

## THE EFFECT OF VERBAL INSTRUCTIONS TO IMPROVE PELVIC FLOOR MUSCLE CONTRACTION: A STUDY IN 958 WOMEN WITHIN ONE WEEK POSTPARTUM

### Hypothesis / aims of study

Pregnancy and delivery are main risk factors for developing pelvic floor muscle (PFM) dysfunction. Several published guidelines recommend pelvic floor muscle training (PFMT) as first line treatment and prevention strategy for urinary incontinence in women but proper use of PFM is mandatory for a successful outcome. Nevertheless, up to 30% of women are unable to perform a correct voluntary pelvic floor muscle contraction (PFMC) (1). We evaluated PFMC in women during the post-delivery period and the effect of instructional biofeedback to improve PFMC.

### Study design, materials and methods

This prospective observational study sample included 959 women (median age= 30 years old) who had delivered at our hospital between 2008 and 2012. The participants were asked to perform a PFMC during the routine first postpartum visit by a specialized physiotherapist (median 2 days  $\pm$  1,4 SE postpartum). PFMC was evaluated using visual observation. An inward movement of the perineum was accepted as sign of pelvic floor contraction (2). Grading of the contraction was done by the physiotherapist: 0 = no movement of PFM (Oxford 0-1); grade 1= some movement of the perineum but no inward displacement of the perineum (Oxford 2); grade 2 = inward displacement of the perineum (Oxford  $\geq$  3). Women who didn't show an inward displacement after 3 contractions received instructional feedback.

In 50 patients the evaluation was done simultaneously by two independent observers to determine the inter-observers variability ( $\kappa=0.89$ ). All data were analyzed with SPSS version 20.0.

### Results

**Table 1:** Effect of instructional biofeedback on PFMC

PFMC prior to feedback	PFMC after instructional biofeedback		
	0	1	2
0	64 (13%)	109 (22%)	102 (20%)
1	0	67 (13%)	157 (31%)

Legend : Grading of PFMC: 0 = no movement at all of perineum, 1 = some movement of perineum, but no inward movement, 2 = correct contraction.

### Interpretation of results

In total, 958 women volunteered for the study. In 500 women, no inward movement of the perineum was observed: 29% (n=275) of the women showed no movement of the perineum at all and 24% (n=225) some movement of the perineum was observed, but no inward movement of the perineum. Agreement between observations of two physiotherapists was high ( $\kappa = 0.89$ ). After giving instructional biofeedback, 74% of the women improved their PFMC: some movement of the perineum (but still no inward movement) was observed in 22% of the women in which no movement was seen prior to the instructional feedback, and 52% demonstrated a correct contraction following the instructional biofeedback.

### Concluding message

The visual observation of PFMC is easy to perform and is a very reliable tool to evaluate the function of pelvic floor muscles, especially in cases where vaginal palpation is not indicated, such as in the immediate post-partum period. Giving instructional biofeedback in women who are not able to perform a correct PFMC, i.e. inwards movement of the perineum, significantly improves the PFMC. Further research should explore the women who couldn't produce a correct PFMC. It is important to verify the patient's PFM contraction postnatal by doing a short observation before starting any PFM training. The results indicate that instructional biofeedback has a positive effect on the performance of PFM contractions in the majority of cases. Instructional biofeedback has a beneficial effect in 73,6 % of the women. It is a method that is certainly useful but also cheap, fast feasible, easy to perform and applicable in the short postnatal period in hospital.

In our study we only used visual observation for the assessment of a contraction for the reason that vaginal palpation is not suitable at this stage postpartum.

### References

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### Disclosures

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