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Title: : OUTCOME OF PELVIC FLOOR EXERCISES IN NAÏVE FEMALE INCONTINENCE - A POPULATION BASED STUDY

Aims of Study:

The aims of this study were to evaluate the results of pelvic floor exercises in a randomly recruited group of women with naïve incontinence and evaluate the treatment by comparison of three different methods for investigation of the pelvic floor: vaginal EMG, pressure and palpation.

Methods:

From a community based health questionnaire study in 10800 50-60 years old women, 6917 (64%) responded. Of the 32% who claimed they had urinary leakage at some time 60 were included in this study including a four month pelvic floor exercise (PFE) program with a total of seven visits to the hospital. Urge and mixed incontinence were grouped together as women with an urge component. The duration of incontinence symptoms was in average 5,7 years. A full history was taken and physical examination including gynecological investigation, circumvaginal surface EMG, vaginal pressure measurement, palpation of the pelvic floor muscles and pad test were performed. The situation before starting on the training program was compared with that of 28 age-matched continent controls recruited from the same study. Vaginal surface EMG was investigated with a vaginal probe connected to a Dantec Keypoint Portable EMG-equipment. For the vaginal pressure measurements a small balloon connected to a Camtech pressure transducer was used. The women had to do about ten 2 s squeezes and a single long contraction lasting 20 s. After the PFE program all investigations were repeated. The following measures were used: changes of EMG/pressure/palpation during treatment, the effect of pelvic floor exercises on female incontinence as judged from a 24 h pad test and a comparison of the effects of PFE on the groups with stress and urge, respectively, were also performed. Results are given as mean+/-SEM.

Results:

Fifty of the sixty incontinent women completed the study. The amount of urinary leakage in this group was before treatment 25,1+/-8,6 grams/24 hours and after treatment 8,6+/- 3,2 grams. Sixtyone percent of the women had 2 grams weight increase or less on the pad test (insignificant) after treatment and 39% had >2 grams leakage. All women except one reported improvement of various degrees at the end of the study; 64 % of the women were satisfied and did not want any further treatment.

The test-retest variation was tested in the incontinent group at visit 1 and 2. No significant differences were found (Figure 1). During pelvic floor exercises increasing values was seen. At the final visit the values for EMG and pressure in the initially incontinent women exceeded those for the healthy controls (Figure 1). No significant differences in vaginal EMG/pressure/palpation between women with stress incontinence and those with an urge component was seen.

Conclusions:

Women with previously untreated urinary incontinence have a significant reduction of pelvic floor function as estimated with vaginal EMG, pressure and palpation. Incontinence can be alleviated effectively in the vast majority of these women with a training program over four months. A successive normalisation of vaginal EMG, pressure and palpation findings was seen. The correlation between these three methods was excellent.

Figure 1. Vaginal EMG (μV) and pressure (cmH_2O) measurements in healthy ($n=28$) and incontinent ($n=50$) women during treatment, visit 1-7. Mean \pm SEM.

