COMPARISON OF THE EFFECTIVENESS OF DIFFERENT METHODS OF STRENGTHENING PELVIC FLOOR MUSCLES IN WOMEN IN THE POSTPARTUM PERIOD

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Introduction

Pelvic floor muscle dysfunction is a common condition in women during the postpartum period and is associated with vaginal delivery, prolonged labor, perineal trauma, and hormonal changes. Weakness of the pelvic floor muscles can lead to urinary incontinence, pelvic organ prolapse, sexual dysfunction, and a significant decline in quality of life. Early rehabilitation of pelvic floor muscles after childbirth is considered a key preventive and therapeutic measure.

Various methods have been proposed for pelvic floor muscle strengthening, including traditional pelvic floor muscle training, biofeedback-assisted exercises, electrical stimulation, and physiotherapy-based rehabilitation programs. However, the comparative effectiveness of these methods in postpartum women requires systematic evaluation to guide clinical practice.

Objective

The objective of this study was to compare the effectiveness of different methods of pelvic floor muscle strengthening in women during the postpartum period and to assess their impact on muscle strength, functional outcomes, and symptom improvement.

Materials and Methods

The study included postpartum women examined within the first months after vaginal or cesarean delivery. Participants were divided into groups according to the pelvic floor rehabilitation method applied. One group performed conventional pelvic floor muscle training based on voluntary contractions. The second group received biofeedback-assisted pelvic floor exercises, allowing visual or auditory control of muscle activity. The third group underwent pelvic floor electrical stimulation combined with supervised exercises. A comprehensive assessment was conducted before and after the intervention period, including pelvic floor muscle strength evaluation using digital palpation and perineometry, assessment of urinary and pelvic symptoms using validated questionnaires, and evaluation of patient adherence and comfort. The duration and frequency of interventions were standardized across groups, and outcomes were analyzed comparatively.

Results

All applied methods demonstrated a positive effect on pelvic floor muscle strength and functional outcomes. Conventional pelvic floor muscle training resulted in moderate improvement in muscle tone and reduction of mild urinary symptoms.

Biofeedback-assisted training showed significantly greater improvement in muscle strength and coordination, particularly in women who initially had difficulty identifying correct muscle contractions. Electrical stimulation combined with exercises led to faster initial improvement, especially in women with pronounced muscle weakness, but required supervised sessions.

The greatest overall improvement in symptom reduction and muscle endurance was observed in the biofeedback group. Patient compliance was highest in programs that included guided or assisted techniques.

Discussion

The results indicate that while traditional pelvic floor muscle training is effective, its success largely depends on correct performance and patient motivation. Biofeedback enhances neuromuscular control and learning, making it particularly beneficial in the early postpartum period. Electrical stimulation is useful for severe muscle weakness but may be less practical for long-term independent use.

A tailored approach that considers individual clinical features, severity of dysfunction, and patient preferences provides the best rehabilitation outcomes. These findings support the integration of assisted techniques into standard postpartum care.

Conclusion

Different methods of pelvic floor muscle strengthening are effective in postpartum women, with biofeedback-assisted training demonstrating the highest overall effectiveness. Electrical stimulation is beneficial in selected cases with marked muscle weakness, while conventional exercises remain a valuable basic intervention. Individualized rehabilitation programs that combine appropriate methods can significantly improve pelvic floor function and quality of life in the postpartum period.

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