

EFFICACY OF PELVIC FLOOR MUSCLES SELF TRAINING IN WOMEN WITH STRESS URINARY INCONTINENCE: A PILOT STUDY.

Hypothesis / aims of study

Urinary incontinence (UI) may seriously influence the physical, psychological, social well-being and quality of life (QoL) of affected individuals. Most studies reported a prevalence of any female UI in the range of 25% to 45% and a meta-analysis of 48 reports showed a slightly higher stress urinary incontinence (SUI) incidence of 49% (1). Pelvic floor muscle training (PFMT) is today considered as a key factor in the prevention and treatment of UI. But in the last years the waiting lists for hospital pelvic floor rehabilitation (PFR) were more and more growing, so it was impossible to treat quite quickly by a supervised PFMT the women with SUI. On the basis of these facts, we were obliged to modify the present organization of our traditional PFR tracks in order to satisfy the patients needs offering simple and low-cost treatments. The principal aim of this study was to investigate the feasibility and efficacy of a home pelvic floor muscle self training (PFMsT) program in community living middle age women with SUI. The secondary aim was to examine what's the best women target to suggest a PFMsT.

Study design, materials and methods

We performed a prospective cohort study. Participants in this study were 30 women complaining of SUI aged from 37 to 61 years (mean age 47,50 ± 6,30), who did not seek previous healthcare for UI. We excluded patients reporting neurological or psychiatric illness, inability to correctly contract pelvic floor muscles (PFM), genital prolapse ≥ II degree, and previous pelvic surgery. Participants were evaluated before (T0) and after one-month PFMsT (T1). During the first evaluation a complete history was collected, and ICS1-hour pad test and pubo-coccygeus test (PC test) were done. Questionnaires were used to obtain information on psychological symptomatology (using the "Symptom Checklist-90-Revised", SCL90R), the related QoL (using ICIQ-LUTSqol, a questionnaire for evaluating QoL in UI patients with particular reference to social effects), and the impact on everyday life of lower urinary tract symptoms (ICIQ-FLUTS). After collecting data, women were given two illustrative brochures: one related to the pathogenesis, the diagnostic and therapeutic procedures of UI, and the other illustrating the PFM function, and the correct mode of their activation with a illustrated simple training protocol. PFMsT effectiveness was evaluated through pad test, PC test, and QoL questionnaires (ICIQ-LUTSqol and ICIQ-FLUTS). Participant's satisfaction was finally assessed through a specific questionnaire.

Results

The participants complied with the study demands in terms of adherence to home exercises and completion of the two evaluations (T0 and T1). As shown in table 1, the assessment at T1 (using the Wilcoxon Signed Rank Test) revealed a significant decrease of urinary losses at the pad test value (P=.004), an improved pubo-coccygeus strength (P=.002), and a significant amelioration in self-reported incontinence symptoms (ICI-FLUTS incontinence) (P=.043) and related QoL (ICIQ-LUTSqol) (P=.009). Moreover, ANOVA was performed in order to analyze how many variance could be explained by independent variables such as age, education, physical activities, cesarean parturitions and menopause. We didn't find any statistically significant data showing that these variables affect the treatment. Finally, we calculated the correlation (Pearson correlation) of the scores of the used questionnaires (SCL 90R, ICIQ-FLUTS, ICIQ- LUTSqol, the learning questionnaire and the satisfaction questionnaire) with the clinical characteristics of the sample. We observed a statistically significant correlation between the profile "somatization" of psychometric questionnaire SCL 90R and the presence of low back pain (P=.013), constipation (P=.046) and previous operative deliveries (P=.042). However, we found a positive correlation between the provided learning of information and the frequency of home exercises (P=.032).

Table1- Statistical analysis comparison between before (T0) and after PFMsT (T1)

	T0	T1	(p-value)
Pad test (mean grams)	5,3	1,2	0,004
PC test (mean; range 0-3)	1,43	1,77	0,002
ICIQ-FLUTS filling (mean; range 0-16)	3,57	3,33	0,338
ICIQ-FLUTS voiding (mean; range 0-12)	1,80	1,83	0,826
ICIQ-FLUTS incontinence (mean; range 0-20)	5,87	5,33	0,043
ICIQ total (mean; range 0-48)	11,23	10,57	0,118
ICIQ LUTSqol (mean; range19-88)	36,63	32,07	0,009

Legenda: PC test: range 0-3 (0=absent; 1=weak; 2=normal;3=strong) (2).

Interpretation of results

Collected data show that home PFMsT is actually capable of improving UI, as evidenced by the significant reduction in the volume of urine losses calculated with the pad test. Moreover, the PC strength was significantly improved at T1 assessment, showing therefore that the improvement in continence depends likely on the better PFM performance obtained by self-learning. The data acquired by questionnaires on the UI, specifically the ICIQ-FLUTS (incontinence) and ICIQ-LUTSqol, were significant. This confirms that, in a short time span, women noticed a change in daily habits adversely affected by UI. In addition, this indicated that the improvement could be attributed entirely to the exercises and learned behaviours, and consequently a target selection of patients is not required. Finally, the positive correlation between the ability of better grasp of the program and home exercise's frequency suggests the possibility of increasing the initial explanatory part of the treatment, in order to improve adhesion to the protocol.

Concluding message

Our results suggest that PFMsT could be an easy and effective treatment, indicated in women with SUI unable to follow supervised rehabilitation sessions because of the hospital distance or too long waiting lists. Therefore in our clinical practice PFMsT may be included in the framework of continence promotion programs, in association with hospital individual or group PFMT sessions and adapted physical activity protocols, carried out in public gymnasias in order to maintain or improve the health of women with UI and other types of pelvic floor dysfunction (3).

References

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Disclosures

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