

## RELATIONSHIPS BETWEEN REPRODUCTIVE HORMONES, LOWER URINARY TRACT SYMPTOMS, MENOPAUSE SYMPTOMS AND QUALITY OF LIFE AMONG A SAMPLE OF WOMEN 40 TO 60 YEARS OF AGE.

### Hypothesis / aims of study

With estrogen receptors demonstrated in the vagina, urethra, bladder and pelvic floor musculature, estrogen is known to have an important role in the function of female urogenital tract. The decline in estrogen level that is associated with menopause results in a wide range of symptoms such as vasomotor, psychological, physical and sexual symptoms. Lower urinary tract symptoms (LUTS) are also frequently reported by women around the menopause. Many studies about the impacts of menopause symptoms on quality of life (QOL) had been conducted. Studies about the impact of LUTS on QOL were limited. The aims of this study were to examine the relationships between reproductive hormones and menopause symptoms/LUTS, menopause symptoms and LUTS, and menopause symptoms/LUTS and QOL among a sample of women 40 to 60 years of age.

### Study design, materials and methods

This study was a cross-sectional study conducted at two obstetric/gynecologic outpatient departments in two hospitals in Taipei. Women who had surgical menopause, bilateral oophorectomy, menopause related to chemotherapy or radiation were excluded from this study. Other exclusion criteria included currently using oral contraceptive, pregnant, or breastfeeding. Two hundred and ninety-nine women were interviewed by a research assistant using the Greene Climacteric Scale, the LUTS subscale and the Utian Quality of Life Scale. Greene Climacteric Scale was used to measure the severities of women's menopause symptoms. Urinary incontinence (UI), increased daytime urinary frequency, urgency, nocturia, intermittent stream, hesitancy, incomplete emptying and weak urinary stream were the LUTS under investigation. The presence (1 point) or absence (0 point) of each LUTS was rated by each woman. The total LUTS score ranged from 1 to 8 was the total types of LUTS that women experienced during the preceding 12 months. The Utian Quality of Life Scale was used to measure women's total QOL as well as the QOL at 4 aspects (occupational, health, emotional and sexual QOL). Participants were also asked to provide a blood specimen (3-5 ml) to perform reproductive hormone analysis (FSH and E2 levels). Pearson correlations were used to examine the relationships.

### Results

Of the 299 women, 243 (81.3%) experienced at least one type of LUTS during the preceding 12 months. The total LUTS score ranged from 0 to 7 with a *mean* of 2.19 (*SD* = 1.70). Women with lower E2 level were more likely to experience more types of LUTS ( $p < .05$ ). Relationships between FSH and menopause symptoms/LUTS, E2 and menopause symptoms were not significant in this study. Women who experienced more severe menopause symptoms were more likely to experienced more types of LUTS ( $p < .001$ ). Women who experienced more severe menopause symptoms reported poorer total QOL ( $p < .001$ ) and poorer QOL at the 4 aspects ( $p < .01$ ) than those who experienced less severe symptoms. Women who experienced more types of LUTS also reported poorer total QOL ( $p < .001$ ), health QOL ( $p < .001$ ), emotional QOL ( $p < .001$ ) and sexual QOL ( $p < .01$ ) than women who experienced fewer types of LUTS.

### Interpretation of results

In this study, high prevalence rate of LUTS and the relationship between E2 and LUTS lead to a concern that age and menopause may affect LUTS. Relationship between menopause symptoms and LUTS was significant. Results of this study confirmed that both menopause symptoms and LUTS had negative impacts on women's QOL.

### Concluding message

For women around the menopause, health care providers need to pay attention not only on their menopause symptoms but also on their LUTS. Implementation of well-researched behavioral strategies to manage menopause symptoms and LUTS which will further improve women's QOL is essential.

### References

- Incontinence; Paris, France. Health Publication Ltd., 2005.  
Menopause (2002) 9; 402-410.  
Maturitas (1998) 29, 25-31.

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<b>Is this a clinical trial?</b>	No
<b>What were the subjects in the study?</b>	HUMAN
<b>Was this study approved by an ethics committee?</b>	Yes
<b>Specify Name of Ethics Committee</b>	Taipei Medical University, Taipei Veterans General Hospital and Chang-Gung Memorial Hospital
<b>Was the Declaration of Helsinki followed?</b>	Yes
<b>Was informed consent obtained from the patients?</b>	Yes