Impact of Stress Urinary Incontinence and Overactive Bladder on Quality of Life in Thai Women Attending the Urogynecology Clinic

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Objective: *To investigate the impact of stress urinary incontinence (SUI) and overactive bladder (OAB) on the quality of life (QOL) using disease specific health-related QOL questionnaire.*
Material and Method: *Three hundred and nineteen women with SUI and/or OAB, attending the urogynecolgy clinic, Ramathibodi Hospital were recruited in the present study. Information on QOL was collected, using the Thai version of modified incontinence-specific quality of life questionnaire (I-QOL) and short form incontinence impact questionnaire (IIQ-7).*
Results: *In 319 cases, the diagnosis of SUI, OAB, and both were 55 cases, 78 cases, and 186 cases, respectively. There was no statistically significant difference in patients' characteristics in three groups. The patients with both SUI and OAB showed significantly lower scores in all domains of I-QOL than the SUI and OAB groups, whereas QOL, assessed by IIQ-7, showed significant impairment in the combined SUI and OAB group, only in the emotional health domain.*
Conclusion: *Stress urinary incontinence and overactive bladder have a detrimental impact on patient health-related QOL. Women with a combination of SUI and OAB have the greatest impairment in QOL.*

Keywords: *Quality of life, Stress urinary incontinence, Overactive bladder*

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Urinary incontinence is defined by the International Continence Society (ICS) as the complaint of any involuntary leakage of urine. It may be considered as a symptom, a sign, or an urodynamic condition[1]. It is a devastating condition that affects 10 to 40% of females in the general population[2,3] and may be classified as stress urinary incontinence (SUI, involuntary urine leakage that occurs with effort or exercise, or when sneezing or coughing), urge urinary incontinence (UUI, involuntary urine leakage accompanied by or immediately preceded by urgency) and mixed urinary incontinence (MUI, the complaint of urine leakage associated with urgency and also with exertion, effort, sneezing or coughing)[1]. Overactive bladder (OAB) is a syndrome of symptoms defined by the ICS as urgency, with or without urge incontinence, usually with frequency and nocturia[1]. Although urinary incontinence is not life threatening, symptoms associated to these conditions can have a profound psychosocial, physical, and mental impact on women[4,5]. Therefore, to determine the need for health and medical care, patient-assessed quality of life (QOL) measures are essential. From the previous reports, it has been suggested that patients with different type of urinary incontinence have different quality of life impairment[5-9]. This may be explained by the difference in pathophysiology and symptoms of each type of urinary incontinence. However, few studies compared the assessment of quality of life between stress urinary incontinence and over-

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active bladder. The aim of the present study was to investigate the impact of SUI and OAB on the quality of life using disease specific health-related QOL questionnaire.

Material and Method

All women attending the urogynecology clinic, Department of Obstetrics and Gynecology, Ramathibodi Hospital, Mahidol University, Bangkok, Thailand, who had never sought medical attention for incontinence problems and were willing to participate, were recruited in the present study. Questions asked were about urinary incontinence (stress, urge, urgency, frequency within the previous 1 month), demographic data (age, marital status, occupation, etc), menopausal status, medical disease, and parity. The diagnosis of urinary incontinence and overactive bladder in the present study was based on self-reported symptoms according to the ICS definitions. To obtain a urinary incontinence specific QOL assessment, the authors administered the Thai version modified I-QOL and Thai version short form IIQ questionnaire. The modified self-administered, incontinence-specific quality of life questionnaire consists of 22 items, each with a 5-point response scale divided into three domains of related effects; i.e. avoidance and limiting behavior (eight items), psychosocial impacts (nine items) and social embarrassment (five items). The item scores were summed and then transformed to a 0 to 100 scale. A high score indicated better incontinence-specific quality of life. The short form incontinence impact questionnaire (IIQ-7) consists of seven items, covering four domains; physical activity, social relationships, travel and emotional health. Each question has a 4-point response scale. Patients were asked to rate the extent to which their urinary incontinence affects their daily functioning from 0 (not at all) to 3 (greatly). The incontinence specific QOL and short form IIQ are self-report quality of life measures specific to urinary incontinence and previously tested for validity and reproducibility [10-13]. The I-QOL and short form IIQ have been translated forward and backward. The back-translation and the original were compared and the Thai version questionnaires were validated by three gynecologists with special interest in urogynecology. They were asked to critically assess the questionnaire in terms of specificity and sensitivity of the question in the Thai language. The terminology used in the questionnaire was the language understandable by every Thai woman. Written informed consent was obtained before entering the study.

