

#635 Pelvic floor muscle function shortly after vaginal delivery and association with intrapartum characteristics – a retrospective cohort study.

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Introduction

Vaginal delivery and some of intrapartum characteristics have been mentioned in available literature as risk factors for developing urinary incontinence, anal incontinence, and pelvic organ prolapse – dysfunctions closely related to pelvic floor muscles (PFMs) [1,2].

This study aimed to assess the PFMs function in primiparous women 24-72h after vaginal delivery and to examine whether there are any associations between intrapartum characteristics and PFMs function shortly postpartum.

Methods

This retrospective cohort study included analysis of medical records from PFMs physiotherapy assessments.

PFMs strength (Oxford scale), PFMs endurance (seconds), correctness of the contraction, and PFM tone (Reissing scale) were assessed during vaginal examination.

Included intrapartum characteristics were: duration of the 2nd stage of labor, neonatal birth weight, fetal positioning, uterine contractile activity, epidural anesthesia, degree of perineal tear and episiotomy.

General linear models and a logistic regression model were used. All analyses were adjusted for age and weight gain during pregnancy. Values of $p < 0.05$ were considered significant.

Results

856	women's records with mean age of 30.2 ± 4.3 years were included in this study
827 (96.6%)	women were able to voluntarily contract PFMs. PFMs parameters are presented in Table 2.
610 (73.8%)	performed correct contraction

Results of multivariable analysis adjusted for age and weight gain during pregnancy showed that:

- **Episiotomy** was associated with a lower likelihood to correctly contract the PFMs,
- **Higher values of neonatal birth weight and birth weight over 4000g** were associated with lower grades on the Reissing scale,
- No other statistically significant associations were observed.

Table 1. Statistically significant results of general linear models.

Variable	General linear models assessing the relationship between the intrapartum characteristics and:								
	PFMs tone			PFMs endurance			PFMs strength		
	β	p-value	R ²	β	p-value	R ²	β	p-value	R ²
Neonatal birth weight	-0.0001	0.01	0.01	0.00004	0.85	0.01	0.0001	0.44	0.01
Age	-0.01	0.04	0.01	0.02	0.23	0.01	0.01	0.18	0.01
Weight gain during pregnancy	-0.001	0.73	0.01	-0.03	0.04	0.01	-0.01	0.15	0.01
Neonatal birth weight over 4000g	-0.18	0.02	0.01	0.07	0.84	0.01	0.03	0.76	0.01

Table 2. Pelvic floor muscle characteristics.

Variable	Value
PFMs strength (Oxford scale), mean (SD)	2.02 (0.82)
PFMs endurance in seconds, mean (SD)	4.26 (2.36)
PFMs tone (Reissing scale), mean (SD)	-0.09 (0.56)

Table 3. Selected results of logistic regression (correctness of contraction).

	OR	95% CI	p-value	
Duration of 2 nd stage of labor	1.00	1.00-1.00	0.68	
Neonatal birth weight	1.00	1.00-1.00	0.82	
Age	1.00	0.97-1.03	0.97	
Weight gain during pregnancy	1.00	0.97-1.02	0.73	
Epidural anesthesia	1.05	0.78-1.43	0.74	
Perineal tear	1 st degree	0.80	0.53-1.20	0.28
	2 nd degree	1.31	0.46-4.71	0.64
Episiotomy	0.70	0.49-0.99	0.05	

Conclusions

Results showed that women can contract PFMs shortly after vaginal delivery and rates of correct contraction are similar to those in the general population [3].

To our knowledge, this is the first study that examines those association within the first days postpartum. High rates of ability to contract PFMs may suggest that women can efficiently exercise PFMs in the early postpartum period.

Attention should be paid to PFMs muscle tone in women delivering heavier newborns and to the ability to correctly contract PFMs in those who received episiotomy.

References

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