to get to the toilet on time	0.476**	0.477**	0.029	0.420**
I worry about coughing/sneezing because of my incontinence	0.431**	0.299*	0.104	0.355**
I have to be careful standing up from sitting	0.419**	0.255	0.331*	0.423**
I worry about where toilets are in new places	0.553**	0.474**	0.273	0.551**
It's important for me to make frequent trips to the toilet	0.566**	0.197	0.093	0.366**
It's important to plan every detail in advance because of my incontinence	0.575**	0.284*	0.310*	0.494**
I have difficulty getting a good night's sleep because of my incontinence	0.570**	0.147	0.054	0.330*
I have to watch how much I drink because of my incontinence	0.515**	0.205	0.155	0.372**
Psychosocial impact (PSI)				
I feel depressed because of my incontinence	0.139	0.130	0.158	0.180
I don't feel free to leave home for long periods because of my incontinence	0.191	0.425**	0.094	0.301*
I feel frustrated because my incontinence prevents me doing what I want	0.289*	0.646**	0.162	0.465**
My incontinence is always on my mind	0.198	0.568**	0.521**	0.538**
My incontinence makes me feel unhealthy	0.170	0.413**	0.444**	0.429**
My incontinence makes me feel helpless	0.257	0.493**	0.079	0.352*
I get less enjoyment out of life because of my incontinence	0.405**	0.617**	0.069	0.465**
My incontinence limits my choice of clothing	0.434**	0.427**	0.101	0.410**
I worry about having sex because of my incontinence	0.221	0.255	0.695**	0.486**
Social embarrassment (SE)				
I worry about others smelling urine on me	0.136	0.277*	0.720**	0.468**
I worry about my incontinence getting worse as I get older	0.231	0.241	0.720**	0.494**
I worry about being embarrassed or humiliated by my incontinence	0.130	0.209	0.738**	0.445**
I worry about wetting myself	0.207	0.298*	0.259	0.321*
I feel I have no control over my bladder	0.122	0.155	0.024	0.128
* Correlation is significant at the 0.05 level (2-tailed).				
** Correlation is significant at the 0.01 level (2-tailed).				

Table 7. The comparisons of IQOL mean scores with different domains of SF36 questionnaire

Domains of SF-36	ALB	PSI	SE
Physical functioning	0.092	0.161	0.042
Physical role	0.328*	0.268	-0.025
Bodily pain	-0.085	0.164	.317*
General health	0.186	0.008	-.418**
Vitality	0.006	-0.181	-.469**
Social functioning	-0.089	-0.096	-0.177
Role emotional	-0.219	-.320*	-0.059
Mental health	0.034	-0.152	0.085
PCS	0	-0.044	-0.134
MCS	0.08	0.046	-0.214

When PSI due to urinary incontinence was assessed, the item 'My incontinence makes me feel helpless' had the maximum mean of 1.83 with SD of 1.279 and item 'I get less enjoyment out of life because of my incontinence' had the least mean of 1.42 with SD of 0.801.

The results are given in Table 4

When SE due to urinary incontinence was assessed, it was observed that the item 'I worry about being embarrassed or humiliated by my incontinence' had the highest mean of 1.96 with SD of 1.427 and item 'I feel I have no control over my bladder' had the least mean of 1.6 with SD of 0.934. The results are given in Table 5.

As observed in Table 6, the items determining ALB had high correlation coefficient with total ALB and all of them were statistically significant. Among the items determining PSI, all the items except two items had statistically significant correlation with mean PSI. But among the items determining SE, two items had no significant relationship with SE. Total QOL had significant relationship with all the items except one item of PSI and one item of SE.

The comparisons of IQOL mean scores with different domains of SF36 questionnaire are presented in Table 7.

Discussion

There is an increasing prevalence of bladder control problems as the world population ages. Simultaneously, there is increasing attention to maintaining an active lifestyle. Treatment of urinary incontinence includes options such as pelvic floor exercises, vaginal devices, oral medications, peri-urethral bulking agents, Botox injections into the bladder, and surgery. The medical and surgical management available for the treatment of urinary incontinence poses an economic burden, with poor women satisfaction.[3-4] This further adds to the poor quality of life in women.

The Fourth ICI has stressed the importance of initial assessment of quality of life in patients of urinary incontinence.[5] Most women with urinary incontinence decide to seek treatment due to the adverse impact of incontinence on the QOL. Disease specific QOL questionnaires provide a standard method of assessing the impact of symptoms of urinary incontinence on QOL of women.

