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Pelvic floor muscle function and urinary incontinence amongst exercising women

Background: Pelvic Floor Muscles (PFM) stabilize, support and preserve the function of the pelvic organs especially during intra-abdominal pressure increment that occurs during activity. PFM training was found to be effective for PFM disorders, mainly urinary incontinence. Instructions for PFM contraction might facilitate its function.

Aims: To examine PFM function, prevalence and severity of urinary stress incontinence amongst women exercising in Pilates classes. Another aim was to compare PFM function and urinary incontinence between women receiving repeated verbal instructions during Pilate's classes compare with women who did not receive such instructions.

Methods: This study included 46 women (mean age 48 (± 8.6)), who regularly participated in Pilates classes where repeated instruction was given to contract PFM ("instruction group"; N = 22) or not (controls, N = 24). Demographical questionnaire and The International Consultation on Incontinence Questionnaire – Short Form were completed by all participants. Following, PFM function was evaluated using transabdominal ultrasound during different crook lying conditions: 1) during a PFM contraction with verbal instructions: 2) during crook lying and lifting the right knee towards the chest without instructions given in combination with a verbal instruction for PFM contraction.

Results: Most women (80%) correctly contract PFM without differences between groups. During leg movement toward the chest without any instruction, 95% did not perform a voluntary contraction. Nevertheless, around 30% executed pushing of the bladder in a downward movement without differences between groups ($p = 0.32$). While performing this movement with specific verbal instruction to contract their PFM, 26% of the entire sample performed a correct contraction without significant differences between groups ($p = 0.17$). Urinary incontinence was reported by only 6 (27%) compared with 14 (58%) women in the "instruction" compared with control group ($p < 0.034$).

Conclusion: Most women performing Pilate's exercises correctly contracted their PFM. However, there was no PFM voluntary contraction during leg movement. Women who were repeatedly exposed to verbal instructions to contract their PFM suffered less incontinence and had a lower degree of severity than the controls.

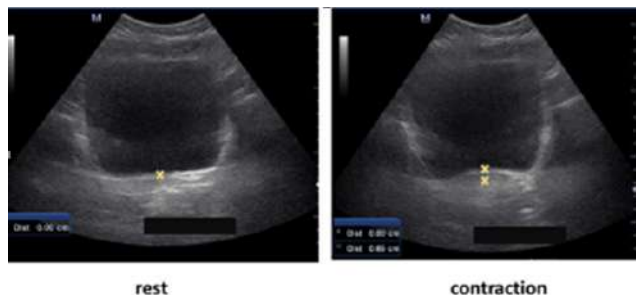


Figure: Pelvic Floor Muscle Assessment via Transabdominal Ultrasound

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Recent Publications

1. Ben Ami N, Feldman R, Dar G. (2022) Verbal Instruction for Pelvic Floor Muscle Contraction among Healthy Young Males. International Journal of Environmental Research and Public Health. 2022; 19(19):12031.
2. Dar G, #Saban TS. (2022) The Perception of Pelvic Floor Muscle Function amongst Exercising Women Who Are Repeatedly Instructed to Contract Their Pelvic Floor Muscles. Healthcare (Basel). Sep 14;10(9):1768.
3. Goldberg, N., Weisman, A., Schuster, S., Dar, G., & Masharawi, Y. (2021). Effect of a full pilates group exercise program on transversus abdominis thickness, daily function and pain in women with chronic low back pain. Kinesiology, 53(2), 318-325.
4. Toledano N, Dar G. Ultrasonographic measurements of the Omohyoid muscle during shoulder muscles contraction. Journal of Ultrasound. Online ahead of print.
5. Daher A, Carel RS, Dar G. (2022) Neck Pain Clinical Prediction Rule to Prescribe Combined Aerobic and Neck-Specific Exercises: Secondary Analysis of a Randomized Controlled Trial. Phys Ther. 102(2):1-9.

Biography

Gali Dar is a Physical Therapist (B.PT) and has completed her M.Sc and Ph.D. from the Department of Anatomy, Tel-Aviv University, Israel. She is a full member in the Department of Physical Therapy at Haifa University, Israel being the head of the department since 2019. She is also working as a physiotherapist in "Wingate Institute" which is the National Institute for Physical Education and Sport in Israel. Her research focuses on the musculoskeletal system in order to better understand function, injuries, and treatment. Her main research areas are: orthopaedic and sport injury rehabilitation, pelvic floor muscle function, low back pain rehabilitation, sacroiliac joint and dry needling effect on muscle function and for musculoskeletal problems.

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