

Pelvic Physical Therapy Distance Journal Club

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Posture correction therapy and pelvic floor muscle function assessed by sEMG with intravaginal electrode and manometry in female with urinary incontinence. Jorasz K, Truszczynska-Baszak A, Dabek A. Int J of Environ Res and Public Health 2023;20:369. Doi:10.3390/ijerph20010369.

Introduction:

- Posture during ADLs is maintained by our abdominal canister/muscle cylinder which is made up of several ms. The pelvic floor is one of the main contributors.
- “Feed Forward” mechanism is when the ms of our cylinder tense up for 35-40sec before a movement occurs such as coughing. It promotes stability in our pelvis and spine, prior to an increase in intrabdominal pressure which helps us preserve our urine, feces.
- The stacking of different body segments impacts the function of the cylinder incl PFM. The influence of posture on the pelvic floor has been studied numerous times however there are not many studies focusing on using postural correction to improve pelvic floor muscle action.
- If posture increases PFM ability, then improving posture should improve PFM function.

Aim/Primary Aim

- Study the effects of postural correction therapy and education program on pelvic floor muscle function in women with stress urinary incontinence.

Study design/study method

- Single center, parallel, Randomized controlled trial

Methods:

- 60 women 25-40y with SUI were randomly allocated to two groups:
 1. *Clinical control Group* – 6 weeks of education incl PF anatomy, function, self-palpation of bony landmarks during sitting, PFM activity with ADLs, correct tech with PFMC (Page # 4)
 2. *Study Group* – 6 weeks of education+6 weeks of postural correction therapy incl manual therapy and stretches for ms that were addressed in manual therapy. (Page # 4,5)
- *Exclusions:* H/o instrumental delivery, unplanned c section, prior abd/gyn surgery, frequent UTI, chronic cardiac/pulmonary conditions, neurological conditions, obesity, menopause.
- *Diagnostic tests:* At the start of the program and after 6 weeks.
Patient questionnaire, Postural assessment in sagittal plane using the McKenzie methodology and the following tests with 10 min rest breaks between each test:
 1. Pelvic floor ms assessment using PERFECT scheme and the Oxford scale palpation exam. See Table 2, page 3.

2. EMG using intravaginal probe, after 1 min of stabilization of signals, 5-5sec long contractions followed by 10 sec rest between each one. Mean vaginal tension during maximal contraction and relaxation were measured. **Data was not normalized.**
3. Manometry using intravaginal probe was used to measure intravaginal pressure at rest, a min after placing and adjusting the probe and the highest intravaginal pressure during contraction (one of three trials).

Results:

- PFM activity at rest is lower (EMG)
- Vaginal pressure at rest is lower (manometry)
- PFM activity during contraction higher (EMG) (esp. Rx group)
- Vaginal pressure during contraction higher (manometry) (esp. Rx group)
- PFM Power higher (palpation)
- PFM endurance contraction longer (palpation) (esp. control group which was a surprise finding)

Overall, no significant difference between groups.

Conclusion:

Education incl posture during ADLs by itself led to significant improvement in PFM power, endurance, and decreased tone at rest than initially.

Postural correction exes incl manual therapy did NOT make more difference than education alone.

We do not fully understand what resting tone is desirable for best PFM function, QOL and symptom reduction. More research needed!

Strengths:

- Measurement of the pelvic floor using three diff methods (SEMG, manometry, PERF) thus encompassing both active and combined measures of muscle.

Weaknesses:

- EMG data was not normalized or compared to healthy controls.
- Subjects were young females
- No outcome measures/Quality of life questionnaires were used to assess SUI and other symptoms before and after 6 weeks.

Questions:

What do you think about the finding of less resting tone after posture and PFM education?

In your practice how often and how soon will you address postural corrections in pts with SUI?

References:

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