Statistical analysis

Data were coded and analyzed using descriptive statistics, which are reported as the mean and standard deviation (quantitative variables) or as the number and percentage (qualitative variables). For statistic analysis, patients were divided into patients with stress urinary incontinence (SUI), patients with overactive bladder (OAB), and those with both SUI and OAB. The statistical analysis was carried out using the one-way analysis of variance (ANOVA) for continuous data and Chi-square test for categorical data. A 5% level of significance was used throughout the present study, and all statistical tests were two-sided.

Results

Of 377 new patients attending urogynaecology clinic, 319 patients with symptoms of SUI (55 cases), OAB (78 cases) and SUI with OAB (186 cases) were recruited in the analysis. Table 1 shows the baseline characteristics of each group. There was no statistical difference in age, marital status, menopausal status, parity, occupation, and underlying disease among SUI, OAB, and SUI with OAB groups.

The overall I-QOL scores indicated that urinary incontinence had the greatest impact on avoidance and limiting behavior, and social embarrassment. There was no significant difference of I-QOL scores between the SUI and OAB groups. The group with both SUI and OAB reported significantly greater impairment in all domains than the SUI and OAB groups ($p < 0.05$) (Table 2).

Based on the IIQ-7 questionnaire, over 55% of women in the present study considered that their daily functioning was affected by urinary incontinence, in aspects of physical activity, social relationships, travel, and emotional health. However, this bothersome effect remained mostly at the mild and moderate levels. The SUI with OAB group showed more impairment in all domains than the OAB group and the SUI group, but the difference was statistically significant only in emotional health domain. Results are shown in Fig. 1.

Discussion

It has been known that both OAB and urinary incontinence symptoms cause embarrassment, reduce self-esteem, and lead to impaired emotional and psychological well being[5,14,15]. Women with these symptoms need to restrict their physical and social activity because of anxiety about wetting or leakage without an available toilet facility[16]. Because the clinical measures, such as number of incontinent episodes do not

Table 1. Patient's characteristics (n = 319)

Characteristics	SUI group (%)	OAB group (%)	SUI + OAB group (%)
Number	55 (17.2)	78 (24.5)	186 (58.3)
Age (year, mean ± SD, range)	55.5 ± 11.1, 37-85	58.5 ± 14.3, 18-83	57.3 ± 11.3, 28-80
Marital status			
- Single	5 (9.1)	7 (8.9)	11 (5.9)
- Married	35 (63.6)	46 (59.0)	128 (68.8)
- Divorced or widowed	15 (27.3)	25 (32.1)	47 (25.3)
Menopausal status			
- Pre/perimenopause	15 (27.3)	19 (24.4)	46 (24.7)
- Postmenopause	40 (72.7)	59 (75.6)	140 (75.3)
Parity			
- Nulliparity	4 (7.3)	12 (15.4)	17 (9.1)
- Multiparity	51 (92.7)	66 (84.6)	169 (90.9)
Occupation			
- Government officer	13 (23.6)	11 (14.1)	47 (25.3)
- Empleyee	5 (9.1)	12 (15.4)	18 (9.7)
- Commerce	6 (10.9)	11 (14.1)	25 (13.4)
- Housewife	31 (56.4)	44 (56.4)	96 (51.6)
Underlying disease			
- None	34 (61.8)	45 (57.7)	103 (55.4)
- Hypertension	15 (27.3)	20 (25.6)	47 (25.3)
- Diabetes mellitus	5 (9.1)	9 (11.5)	25 (13.4)
- Chronic lung disease	0 (0)	2 (2.6)	10 (5.4)
- Neurological disease	1 (1.8)	2 (2.6)	1 (0.5)

