

## RESULTS OF POSTNATAL PELVIC FLOOR MUSCLE TRAINING ON URINARY AND ANAL INCONTINENCE, A FRENCH SURVEY.

### Hypothesis / aims of study

Pelvic floor muscle training is the first-line treatment in cases of pelvic floor troubles after childbirth. Despite its frequent prescription there are few studies in France evaluating its results. Our objective in this study was to examine the results of pelvic floor training by providing a comprehensive regional survey and to see if there were any predictors of women's impression of improvement or health-related quality of life.

### Study design, materials and methods

We identified 74 midwives who practice postnatal pelvic floor training in the Poitou-Charentes region. We managed to contact 66 of them, and 58 (87.9%) agreed to participate in the recruitment for the study. Inclusion criteria were women age over 18 years, with a recent delivery of less than 12 months without prior pelvic floor rehabilitation in the meantime, addressed for postnatal pelvic floor exercises. Women completed a self-administered questionnaire at the time of inclusion that was repeated again three months later. The first questionnaire included questions about urinary incontinence (ICIQ-UI SF), anal incontinence (Pescatori score), a quality of life questionnaire (EuroQoL-5D) and questions about the mode of delivery. Questions about pelvic floor symptoms and quality of life were repeated in the follow-up questionnaire. Women were also asked about the terms of the pelvic floor rehabilitation and their assessment of the outcome (PGI-I). All women were informed of the study procedures and signed a consent form. We planned to include 384 women in 3 months.

### Results

We included 407 women delivered within less than a year (85 days on average, 23 to 250) in the study over a period of 3 months, and 314 women (77.1%) responded to the follow-up questionnaire, on average 100 days after inclusion (32 to 153) and constituted our population. Pelvic floor rehabilitation sessions were conducted during this interval (9 sessions on average, 0-20). Among the 314 women evaluated before and after pelvic floor muscle training, the average age was 30 years (21-41), and median parity 1 (1-5). The survey shows a decrease in the prevalence and severity of the main perineal symptoms (urinary incontinence, fecal incontinence, dyspareunia) reported by women after pelvic floor muscle training (Table).

Of the 113 women (36.0%) who reported urinary incontinence (UI) at the time of inclusion, 49 women (43.4%) reported some UI after pelvic floor rehabilitation. Among these 113 women incontinent for urine at baseline, the average score of urinary incontinence (ICIQ-UI SF) decreased from 7.4 before to 2.7 after pelvic floor rehabilitation.

Among the 64 women (20.4%) incontinent to gas or stool at the time of inclusion, 25 women (39.1%) still reported some anal incontinence after pelvic floor muscle training including two women with fecal incontinence. For these 64 women incontinent for gas or stool at baseline, the median score of anal incontinence (Pescatori) decreased from 3 before to 0 after pelvic floor rehabilitation.

Of the 99 women (30.9%) who reported pain during sexual intercourse, there were 47 (47.5%) after rehabilitation.

After rehabilitation sessions no women considered themselves as much worse or worse, 2 women (0.6%) as slightly worse, 30 (9.5%) as unchanged, 19 (6.1%) as slightly better, 75 (23.9%) as better, 153 (48.7%) as much better, and 35 (11.1%) did not answer the question of PGI-I. Women who considered themselves as better or much better after pelvic floor rehabilitation saw their urinary incontinence score decrease (-1.98 versus 0.08,  $p = 0.0003$ ) and received about 1 more therapy session in average (9.8 versus 8.7,  $p = 0.02$ ). Impression of improvement did not depend on the woman's age, BMI, parity, mode of delivery, the weight of the newborn, the rehabilitation technique, the experience of the midwife, improvement of anal incontinence score, improvement of chronic perineal pain, improvement of dyspareunia or improvement of the quality of life.

Table: Pelvic floor symptoms before and after postnatal pelvic floor muscle exercises

Pelvic floor symptoms	N = 314	Baseline % (n) / mean (sd)	Follow-up % (n) / mean (sd)	p (paired tests)
Urinary incontinence	yes	36,0 (113)	22,0 (69)	<0,0001
	no	56,6 (201)	78,0 (245)	
UI score	ICIQ-SF	2,70 (3,98)	1,28 (2,67)	<0,0001
Flatus incontinence	yes	20,1 (63)	13,7 (43)	0.0075
	no	79,9 (251)	86,0 (270)	
Fecal incontinence	yes	1,9 (6)	0,6 (2)	0.16
	no	98,1 (306)	99,0 (311)	
AI score	Pescatori	0,64 (1,32)	0,39 (0,99)	0,0007
Perineal pain	yes	9,2 (29)	8,6 (27)	0.75
	no	90,8 (285)	90,4 (284)	
Dyspareunia	VAS	0,29 (0,98)	0,21 (0,75)	0,19
	yes	31,0 (97)	22,4 (70)	
	no	51,4 (161)	73,2 (229)	
Quality of Life	no intercourse	17,6 (55)	3,8 (12)	0,001
	VAS	1,16 (2,00)	0,78 (1,64)	
Quality of Life	EuroQoL-5D	82.8 (12.2)	85.4 (12.2)	0.0002

The overall quality of life measured by EuroQoL-5D improved after pelvic floor rehabilitation (Table). Dimension analysis shows that this improvement was related to the dimension pain/discomfort but not to the other dimensions of QoL (mobility, self-care, usual activities, anxiety/depression). We have not identified any association (multiple regression) between improved quality of life as measured by EuroQoL-5D and improved perineal symptoms.

#### Interpretation of results

Pelvic floor symptoms improved in postpartum period. Women were more satisfied with their pelvic floor training if their urinary incontinence score decreased and when they conducted numerous sessions.

#### Concluding message

Our study shows an improvement in pelvic floor symptoms and quality of life after postnatal pelvic floor rehabilitation. It is unfortunately not possible to determine whether this improvement is directly related to pelvic floor muscle training. A large randomized study of postpartum pelvic floor muscle training versus control appears necessary to us.

#### Disclosures

**Funding:** We received no external funding **Clinical Trial:** No **Subjects:** HUMAN **Ethics Committee:** CPP Ouest III, Poitiers, France **Helsinki:** Yes **Informed Consent:** Yes