

**Re:** Ioannis Tsikopoulos, Lazaros Lazarou, Lazaros Tzelves L et al. The effect of pelvic floor muscle training on urodynamic parameters in women with stress urinary incontinence. *Cent European J Urol.* 2023; 76 (4): 315-321.

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Dear Editor;

We read the article titled 'The effect of pelvic floor muscle training on urodynamic parameters in women with stress urinary incontinence' with interest [1].

We congratulate the authors of this study.

Although they wrote the material and method in detail, we had difficulty understanding the biofeedback (BF) part. The authors said that according to the Modified Oxford classification, the patient with '0' muscle strength was adjusted with 5 mV and the patient with full '5' was adjusted with 50 mV. What we don't understand is that a patient with '0' muscle strength cannot perform any contractions.

In pelvic floor rehabilitation, treatment methods are considered active and passive. In patients with pelvic floor muscle (PFM) strength less than 3, passive methods such as electrical stimulation and magnetic field are applied. Patients with muscle strength of 3 or more are treated with active treatment methods such as PFMT, BF, and vaginal cones.

BF is an active treatment method used as an adjunct to PFMT. For this technique to be applied, the patient must be able to perform voluntary muscle contractions. BF is a technique that aims to increase control by raising awareness of the contraction and relaxation of a muscle by converting it into a perceptible sound or image [2].

Biofeedback is a technique that provides information about body function and training to control body functions. It is a learning technique, not a treatment. It is used to help patients recognize their PFM and exercise them appropriately [3]. For example, displaying EMG changes of the sphincter on a monitor provides instant feedback to the patient about their performance. Similarly, the strength of the sphincter muscle during muscle contraction provides coherent feedback to the patient about their performance. The technique aims to increase PFM strength by contracting only the PFM without abdominal muscle contraction. With a probe inserted into the vagina, the patient either sees on the screen or hears how much she is contracting the PF. In this way, she perceives how much she needs to contract. With BF, the patient learns to identify and selectively use PFM. Therefore, the patient with '0' muscle strength will not be able to make voluntary contractions and will not receive any feedback. It is applied 3 times a week for 25–35 minutes, the desired response is achieved after 10–20 sessions, and the program should continue with exercise.

Numerous studies have shown that BF added to PFMT is beneficial [4, 5].

#### CONFLICTS OF INTEREST

The authors declare no conflict of interest.

## References

1. Tsikopoulos I, Lazarou L, Tzelvels L, Sakalis V, Papathanasiou C, Samarinas M. The effect of pelvic floor muscle training on urodynamic parameters in women with stress urinary incontinence. *Cent European J Urol*. 2023; 76: 315-321.
2. Ghaderi F, Kharaji G, Hajebrahimi S, Pashazadeh F, Berghmans B, Pourmehr HS. Physiotherapy in Patients with Stress Urinary Incontinence: A Systematic Review and Meta-analysis. *Urol Res Pract*. 2023; 49: 293-306.
3. Nunes EFC, Sampaio LMM, Biasotto-Gonzalez DA, Nagano RCDR, Lucareli PRG, Politti F. Biofeedback for pelvic floor muscle training in women with stress urinary incontinence: a systematic review with meta-analysis. *Physiotherapy*. 2019; 105:10-23.
4. Bertotto A, Schwartzman R, Uchôa S, et al. Effect of electromyographic biofeedback as an add-on to pelvic floor muscle exercises on neuromuscular outcomes and quality of life in postmenopausal women with stress urinary incontinence: a randomized controlled trial. *Neurourol Urodyn*. 2017; 36: 2142–2147.
5. Wu X, Zheng X, Yi X, et al. Electromyographic Biofeedback for Stress Urinary Incontinence or Pelvic Floor Dysfunction in Women: A Systematic Review and Meta-Analysis. *Adv Ther*. 2021; 38: 4163-4177. ■

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