There were no statistically significant difference of all the characteristics among the groups

Table 2. Score of the I-QOL in different types of incontinence

Quality of life	Types of urinary incontinence and score			
	SUI (mean ± SD)	OAB (mean ± SD)	SUI + OAB (mean ± SD)	*p**
Total score	78.3 ± 16.5[a]	75.8 ± 17.3[a]	66.2 ± 18.6[b]	<0.001
Avoidance and limiting behavior	76.2 ± 16.4[a]	72.1 ± 17.3[a]	62.0 ± 18.1[b]	<0.001
Psychosocial impacts	82.2 ± 17.1[a]	79.1 ± 19.2[a]	72.4 ± 20.7[b]	0.002
Social embarrassment	74.9 ± 20.3[a]	76.2 ± 19.0[a]	61.5 ± 22.6[b]	<0.001

* One way analysis of variance model with Bonferroni'multiple comparison test
a,b indicate values statistically significant difference from each other

reflect an individual perspective, so the inclusion of quality of life measures in clinical practice is important for assessment psychosocial impact of incontinence. Several disease specific health-related quality of life instruments have been developed to measure incontinence specific aspects of quality of life. Currently the use of a combination of two or more questionnaires may often be necessary to obtain comprehensive information. The modified self-administered I-QOL and short form IIQ (IIQ-7) were used in the present study. The I-QOL questionnaire is a targeted condition-specific questionnaire that assesses the effect and distress of specific symptoms of urinary incontinence, whereas the IIQ-7 is a questionnaire that better assesses both impact and patient response to urge component of urinary incontinence[10-12,17]. The potential

