

THE EFFICACY OF PILATES COMPARED TO PELVIC FLOOR MUSCLE TRAINING ASSOCIATED WITH ELECTRICAL STIMULATION IN THE RECOVERY OF POST-PROSTATECTOMY URINARY INCONTINENCE: A RANDOMIZED CONTROLLED TRIAL.

Hypothesis / aims of study

Literature concerning conservative treatment for post-prostatectomy urinary incontinence describes pelvic floor muscle training with or without biofeedback and electrical stimulation as gold standard (1). There are no studies that corroborate the Pilates method as a treatment for male urinary incontinence, although there are enough scientific findings to assure that this method has the pelvic floor activation as a principle for practice (2, 3). The aim of this study is to compare the efficacy of a Pilates exercise program and a pelvic floor exercise protocol combined with anal electrical stimulation for the recovery of urinary continence after prostatectomy.

Study design, materials and methods

A randomized controlled trial evaluated 69 individuals with urinary incontinence one month after radical prostatectomy. The assessment included: 24-hour pad test; number of pads used per day; International Consultation on Incontinence Questionnaire – Short Form (ICIQ-SF). Following the allocation in one of two treatment groups (G1: Pilates; G2: electrical stimulation combined with pelvic floor exercises), each volunteer performed 10 sessions of the corresponding treatment. G1 performed basic mat exercises guided by a Pilates certificated physiotherapist and G2 went through individual sessions with specialized physiotherapist. Both groups received written instructions to perform daily exercises corresponding to their treatment. Software R analyzed the data; The Shapiro-Wilk test verified the normality of the data; intragroup comparisons (before and after treatment) were demonstrated by the non-parametric Wilcoxon tests. Chi-square test analyzed the qualitative variables, and the final intergroup comparison was shown by the hypothesis test for proportions. The significance level was set at $p < 0.05$.

Results

Fifty four volunteers completed the study (G1: 26; G2: 28). Both groups exhibited significant reduction in the amount of urine loss over 24 hours (G1: 107.5 to 11 grams; G2: 71 to 17.5grams). The quality of life score also reduced significantly in both groups (G1: 14 to 3; G2: 14 to 7), and 58% of the volunteers in G1 achieved continence (zero pads/day) versus 50% in G2 ($p = 0.57$).

Interpretation of results

The results of the present study revealed that both groups submitted to three months of treatment soon after surgery improved significantly their quality of life, reduced the amount of urine loss, and the number of pads used per day. Thus show that it may be possible to replace AES and PFMT with a comprehensive therapy that focuses on the individual's coordination. In addition, the use of Pilates can reduce the financial onus on the healthcare system (doesn't require electrical equipment), and eliminates the discomfort associated with intra-anal treatments.

Concluding message

The Pilates method proved to be as efficacious in promoting the recovery of urinary continence as conventional treatment described in this study; therefore it can be a therapeutic option for post-prostatectomy urinary incontinence. This is the first study that evaluates the effects of Pilates exercises in the recovery of male urinary incontinence, therefore more research is necessary to support these findings.

References

1. Campbell SE, Glazener CM, Hunter KF, Cody JD, Moore KN. Conservative management for post prostatectomy urinary incontinence. *Cochrane Database Syst Rev.* 2012 (1): 1843.
2. Hodges PW, Sapsford R, and Pengel LHM. Postural and Respiratory Functions of the Pelvic Floor Muscles. *Neurourol and Urodyn.* 2007 (26):362–371
3. Anderson BD, Spector A. Introduction to Pilates-based rehabilitation. *Orthopedic Physical Therapy Clinics of North America.* 2000 (9):395–410.

Disclosures

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