

Prevalence and Risk Factors of Urinary Incontinence in Thai Menopausal Women at Phramongkutklao Hospital

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Objective: To determine the prevalence and risk factors of urinary incontinence in menopausal women at Phramongkutklao Hospital.

Material and Method: The present cross sectional study was conducted in healthy women, with intact uterus and at least one ovary, attending the university hospital menopausal clinic. They had no history of pelvic mass, paralysis or using any diuretic. They completed the self-administered questionnaire regarding urinary incontinence symptoms and risks.

Results: Four hundred patients were enrolled. The prevalence of urinary incontinence was 75.3%. The prevalence of stress, urge and mixed urinary incontinence were 18.3%, 17.5% and 39.5%, respectively. Obesity was statistically significant in association with all types of urinary incontinence (OR 1.65, 95% CI 1.10-2.64) and mixed incontinence (OR 2.65, 95% CI 1.50-3.14). Previous vaginal delivery was only significantly related with mixed type (OR 2.11, 95% CI 1.17-3.55). But only 3.6% of the menopausal women had ever been treated for symptoms of urinary incontinence.

Conclusion: While the prevalence of urinary incontinence is high, the percentage of the suffering patients, seeking medical services, is low. Therefore, more attention should be paid to these treatable problems. Obesity might be the risk factor for all types of urinary incontinence, while previous vaginal delivery was suggested to be a risk factor for the mixed type.

Keywords: Prevalence, Urinary Incontinence, Thai Menopausal Women, Risk Factor

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The prevalence of urinary incontinence varies in menopausal women from 4.5% to 53.0% in different studies⁽¹⁾. In the United States of America, the cost of medical care for the urinary

incontinence of women aged 65 or more was about \$ 25.3 billion or \$ 3,565 per individual per year in 1995⁽¹⁾. Symptoms of urinary incontinence can cause hygienic, psychological and social problems which affects the quality of life^(2,3). Factors shown to increase the risk of urinary incontinence are increasing age^(1,4-10), obesity^(1,5,7,10-14), parity^(4-6,12,14), vaginal delivery^(4,5,8,10,15), diabetes

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mellitus^(5,7,12) and duration after menopause^(4,13). The role of hormone replacement therapy on urinary incontinence is controversial, some evidence shows the benefit of protective effect for urinary incontinence^(7,12,13,16-19).

There are few studies in urinary incontinence in Thai population. The reported prevalence of urinary incontinence in Thailand also varied from 16.2%⁽²⁰⁾ and 47%⁽⁴⁾ which depends on the studied populations and definition of urinary incontinence. At the Menopausal Clinic, Phramongkutklao Hospital, the prevalence and risk factors of urinary incontinence have been studied.

The objective of the present study was to determine the prevalence of urinary incontinence in women attending the Menopausal Clinic. The second objective was to study the risk factors of this problem in this population.

Material and Method

Menopausal women attending the Menopausal Clinic at Phramongkutklao Hospital from June to July 2003, who were eligible for the present study and gave consent, were asked to complete the urinary incontinence questionnaires.⁽⁴⁾ Menopausal women were defined as women with natural cessation of menstruation for a period of at least one year. Women were excluded if they were not able to complete the questionnaire, had symptoms of dysuria during the previous month or would not agree to sign the informed consent. Information regarding risk factors for urinary incontinence are age, duration after menopause, obesity, parity, mode of delivery, previous vaginal surgery, diabetes and hormone replacement therapy, especially estrogen, were recorded. Body mass index (BMI) was calculated from height and weight obtained during the present study. Obesity was defined as BMI greater than 25. Urinary incontinence was divided into three types, stress, urge and mixed. Questions about previous treatment

for urinary incontinence and knowledge that urinary incontinence can be treated at the Menopausal Clinic were included to obtain information regarding health utilization.

The needed sample size in the present study was 383, calculated from the expected population in the study from Siriraj Hospital study the prevalence of which was 47% with 5% α error⁽⁴⁾. The research protocol was approved by the Ethical Committee, Royal Thai Army Medical Department. Descriptive statistic was used to demonstrate prevalence and characters of the studied women. Chi-square was used to for the counting variables and ANOVA for continuous variable to determine factors significantly associated with urinary incontinence, these factors were then included in the logistic regression. A p-value ≤ 0.5 was considered statistical significant.

