

EVALUATION OF THE RELATIONSHIP AMONG LOWER URINARY TRACT SYMPTOMS AND PELVIC FLOOR MUSCLE STRENGTH MEASUREMENTS AMONG WOMEN---A COMMUNITY-BASED STUDY

Aims of Study

Pelvic floor muscle (PFM) is crucial in maintaining urinary continence and provide proper pelvic organ supports. The strength of the PFM could be estimated by digital examination, perineometer, and surfaced EMG. Some studies reported the comparative reliability of pelvic floor strengths [1-3], but there is no standard recommendation for the desirable perineometric reading in related to muscle power (grade 0-5). Furthermore, the relationship between subjective lower urinary tract symptom and PFM strengths measures need to be investigated. The aim of the study was to explore the correlation between digital examination, perineometric reading and the self-reported lower urinary symptoms.

Methods

Five hundred and eighty four women who attended to the community health clinics for annual papanicolaou testing were agreed to enrolled in the study. Each participants answered a questionnaire regarding lower urinary symptoms, and followed by digital examination and perineometer by nurse practitioners who were blinded to the questionnaire responses. The PFM strengths was rated by using oxford scales and peritron 9300 was used to provided numerical reading of the PFM strengths.

Results

Among 584 subjects who completed the questionnaire, 568 did the digital examination, 362 of them finished the perineometer testing. Mean age was 53.93 (SD 0.57,30-85), Median parity was 4 (0-12), 46.3% was postmenopausal, and 78.1% of them didn't use hormone replacement therapy. The prevalence of the rates of urine leak and frequency/urgency was 32.6% and 46.7% respectively. 36.5% reported incomplete bladder emptying. Among the 568subjects, 11.8% subjects failed to performed proper PFM contractions, and only 35.6% subjects could contract their PFM normally. The correlation among different measures were listed below

	Maximal pressure	Average pressure	duration	Total symptoms
Digital muscle power	r=.553 p=0.000	r=.552 p=0.000	r=.308 p=0.000	r=.105 p=0.01

Lastly, the perineometer readings corresponding to oxford scales were

Oxford reading	0	1	2	3	4	5
mean contraction force(cm-H ₂ O)	8.29	13.84	13.94	20.413	24.73	32.84

Conclusions

This study revealed a significant prevalence rate of lower urinary tracts symptoms among community women who attended to the clinics for annual papanicolaou examination . A close relationship between digital rating PFM contraction and perineometer readings was supported. Also, there was significant correlation between self-reported symptoms and PFM contractility evaluated by digital examination (p=0.01). Both PFM measurement were reliable in assessing PFM strengths in geneal female population. Since only 35.6% of the subjects could contract their PFM normally (grade 4 or 5), assessment during annual gynecological examination may help to identify women with PFM weakness, as well as prevent further PFM function deterioration.

References

1. Comparative assessment of pelvic floor strength using a perineometer and digital examination. Br. J. Obstet Gynaecol; 107: 1007-1011
2. Evaluation of pelvic floor muscle strength using four different techniques. Int urogynecol J, 12:27-30
3. Reliability of pelvic floor muscle strength measurement in elderly incontinent women. Neurorol. Urodynam, 21: 42-47.