

# THE USE OF VIBROTHERAPY IN WOMEN WITH STRESS URINARY INCONTINENCE

ZASTOSOWANIE WIBROTERAPII U KOBIET Z WYSIŁKOWYM NIETRZYMANIEM MOCZU

Joanna Balicka-Bom<sup>1</sup>, Joanna Golec<sup>2</sup>, Monika Przybytek<sup>1</sup>,

<sup>1</sup>Krakowska Akademia im. A. Frycza Modrzewskiego, Wydział Lekarski i Nauk o Zdrowiu, Kraków, Polska

<sup>2</sup>Akademia Wychowania Fizycznego im. B. Czecha w Krakowie, Wydział Rehabilitacji Ruchowej, Zakład Rehabilitacji w Traumatologii, Kraków, Polska

## Introduction

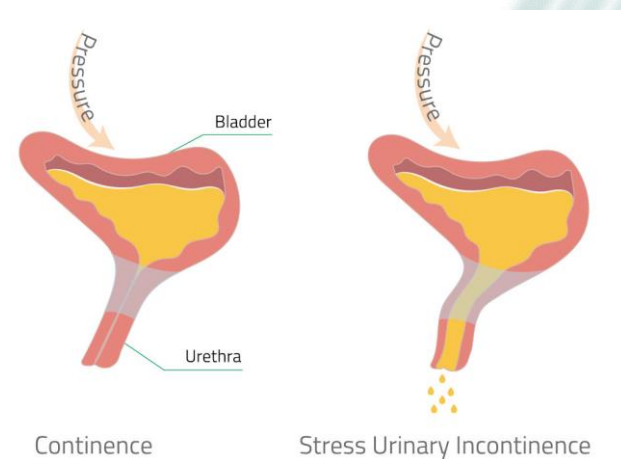
The state of urinary incontinence is defined by the International Continence Society (ICS) as involuntary leakage of urine through the coil, objectively determined, which is a social and hygienic problem. It is estimated that every second woman suffers from urinary tract disorders at various stages of her life. The first symptoms of urinary incontinence occur in women aged 35 to 50 years, in women older than 65 years, urinary incontinence occurs in 15% of cases. Estimates from many studies show that about 10-25% of women over 30 have urinary incontinence problems that occur either permanently or periodically. After the age of 50, the number of women who are affected by this disease increases to 1/3. In Poland, the described irregularities affect over 2 million women

## Vibrotherapy

The main goal of vibration therapy (VT) is to improve the tonus of pelvic floor muscles responsible for the proper statics of organs located in the pelvis. Vibration affects the muscles in a reflexive way, in the literature referred to as a Tonic Vibration Reflex (TVR), which positively influences on the bioelectrical activity of the muscles.

Borowicz noted that type I muscle fibers respond to stimulation in the 10-25 Hz range, while type II muscle fibers respond best to 35-50 Hz. Muscle strengthening is obtained by using frequencies affecting type II fibers, which is particularly beneficial in stress urinary incontinence.

Vibrotherapy carried out in a sitting position is an effective rehabilitation tool for increasing the strength of the pelvic floor muscles, where a similar effect is obtained by typical pelvic floor exercises.



## Conclusion

Research conducted by the Medical University of Tehran in 2015 showed a positive effect of vibration therapy used in a sitting position, which proved to be an effective rehabilitation tool affecting the increase of pelvic floor muscle strength, where a similar effect was obtained after pelvic floor muscle exercises.

Urinary incontinence is not only a medical problem, but also a social and economic one. This disease leads to significant discomfort and a decrease in the quality of life for women, where, however, only less than half of the women report these disorders to the doctor. The reason for this disorder is often withdrawal from professional and social life, which in effect is reflected negatively in every area of their life.

## References:

1. Adameczuk J., Kraczkowski J.J., Robak M.J. i wsp. Czy nietrzymanie moczu to choroba cywilizacyjna? *Problemy Higieny i Epidemiologii* 2011; 3: 382-386.
2. Borello – France D., Zyczynski H.M., Downey P.A. i wsp. Effect of Pelvic – Floor Muscle Exercise Position on Continence and Quality – of – life Outcomes in Women With Stress Urinary Incontinence. *Physical Therapy* 2006; 86(7): 974 – 986.
3. Borkowski A. *Urologia – postępy* 2006. *Medycyna Praktyczna – Chirurgia* 2007; 2: 34 – 46.
4. Borowicz A. M., Wieczorowska-Tobi K., *Metody fizjoterapeutyczne w leczeniu nietrzymania moczu*. *Gerontologia Polska*. 2010; 18, 3: 114–119
5. Chmielewska D. „Badania fizykalne – wstęp do terapii nietrzymania moczu” W: „Fizjoterapia w zachowawczym leczeniu nietrzymania moczu u kobiet” pod red. Chmielewska D. AWF Katowice 2014, 44-45.
6. Cieślík B., Podbielska H., A survey of the quality of life questionnaires. *Acta Bio- Zbrzeźniak M. Nietrzymanie moczu u kobiet. Postępy Nauk Medycznych* 2014; Supplement 1: 22-26)
7. Cucchi A. et al.: Urgency of voiding and abdominal pressure transmission in women with mixed urinary incontinence. *Neurourology and Urodynamics* 2004, 23, 1: 43-7.
8. Eklund G, Hagbarth KE. Normal variability of tonic vibration reflexes in man. *Experimental Neurology* 1966; 16: 80-92.
9. Farzinmehr A.; Moezy A.; Koohpayehzadeh J.; Kashanian M.: A comparative study of Whole Body Vibration Training and Pelvic Floor Muscle training on women’s stress urinary incontinence: Three-month follow up. *Journal of Family and Reproductive Health* 2015 Nov; 9 (4):147-54.
10. Krol P, Piecha M, Slomka K, et al. The effect of whole-body vibration frequency and =amplitude on the myoelectric activity of vastus medialis and vastus lateralis. *Journal of Sports Science and Medicine* 2011; 10: 169-74.