Results

A total of 400 menopausal women completed the questionnaire. Mean age of the studied women was 57.8 years, mean body weight was 58.0 kilograms as shown in Table 1. Number of patients with obesity, multipara, vaginal delivery, vaginal surgery, diabetic mellitus, and non estrogen supplement in the present study are also shown in Table 1. Prevalence of all types of urinary incontinence was 75.3%. Prevalence of stress urinary incontinence was 18.3%, urge urinary incontinence was 17.5%, mixed urinary incontinence was 39.5% for the total prevalence of 75.3% (Table 2). Age, weight, BMI and years after menopause among women with different type of urinary incontinence are shown in Table 3. Risk factors for urinary incontinence are demonstrated in Table 4. Obesity significantly increased the urinary incontinence symptoms by 65% (OR 1.65, 95% CI 1.10-2.64) and more than twice increased the mixed urinary incontinence (OR 2.65, 95% CI 1.50-3.14) (Table 5). In addition, vaginal delivery was significantly associated with mixed urinary incontinence by two

Table 1. Demographic data of the patients

Characters	N = 400 Persons		
	Mean \pm SD	Range	Number (%)
Age (years)	57.87 \pm 6.96	42-77	
Weight (kg)	58.03 \pm 8.89	39-86	
BMI (kg/m ²)	24.11 \pm 3.53	17-34.6	
Years after menopause (years)	9.04 \pm 7.11	1-37	
BMI \geq 25			155 (38.8)
Parity \geq 1			334 (83.5)
Vaginal delivery			300 (75.0)
Vaginal surgery			25 (6.3)
Diabetic mellitus			11 (2.7)
Non estrogen supplement			184 (46.0)

Table 2. Prevalence of urinary incontinence classified by type

Types of urinary incontinence	Number of Patients	%
Stress urinary incontinence	73	18.3
Urge urinary incontinence	70	17.5
Mixed urinary incontinence	158	39.5
Normal urinary symptom	99	24.7
Total	400	100

Table 3. Characteristics of women (age, weight, BMI and years after menopause) among women with different types of urinary incontinence and without symptom

Factors*	Incontinence			No Symptom N = 99	p value
	Stress N = 73	Urge N = 70	Mixed N = 158		
Age(years)	57.47 \pm 5.84	58.14 \pm 8.99	57.64 \pm 6.47	58.35 \pm 6.93	0.80
Weight (kg)	56.68 \pm 7.32	58.47 \pm 8.95	58.88 \pm 9.45	57.48 \pm 8.56	0.28
BMI (kg/m ²)	23.70 \pm 3.75	23.70 \pm 3.94	24.21 \pm 3.84	23.89 \pm 3.86	0.42
Year after menopause (years)	8.89 \pm 7.19	8.78 \pm 8.70	8.41 \pm 6.32	9.62 \pm 7.02	0.44

* Characters were presented as Mean \pm SD

Table 4. Risk factors among different type of urinary incontinence (UI)

Risk Factors	Number (%) by type of urinary incontinence				
	No Symptom	All UI*	Stress UI*	Urge UI*	Mixed UI*
BMI $>$ 25	30 (30.3)	125 (41.5)**	21 (28.8)	17 (24.3)	87 (55.1)**
Parity $>$ 1	77 (77.8)	257 (85.4)	65 (89.0)	61 (87.1)	138 (87.3)
Vaginal delivery	70 (70.7)	230 (76.4)	55 (75.3)	45 (64.3)	130 (82.3) **
Vaginal surgery	10 (10.1)	15 (5.0)	1 (1.4) **	2 (2.8)	12 (7.6)
DM	1 (1.0)	10 (3.3)	0 (0)	5 (7.1)	5 (3.2)
No estrogen supplement	46 (51.5)	138 (47.2)	24 (32.9)	42 (60.0)	73 (46.2)

*UI = urinary incontinence

**p $<$ 0.05 by Chi-square test or Fisher exact test

Table 5. Risk factors of urinary incontinence after logistic regression test

Factors	All	Stress	Mixed
	Incontinence	Incontinence	Incontinence
	OR (95% CI)	OR (95% CI)	OR (95% CI)
BMI > 25	1.65 (1.10-2.64)*	-	2.65 (1.50-3.14)*
Vaginal delivery	-	-	2.11 (1.17-3.55)*
Vaginal repair	-	0.15 (0.02-1.18)	-

*p < 0.05

times (OR 2.11, 95% CI 1.17-3.55) as shown in Table 5.

Discussion

Prevalence of urinary incontinence in menopausal women attending the Menopausal Clinic, Phramongkutklao Hospital was 75.3% which is higher than 16.2%⁽²⁰⁾ and 47%⁽⁴⁾ reported from previous studies in Thailand. This figure is also higher than 31% and 26.3% reported from Japan^(14,21), and 14-55% reported among Caucasian women^(1,5-9,12). The difference in prevalence may be due to differences in the selection of population to be studied. The present study selected women who attended the Menopausal Clinic at a tertiary teaching hospital, so the prevalence should be higher than in the general population. Prevalence of mixed urinary incontinence was also higher than 13.2%⁽²⁰⁾ and 22.9%⁽⁴⁾ found in previous reports. This may be due to low sensitivity (72%) and specificity (49%) of the questionnaire to the diagnosis of mixed urinary incontinence when compared with urodynamical diagnosis⁽²²⁾.

