

IS THERE DEVELOPMENT IN PELVIC MUSCLE STRENGTH AFTER EXPLANATIONS OF GENITAL ANATOMY? – A RANDOMIZED CONTROLLED TRIAL

Hypothesis / aims of study

Pelvic floor muscles are those that help support the pelvic organs during rest and participate in the occlusion of the urogenital hiatus, playing an important role in maintaining urinary and anal continence [1]. The lack of knowledge or ignorance of these muscles makes awareness a mandatory step in any perineal re-education [2]. The aim of the study was to evaluate and quantify the influence of knowledge of genital anatomy on the function of contraction of your muscles.

Study design, materials and methods

Prospective, randomized, single-blinded: Forty-four volunteers divided into two groups: Intervention group consists of 24 women who received guidance on pelvic anatomy and 20 women received no orientation. The pelvic floor function was taken before and after intervention by a perineometer (Peritron TM, Australia). Variables were tested for normality using the Kolmogorov- Smirnov test. To comparison effects of pre and post intervention means the Student's t test was used. Statistical analysis was performed using Statistical Package for the Social Sciences.

Results

Forty-seven possible eligible patients were recruited and three were excluded for having a straight vaginal introitus. In total, 44 women with an average age of 56,76 years ($\pm 8,28$) were randomized between the intervention group ($n = 24$) and the control group ($n = 20$). A flowchart with details of the selection process of patients is presented in **Figure 1**.

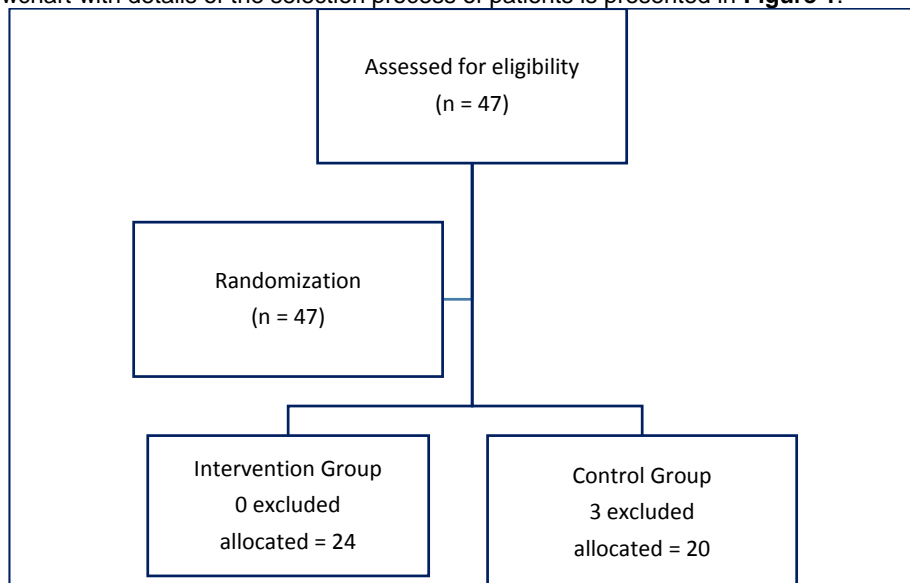


Table 1 shows the distribution of patients according to demographic characteristics collected before the intervention. It is noticeable that there was no difference between groups in terms of age, number of pregnancies, number of births and body mass index (BMI).

Table 1. Distributions of patients according to demographic characteristics

	Intervention Group	Control Group	Value of p
Age (years)	56,13 ($\pm 8,82$)	57,53 ($\pm 7,74$)	0,765*
BMI (Kg/m ²)	27,09 ($\pm 4,51$)	28,44 ($\pm 4,17$)	0,148*
Number of Pregnancies	3,83 ($\pm 3,8$)	3,42 ($\pm 2,19$)	0,456*
Number of Births	2,89 ($\pm 1,76$)	2,70 ($\pm 2,72$)	0,939*
Initial CMV	18,83 ($\pm 15,29$)	18,88 ($\pm 19,94$)	0,700*

$\alpha = 5\%$

*value of p obtained through the t student test

The groups were also homogeneous in the perineometer evaluation before the intervention, but the intervention group obtained a significantly higher muscular function than those of the control group (**Table 2**).

Table 2. Evaluation with the periometer before and after the intervention, divided by groups

Variable	Intervention Group	Control Group
Initial CMV	18,83 ($\pm 15,29$)	18,88 ($\pm 19,94$)
Final CMV	20,57 ($\pm 15,7$)	18,71 ($\pm 17,93$)
p-value *	0,009	0,872

$\alpha = 5\%$

*= t student test

Interpretation of results

The evaluation of the pelvic floor is necessary to verify the strength and the intensity of the contraction, the ability and the synchronism to contract and relax the muscles and to document the changes in function and muscle strength according to the intervention. Several methods have been recommended to evaluate the PFM, including electromyography, vaginal cones, digital palpations, perineometer, ultra sonogram and nuclear magnetic resonance.³ Because the feminine population doesn't have a good perennial conscience, a high quality evaluation of the pelvic floor is extremely necessary. Our study showed that clarifications about genital anatomy have the effect of increasing pelvic floor muscle function using a perineometer as an assessment tool. . It is worth mentioning that the studies specifically related to the effect of explaining pelvic anatomy in the pelvic floor functions were not found. Therefore, further investigations are necessary. We suggest that evaluations with other instruments of evaluation such as electromyography and long-term re-evaluations be done for more reliable results.

Concluding message

Anatomical explanations show short-term positive effects on pelvic floor muscle function

References

1. Messelink B, Benson T, Berghmans B, et al. Standardization of terminology of pelvic floor muscle function and dysfunction: report from the pelvic floor clinical assessment group of the International Continence Society. *Neurourol Urodyn.* 2005;24(4):374-80.
2. Bø K, Sherburn M. Evaluation of female pelvic-floor muscle function and strength. *Phys Ther.* 2005;85(3):269-82

Disclosures

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