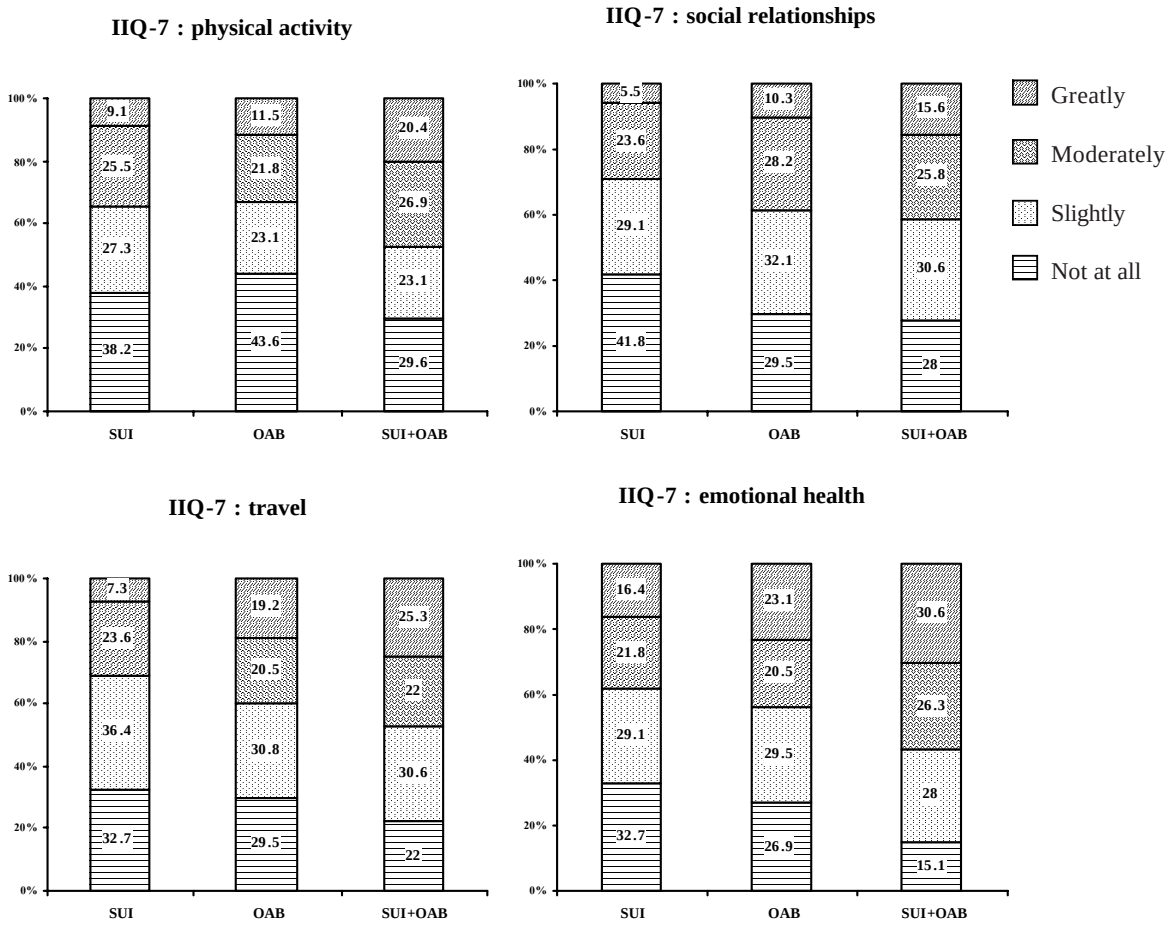

Fig. 1 Percentage of the four domains of IIQ-7, according to type of incontinence
* Statistic significant difference from others ($p < 0.05$)

advantage of these questionnaires is their applicability to patients over a range of ages and with varying severities of urinary incontinence.

As the pathophysiology and symptomatic presentation of SUI and OAB differ, this may affect health-related quality of life differently. The previous studies reported that patients with OAB often have greater quality of life impairment than those suffering from SUI[6,8,9]. A possible explanation is that women with urgency or urge incontinence cannot predict incontinence episodes and thus, have less control over their bladder symptoms, whereas those with SUI can modify their lifestyle by avoiding heavy lifting or exercise and thus, prevent situations that lead to involuntary loss of urine[6]. However, inconsistent results have also been reported[5]. In the present study, comparing the I-QOL scores between the SUI and OAB groups, the total scores were higher (less QOL impairment) in the SUI group but the difference was not statistically significant. This may be due to the influence of other factors on the QOL scores such as age, degree of symptom severity as perceived by the patient, cultural belief and individual coping abilities[18,19]. Compared to the SUI and OAB groups, women with both SUI and OAB reported significantly lower I-QOL scores for all subscale and overall. These findings can be explained by the fact that women with both SUI and OAB have a combination of the symptoms of two conditions resulting in greater QOL impairment. Considering the results from IIQ-7 the questionnaire, the SUI with OAB group have more QOL impairment followed by the OAB and SUI groups, respectively. However, the difference was statistically significant only in the emotional health domain. The present findings support that the disease

specific IIQ-7 instrument was appropriate for assessment quality of life in the OAB patients.

In general, urinary incontinence is common in elderly women, but it can occur at any age[7,20]. Findings from the present study also showed the occurrence of SUI and OAB in younger women. Moreover, people with incontinence are reluctant to consult a doctor about this condition because of embarrassment and may not express the desire for treatment unless they are asked. This may suggest that health care providers should be concerned about the incontinent problems in all women attending their annual check up.

