

EXERCISES TREATMENT TO REDUCE THE URINE LEAKAGE IN ELDERLY COMMUNITY-DWELLING JAPANESE WOMEN WITH STRESS, URGE, AND MIXED URINARY INCONTINENCE

Hypothesis / aims of study

Urinary incontinence (UI), particularly in elderly people, is considered to be an important factor for admission to a long-term care and has been associated with loss of independence, poorer quality of life, restricted social activities, and greater anxiety and social isolation. Thus, prevention and treatment of UI in its early stages are important strategies for maintaining health and independence in elderly people. However, very few randomized studies have reported the effect of pelvic floor muscle (PFM) and fitness exercises on urine leakage in women with stress, urge, and mixed UI. The aim of the present study was to determine the effects of exercise treatment on reducing urine leakage in Japanese elderly women with stress, urge, and mixed UI.

Study design, materials and methods

One hundred forty seven women aged 70 and older who reported urine leakage one or more times per month; 74 were randomly assigned to intervention and the other 73 to control. The intervention group attended an exercise class aimed at enhancing PFM and functional fitness. Duration of the exercise was 60 minutes per session twice a week for 3-month. Outcomes measures were evaluated by interview (frequency and volume of urine leakage, perceived cause of UI, impact on everyday life, etc) and functional fitness test (walking speed, adductor muscle strength, grip strength, etc) at a baseline and after 3-month exercises.

Results

Four participants (intervention group=2, control group=2) were not able to complete the trial after the randomization, due to hospitalization (n=2), fracture (n=1), and knee pain (n=1). In the intervention group, maximum walking speed ($P=0.030$) and adductor muscle strength ($P=0.013$) increased significantly after 3-month exercises, however there were no significant changes in control group. After 3-month exercise, 46.6 % (urge 40.7 %, stress 57.7 %, mixed 40.0 %) of the intervention group and 14.1% of the control group reported being continent ($Z=3.817$, $P<0.001$). According to the logistic regression model, urine leakage amount ($OR=0.18$, $95\%CI=0.04-0.71$) and compliance ($OR=4.60$, $95\%CI=1.40-7.57$) are significantly associated with the cured of UI after 3-month exercises.

Interpretation of results

These data suggest that exercise approach, which was focused on a modification of muscle strength, walking ability, and PFM may contribute to the treatment of urine leakage in elderly women with stress, urge, and mixed UI. Compliance to the exercises and urine leakage amount were the predictor variables of effectiveness in the exercise treatment.

Concluding message

Exercises treatment is equally effective against stress, urge, and mixed UI after intervention.

References

1. ICS09-64

<i>Specify source of funding or grant</i>	Research Grant from the Ministry of Health and Welfare of Japan and a Grant-in-Aid for Scientific Research B from the Japan Society for the Promotion of Science and Sanitary Products Research Foundation of the KAO Corporation.
<i>Is this a clinical trial?</i>	Yes
<i>Is this study registered in a public clinical trials registry?</i>	No
<i>What were the subjects in the study?</i>	HUMAN
<i>Was this study approved by an ethics committee?</i>	Yes
<i>Specify Name of Ethics Committee</i>	Clinical Research Ethics Committee of Tokyo Metropolitan Institute of Gerontology
<i>Was the Declaration of Helsinki followed?</i>	Yes
<i>Was informed consent obtained from the patients?</i>	Yes