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NURSING INTERVENTION TO ENFORCE THE EFFICACY OF HOME PRACTICE OF PELVIC FLOOR MUSCLE EXERCISE IN MIXED INCONTINENCE

Hypothesis / aims of study

Our previous studies randomly sampled a community-based population to evaluate the prevalence and correlates of urinary incontinence and overactive bladder. In this study, we conducted a randomized clinical trial for evaluating nursing intervention to enforce the efficacy of home practice of pelvic floor muscle exercise (PFME) in treating stress urinary incontinence and overactive bladder among this targeted population. We used symptoms and quality of life questionnaires to assess their improvement.

Study design, materials and methods

This study is a continuation of a previous survey taken on the community-based relevance of pelvic floor dysfunction. This article focuses on nursing intervention in enforcing the efficacy of home practice of PFME in treating stress urinary incontinence and storage symptoms including frequency, urgency, nocturia and urge incontinence. The Bristol Female Urinary Tract Symptoms (LUTS) Questionnaire[1] and a disease-specific questionnaire of Impact Index[2] were used for repeat measurements of changes in storage symptoms (including urinary stress incontinence) and quality of life. These questionnaires were translated into Mandarin and were readily understood and unambiguous to the target population[3] (Pearson test, r = 0.87 and r = 0.91, respectively). Eighty-eight women with mixed incontinence were recruited for this study. Each participant received an explanation about the pelvic anatomy, the function of the pelvic floor muscle, the bladder and urethra, and the use of PFME. Initially, the training courses for PFME were one hour sessions, twice a week, for four weeks. All participants received an identical homework PFME program and were instructed to practice 3 times every day. Next, we randomly grouped the participants into a control group, which included 44 participants who were asked to practice PFME at home as previously instructed, and a study group which included 44 participants who were also asked to practice the same program but their program was monitored by the same registered nurse who contacted them by telephone twice per week. All participants filled out the two questionnaires after three and six month intervals. There were 10 drop-outs in each group. The data of the trial were analyzed according to the principle of intention to treat. SAS software, version 8.0 (SAS Institute, Inc., Cary, NC), was used for the data analysis. A student t test, Chi-square test and Genmod multivariate analysis were used for analyzing characteristics, changes of symptoms, and quality of life after the PFME program in the control and study groups.

Results

Table I. Characteristics of control and study groups

	Control group, n = 34	Study group, n= 34	P value
Age (years)	52.3 ± 14.0	54.0 ± 13.6	0.625
Parity (median)	3	3	0.737
Menopause (years)	6.8 ± 10.0	7.9 ± 9.5	0.538
BMI (kg/m^2)	23.9 ± 3.3	24.9 ± 3.6	0.197
DM, n	5	8	0.539
Hypertension, n	8	9	1.00
Drop-outs, n	10	10	1.00

A student t test, Chi-square test were used for analyzing data.
A P value of less than 0.05 was considered to be a statistically significant difference.

Table II Multivariate analysis for comparing each symptom between control and study groups

Variable	Odds Ratio	95% Confidence interval	P value
Frequency	0.57	0.35-0.95	0.0303
Nocturia	0.52	0.30-0.93	0.0277
Urgency	0.73	0.45-1.17	0.1936
Urge Incontinence	0.40	0.24-0.66	0.0004
Stress urinary Incontinence	0.49	0.31-0.76	0.0017

Data were analysed using Genmod Multivariate analysis without controlling for other factors
A P value of less than 0.05 was considered to be a statistically significant difference.
OR: for comparison of presence of self-reported symptom between study vs. control group.

Interpretation of results

Symptoms such as frequency, nocturia, urge incontinence and urinary stress incontinence significantly improved in the study group compared to that of the control group. Urgency persisted in both the study and control group. Quality of life with regard to worry about leakage (odds ratio: 0.57, 95% confidence interval: 0.36~0.92) also improved in the study group.

Concluding message

Storage symptoms significantly improved in the study group who received intensive monitoring of their home practice of the PFME program through telephone check-ups conducted by the nurses. Some other items in the quality of life questionnaire also significantly changed in our study group.

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