



Association Between Transversus Abdominis Muscle Activation, Pelvic Floor Symptoms, and Urinary Incontinence Severity in Older Women with Stress Urinary Incontinence: A Pilot Study

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AIM

To investigate whether transversus abdominis (TrA) muscle activation is associated with pelvic floor symptoms and urinary incontinence severity in older women with stress urinary incontinence.

n=22women with
SUI**60–75**

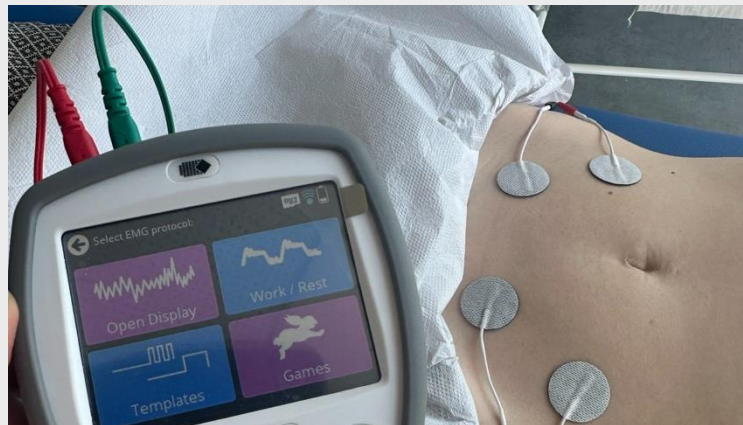
years

pSpearman
analysis

METHODS

- Design: pilot cross-sectional study.
- Participants: older women with stress urinary incontinence; mean age 66.77±6.56 years; BMI 30.02±5.34 kg/m².
- Outcomes: Incontinence Severity Index (ISI) and Pelvic Floor Distress Inventory-20 (PFDI-20) with Pelvic Organ Prolapse Distress Inventory (POPDI), Colorectal-Anal Distress Inventory (CRADI), Urinary Distress Inventory (UDI).
- TrA activation: surface EMG during voluntary contraction tasks; work average and peak activation recorded in μ V.

sEMG ASSESSMENT



Electrode placement over the TrA region using NeuroTrac MyoPlus 2 Pro.

Main finding

TrA activation was not significantly correlated with pelvic floor symptoms or incontinence severity in this pilot sample.

RESULTS

- All correlations were negative in direction, but none reached statistical significance.
- Correlation coefficients ranged from $\rho = -0.260$ to -0.010 ; all p values were >0.05 .

Measure	POPDI	CRADI	UDI	PFDI-20	ISI
Work avg (μ V)	$\rho = -0.069$ $p = 0.760$	$\rho = -0.092$ $p = 0.684$	$\rho = -0.203$ $p = 0.364$	$\rho = -0.117$ $p = 0.605$	$\rho = -0.233$ $p = 0.297$
Peak (μ V)	$\rho = -0.081$ $p = 0.721$	$\rho = -0.010$ $p = 0.966$	$\rho = -0.062$ $p = 0.785$	$\rho = -0.040$ $p = 0.859$	$\rho = -0.260$ $p = 0.242$

Table 1. Correlation of TrA activation with PFDI-20 subdomain and ISI scores. POPDI: Pelvic Organ Prolapse Distress Inventory; CRADI: Colorectal-Anal Distress Inventory; UDI: Urinary Distress Inventory; ISI: Incontinence Severity Index.

CONCLUSION

- The non-significant findings suggest that stress urinary incontinence is multifactorial.
- Pelvic floor muscle function, neuromuscular coordination, and biomechanical factors may contribute more directly than isolated TrA activation.

DISCUSSION

Larger studies with more comprehensive assessment methods are needed to clarify the relationship between TrA activation and pelvic floor dysfunction.