The limitation of the present study was that subjects included in the present study were recruited from patients attending the urogynecology clinic; they were a selected group of patients whose urinary symptoms were severe enough to seek medical consultation and the incontinence classification used were based entirely on the patients' reports of symptoms; there was no urodynamic testing to confirm the type of incontinence. However, the questions used in the present study were clinically validated and are consistent with the definitions of each incontinence type set forth by the International Continence Society standardization sub-committee[1].

Conclusion

Urinary incontinence and overactive bladder have a detrimental impact on patient health-related quality of life. Women with a combination of SUI and OAB have the greatest impairment in quality of life. In clinical practice, the goal of care should be not only to reduce the number of incontinence episodes but also to improve quality of life. Health care providers need to consider the devastating impact of urinary problems on patient well-being.

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ผลกระทบของภาวะไอจามปัสสาวะเล็ด และภาวะกระเพาะปัสสาวะไวเกินต่อคุณภาพชีวิตของสตรีไทยที่มารับบริการ ที่คลินิกนรีเวชทางเดินปัสสาวะและอวัยวะสืบพันธุ์

รุจิรา วัฒนายิ่งเจริญชัย, จิตติมา มโนนัย, นัทธ์หทัย วรรณทิม, ศิริรัตน์ สฤษดิ์อภิรักษ์, เจริญศรี อิ่มสมบูรณ์, อภิชาติ จิตต์เจริญ

วัตถุประสงค์*: เพื่อศึกษาผลกระทบของภาวะไอจามปัสสาวะเล็ด และภาวะกระเพาะปัสสาวะไวเกิน ต่อคุณภาพชีวิตโดยใช้แบบสอบถามคุณภาพชีวิตด้านสุขภาพที่มีความจำเพาะต่อโรค*

วัสดุและวิธีการ*: ทำการศึกษาในสตรีที่มารับบริการคลินิกนรีเวชทางเดินปัสสาวะและอวัยวะสืบพันธุ์ โรงพยาบาลรามาธิบดีที่มีอาการของภาวะไอจามปัสสาวะเล็ด และ/หรือภาวะกระเพาะปัสสาวะไวเกิน จำนวน 319 ราย ทำการประเมินคุณภาพชีวิตโดยใช้แบบสอบถาม I-QOL และ IIQ-7 ฉบับภาษาไทย*

ผลการศึกษา*: ในกลุ่มศึกษา 319 ราย แบ่งเป็นผู้ที่มีภาวะไอจามปัสสาวะเล็ด 55 ราย, ภาวะกระเพาะปัสสาวะไวเกิน 78 ราย, และทั้งสองภาวะร่วมกัน 186 ราย ไม่พบความแตกต่างของลักษณะประชากรทั้ง 3 กลุ่ม กลุ่มที่มีทั้งภาวะไอจามปัสสาวะเล็ดและภาวะกระเพาะปัสสาวะไวเกิน มีคะแนนในทุกด้านของแบบสอบถาม I-QOL ต่ำกว่า (มีผลกระทบมากกว่า) กลุ่มที่มีภาวะไอจามปัสสาวะเล็ดหรือภาวะกระเพาะปัสสาวะไวเกินอย่างเดียว อย่างมีนัยสำคัญทางสถิติ แต่จากการประเมินโดยใช้แบบสอบถาม IIQ-7 พบว่า กลุ่มที่มีทั้งภาวะไอจามปัสสาวะเล็ด และภาวะกระเพาะปัสสาวะไวเกิน มีคุณภาพชีวิตที่ด้อยกว่าในด้านสุขภาพทางอารมณ์เท่านั้น*

สรุป*: ภาวะไอจามปัสสาวะเล็ด และภาวะกระเพาะปัสสาวะไวเกิน มีผลกระทบต่อคุณภาพชีวิตด้านสุขภาพอย่างมาก ซึ่งผลกระทบนี้จะพบมากขึ้นในผู้ที่มีภาวะไอจามปัสสาวะเล็ดร่วมกับภาวะกระเพาะปัสสาวะไวเกิน*