Urinary incontinence is more common in women than in men, due to more exposure to pelvic trauma during child-birth.[2] Age is the single largest risk factor for urinary incontinence. An important finding of this

study is that the incidence of incontinence showed a steady rise with age and was higher in menopausal women. This corroborates with the epidemiology of urinary incontinence, where the prevalence is reported to be 6.9% in women aged 20-39 years, 17.2% in those aged 40-59 years, 23.3% in those aged 60-79 years, and 31.7% in women older than 80 years of age.[6]

The results of women reported QOL suggest that while subjects may not feel that their quality of life is impacted by incontinence when asked to assess QOL, but it does nevertheless affect them in terms of how good they feel about themselves.

The IQOL is a widely recommended scale. Among other populations, the scale has been shown to be reliable, valid, and responsive to change. No ceiling effects have been reported. The questionnaire is easy to understand and poses little respondent burden. However, the assessment cannot be completed by proxy.[4]

Our study provides symptom specific QOL outcomes for urinary incontinence. The three domains of IQOL viz. ALB, PSI and SE showed that urinary incontinence affects the QOL of women. These effects could be especially bothersome in younger women where incontinence has been shown to severely affect the emotional behavior and recreation and pastimes in younger women.[7] Moreover, it has been found that women with moderate to severe urinary incontinence may develop clinical depression requiring drug treatment.[8]

In our study, barring a few, most items of IQOL individually correlated with the total subscale/domain scores, and also with the overall QOL. The items of SF-36 correlated poorly with the domains of IQOL, indicating that a disease specific questionnaire must be used to assess health related QOL in women with symptoms of urinary incontinence.

In conclusion, urinary incontinence affects a large number of women and adversely affects their QOL. Due to the lack of self-reporting, detection is inadequate. Disease specific self-reported questionnaires can help assess the impact of symptoms of urinary incontinence on QOL.

References

1. Abrams P. Impact of stress urinary incontinence on quality of life. Advanced studies in Medicine; 3 (8E): 2003; S829-S833.
2. Vasavada SP. Urinary incontinence. Accessed 29 November 2014. http://emedicine.medscape.com/article/452289-overview#a0156.
3. Wood LN, Anger JT. Urinary incontinence in women. BMJ. 2014; 349-4531.
4. Incontinence Quality of Life Questionnaire. Accessed 29 November 2014. http://www.scireproject.com/outcome-measures-new/incontinence-quality-of-life-questionnaire-i-qol.
5. Abrams P, Cardozo L, Khoury S, Wein A .Incontinence, 4th ed. Health Publication Ltd., Paris. 2014.
6. Nygaard I, Barber MD .Prevalence of Symptomatic Pelvic Floor Disorders in US Women, JAMA. 2008; 300: 1311-1316.
7. Hunskaar S, Vinsnes A. The quality of life in women with urinary incontinence as measured by the sickness impact profile. J Am Geriatr Society. 1991; 39: 378-82.
8. Melville JL, Delaney K, Newton K, Katon W .Incontinence severity and major depression in incontinent women. Obstet Gynecol. 2005; 106: 585-92.

الرخاء الاجتماعي لدى مرضى السلس البولي في الاردن: دراسة إحصائية

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الملخص

السلس البولي لدى السيدات يؤثر بشكل كبير على صحتهم النفسية والجسدية والاجتماعية

طرق وأسلوب الدراسة: دراسة إحصائية حيث تم دراسة النساء غير الحوامل فوق سن 21 سنة ممن قمن بزيارة عيادة النسائية في مستشفى تحويلي للمنطقة.

تم أخذ الموافقة من جميع المريضات ومن ثم تسجيل العمر ومكان السكن والسيرة المرضية ووجود أية أمراض أو جراحة.

تم تعبئة نموذج الرخاء الحيا تي للمرضى.

A validated 'Incontinence Quality of Life Questionnaire' (IQOL) and SF-36 were administered.

النتائج: لقد أظهرت الدراسة أن نسبة 17% من المريضات كن يعانين من السلس البولي. وأظهرت الدراسة تزايدا في النسبة مع العمر وبالذات بعد انقطاع الدورة مما كان لهه من خلال النتائج الأثر الواضح على تغير الرخاء في الحياة عند تحليل (median of 5 vs. 3; p=0.001).

كما أظهرت النتائج ان الرخاء تأثر بكل العوامل المدروسة ما عدا واحدة من العوامل النفسية وواحدة اجتماعية حيث أظهرت عدم توافق في النتائج.

النتيجة النهائية: يؤثر السلس البولي على عدد كبير من السيدات مما له الأثر الكبير على طبيعة ورخاء الحياة التي تعيشها هذه السيدات.

الكلمات الدالة: السَّلَس البولي، جودة الحياة، الصحة النفسية.