

Validation of a portable biofeedback Conti4all device using transabdominal ultrasound for pelvic floor muscle contraction



Simultaneous ultrasound check of the EMG signal.

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INTRODUCTION

This study aimed to validate the performance of a portable biofeedback device Conti4All, for assessing pelvic floor muscle (PFM) contraction by comparing its output with concomitant transabdominal ultrasound (TAUS) imaging. Specifically, the study evaluated whether contractions recorded by the device correspond to objectively verified PFM activity visualized on the TAUS during the same contraction in women.

THE TEST

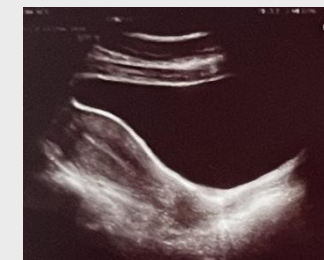
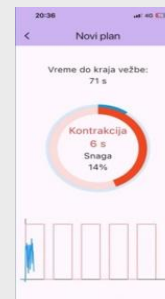
51 healthy female volunteers

EMG detection and bladder-base movement were observed during the same contraction.

Conti4All portable EMG biofeedback device

Ultrasound: Samsung HM70 EVO (WH), C2-8 probe

WHAT WE FOUND



100.0%

Concurrent detection

Exact 95% CI: 93.0–100.0%

TAKE-HOME MESSAGE

Overall, the Conti4All device demonstrates strong potential as an accessible and user-friendly solution for objective assessment and biofeedback-based training of pelvic floor muscle function.

Prospective studies with synchronized raw device and ultrasound data, including negative and repeated trials, are needed for full validation before testing in women with urinary incontinence.