

## Conservative Management Award

433

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### IS PELVIC FLOOR MUSCLE EXERCISE EFFECTIVE FOR URINARY INCONTINENCE IN ELDERLY WOMEN WITH COGNITIVE IMPAIRMENT

#### Hypothesis / aims of study

Urinary incontinence (UI) is prevalent in elderly women, with a prevalence of 17% to 24% in women over the age of 65, increasing to approximately 75% in women greater than 75 years of age. Among elderly persons, UI is more prevalent in cognitively impaired patients than in cognitively intact elderly. Pelvic floor muscle exercises (PFMEs) have been a mainstay of behavioural treatment of UI. Several clinical studies and systematic reviews have concluded that PFMEs are an effective therapy for UI. However, there is little data to support the use of PFMEs in UI patients with cognitive impairment.

The aim of this study was to evaluate the effect of a comprehensive PFMEs on UI symptoms in elderly women with cognitive impairment.

#### Study design, materials and methods

A total of 150 cognitively impaired; mild cognitive impairment (MCI) or Alzheimer's disease (AD) women with UI were answered a questionnaire on UI. At the end of the questionnaire 98 agreed to participate and were enrolled in this protocol. The MCI and AD were diagnosed by a neurologist and neuropsychologist based on the National Institute of Neurological Disorders and Stroke-Alzheimer Disease and Related Disorders criteria. Exclusion criteria included having had severe dementia with behavioural disturbances, previous pelvic surgery, urinary tract infections, pelvic organ prolapse, or inability to communicate and contract the pelvic floor muscle. Patients who were previously or currently treated with anticholinergic medications or beta-3 agonists were also excluded. The institutional review board approved the study protocol, and informed consent was obtained from all patients or legal guardians in accordance with the Declaration of Helsinki. Cognitive function and behaviour symptoms were evaluated by the Mini-Mental State Examination (MMSE) and Barthel's Activities of Daily Living (ADL).

The patients were randomly divided into two groups. The PFME group (n=52) received six sessions of PFMEs with vaginal palpation and verbal feedback for 12 weeks. PFME was instructed by expert physiotherapist. This group also received education about mechanism of UI, anatomy of PFM and bladder training with urge suppression. The control group (n=46) received a brief explanation of UI and care as usual. Follow-up was scheduled for 12 weeks after the start of PFME. All patients completed International Consultation on Incontinence Questionnaire-Short Form (ICIQ-UI) and frequency volume chart (FVC) before and after treatment. Primary outcome was frequency of UI episodes measured with FVC. Secondary outcomes were other FVC parameters and ICIQ-UI scores. A paired samples t-test was used to compare the difference in UI episodes within each group. The mean UI episodes difference (baseline minus follow-up) was compared between groups using an independent samples t-test. Statistical analysis was carried out using SPSS ver.17.0 and p<0.05 was considered as statistically significant.

#### Results

Ninety eight women (66.1±4.2 years) were recruited and randomized. Ten women (19.2 %) in PFME group and six (13.0%) in control group dropped out. A total of 82 women completed the 12 weeks. There were no significant differences in variables between both groups at baseline. At 4 weeks, there were no significant differences in the number of mean UI episodes, mean micturition, maximum urgency intensity per 24 hours, mean voided volume and ICIQ-UI scores between the groups. However, at 12 weeks, the mean number of UI episodes per 24 hours decreased by 1.6 (from 3.3 to 1.7) with PFME and by 0.5 (from 3.4 to 2.9) with control (P<0.001, between groups). In addition, ICIQ-UI score and frequency improvement showed a significant difference in the PFME group compared with the control group (P=0.015, P=0.002). However, there were no significant differences in the maximum urgency intensity and mean voided volume between the groups.

#### Interpretation of results

The PFME reduced amount of UI episodes and frequency and showed ICIQ-UI score improvement in cognitively impaired UI patients.

#### Concluding message

The PFME might be considered a good option in the treatment of UI in elderly women with cognitive impairment.

#### References

1. Age Ageing. 2015 Sep;44(5):736-44

#### Disclosures

**Funding:** None **Clinical Trial:** No **Subjects:** HUMAN **Ethics Committee:** the Institutional Review Board and Ethics Committee of Kangnam Sacred Heart Hospital **Helsinki:** Yes **Informed Consent:** Yes