Reported risk factors that increase the development of urinary incontinence such as age, years past menopause, diabetes mellitus, parity and non estrogen replacement therapy were not significantly related to urinary incontinence in the present study. Obesity was found to be statistically significantly related with urinary incontinence and the mixed type which is similar to the report from Japan⁽¹⁴⁾. Previous vaginal delivery was only

significantly related with mixed type which is similar to a previous study by using urodynamics⁽¹⁵⁾. The mechanism of urinary incontinence in women with previous vaginal delivery is due to nerve and muscular damage and direct tissue disruption⁽⁵⁾. Anterior colpoperineorrhaphy decreases the risk of stress urinary incontinence marginally. This is explained by elevation and fixation of the bladder neck after anterior colpoperineorrhaphy⁽²³⁾. The risk factors uncorresponding to previous studies may be due to cross sectional study and sample size which were planned as the main objective in the present study. Further appropriate studies for risk factors were suggested.

Among the menopausal women studied, 3.6% had been treated for urinary incontinence and only 45.0% knew that treatment for urinary incontinence can be given at the Menopausal Clinic. This represents a gap between health problems and health services available. Even though the women sought care for menopause at the clinic, they did not know that urinary incontinence can also be treated. Mismatching between prevalence and treated patient is possibly due to the lack of patient and physician awareness.

Conclusion

Prevalence of urinary incontinence in menopausal women attending the Menopausal Clinic at Phramongkutklao Hospital was 75.3% which is higher than previous reports. This condition deserves attention from physicians who take care

of menopausal women. Information regarding the nature of urinary incontinence and its treatment should be made available to the public so that this condition can be managed properly.

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ความชุกและปัจจัยเสี่ยงของอาการปัสสาวะเล็ดในสตรีไทยวัยหมดประจำเดือน

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วัตถุประสงค์: เพื่อหาความชุกและปัจจัยเสี่ยงของอาการปัสสาวะเล็ดในสตรีวัยหมดประจำเดือน

วัสดุและวิธีการ: ได้ทำการศึกษาแบบภาคตัดขวางในคลินิกสตรีวัยหมดประจำเดือนของโรงพยาบาลระดับมหาวิทยาลัย ที่ยังคงมีมดลูกและรังไข่อย่างน้อย 1 ข้างอยู่ และไม่มีก้อนในอุ้งเชิงกราน, ไม่เป็นอัมพาต, และไม่มีการใช้ยาขับปัสสาวะ อาสาสมัครจะกรอกแบบสอบถามเกี่ยวกับการปัสสาวะและความเสี่ยงด้วยตนเอง

ผลการศึกษา: จากอาสาสมัครจำนวน 400 ราย พบมีความชุกของอาการปัสสาวะเล็ดถึงร้อยละ 75.3 โดยมีความชุกของอาการปัสสาวะเล็ดขณะไอ หรือจาม, การกลั้นปัสสาวะไม่อยู่, อาการปัสสาวะเล็ดแบบผสมเท่ากับ ร้อยละ 18.3, 17.5 และ 39.3 ตามลำดับ การศึกษาความเสี่ยงพบว่าความอ้วนมีความสัมพันธ์กับอาการปัสสาวะเล็ดทุกชนิด (OR 1.65, 95% CI 1.10 - 2.64) อาการปัสสาวะเล็ดแบบผสม (OR 2.65, 95% CI 1.50 - 3.14) ประวัติการเคยคลอดบุตรทางช่องคลอดจะมีความสัมพันธ์อย่างมีนัยสำคัญกับอาการปัสสาวะเล็ดแบบผสมแต่เพียงอย่างเดียวเท่านั้น (OR 2.11, 95% CI 1.17 - 3.55). แต่มีเพียงร้อยละ 3.6 ของสตรีวัยหมดประจำเดือนเท่านั้นที่เคยได้รับการรักษาอาการปัสสาวะเล็ด

สรุป: แม้ว่าความชุกของอาการปัสสาวะเล็ดจะมีมาก แต่สัดส่วนของผู้ที่มีปัญหาเหล่านี้ได้เข้าหาการบริการทางการแพทย์ยังคงน้อยอยู่ ดังนั้นปัญหาที่รักษาได้เหล่านี้ควรจะได้รับคามสนใจมากขึ้น โดยความอ้วนอาจจะเป็นปัจจัยเสี่ยงสำหรับอาการปัสสาวะเล็ดทุกชนิด ในขณะที่ประวัติการคลอดบุตรทางช่องคลอดน่าจะเป็นปัจจัยเสี่ยงของอาการปัสสาวะเล็ดแบบผสม
