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Validity of clinical assessment tools to evaluate involuntary PFM contractions during coughing

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**Objective:**

In clinical practice an involuntary PFMC can be assessed by different tools such as visual inspection (VIP), palpation (PA), and transperineal ultrasound (US). An involuntary PFMC is described as a contraction that precedes an intra-abdominal pressure rise, during coughing and can be present or absent. Although reliability of PFM strength assessment has been evaluated and clinically established, there is still a lack of consistency in evaluating an involuntary PFMC.

The aim of this study was to compare outcome measures and strength of association between the above described evaluation tools.

**Study design, materials and methods**

One hundred forty-nine nulliparous women (mean age 26.3 years), without a history of pelvic floor dysfunction confirmed by a German validated questionnaire, were included.

The participants performed 3 series of three maximal expulsive coughs. During these coughs, different evaluation tools were used. To identify a present involuntary PFMC, we followed the outcome measures defined by the terminology report of IUGA/ICS; during palpation (PA) and transperineal ultrasound (US) was used to assess a cranioventral bladder neck displacement. All measurements were done in the standing and supine position.

Measurement tools were statistically compared using the Pearson chi-square test or the Fisher exact test and phi coefficient ($\phi$).

**Results**

In the evaluation of an absence of PFMC in the supine and standing position, we found a high (83.2% and 96.4%) agreement between US and VIP. However, there was a lack of consistency in identifying the presence of an involuntary PFMC.

The results showed a significant association between ultrasound and palpation during coughing in the standing position and a significant association between palpation and inspection in both the standing and supine position. However, the strength of association was weak due to the large alterations in agreement between measurements (Table 2). Remarkable was the unexpectedly low number of identified PFMC in all 3 measurements. The participants were healthy nulliparous subjects, so a higher rate of involuntary PFM contractions would be expected.

**Conclusion**

Although the results showed a significant association between US and palpation and between palpation and visual inspection, there is a lack of consistency in identifying the presence of an involuntary PFMC. There may be a need to re-evaluate outcome measures or tools to identify an involuntary PFMC.

**References**


Stieker-ten Have MCP, Post-Goodwaard AL, Eijkmanas MUC, Steegers-Theunissen RPM, Burger CW, Vierhout ME. Face validity and reliability of the first digital assessment scheme of PFM function conform the new standardized terminology of the ICS. Neurourol Urodyn 2009;28:295-300


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