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## Hypothesis / aims of study

This study compared the symptoms of pelvic floor disorder of women who had normal vaginal delivery (NVD) and who had operative vaginal delivery (OVD) 3-5 years after their first delivery.

## Study design, materials and methods

Two cohort of Chinese women, who had a singleton pregnancy and had been assessed at postnatal 8 week of their first childbirth, were followed-up at 3-5 years after the index delivery.(1-2) Informed consent was obtained. Data of their first delivery have been recorded. Data on subsequent delivery, if any, were collected. They filled in Pelvic Floor Distress Inventory and Pelvic Floor Impact Questionnaire to evaluate their symptoms of pelvic floor disorder. Ethics approval was obtained.

## Results

A total of 380 women attended the follow-up; 54 who only delivered by caesarean section(s) were excluded. The mean duration from the first delivery was 39.5 (SD 4.2) months. Overall, 117, 172 and 37 had NVD only, ever had VE, and ever had forceps delivery, respectively. One woman had one VE and one forceps delivery before was included in the ever had forceps delivery group. There was no difference in characteristics of the women, except more women in the NVD group were multiparous. There was a trend of more women reported symptoms of stress urinary incontinence and pelvic organ prolapse in the ever forceps delivery group, but these did not reach statistical significance. However,

there were significantly higher PFDI POPDI and CRADI, and PFIQ CRAIQ scores in the ever forceps delivery group, implying that their quality of life were more impaired.

## Interpretation of results

By 3-5 years after the first delivery, compared with women who delivered by NVD or VE, there was a trend of more women who had forceps delivery before reported stress urinary incontinence and pelvic organ prolapse. They had higher PFDI and PFIQ subscale scores, reflecting that their health-related quality of life were more impaired.

## Concluding message

More women who had forceps delivery, when compared with women who had normal vaginal delivery or VE, had symptoms of pelvic floor disorders. They also had more impaired health-related quality of life.

## References

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2. Chung MY, Wan OY, Cheung RY, et al. The prevalence of levator ani muscle injury and health-related quality of life in primiparous Chinese women after instrumental deliveries. *Ultrasound Obstet Gynecol.* 2015;45:728-733.

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**Table 1.** Comparison of women with different mode of vaginal delivery 3-5 years after their first delivery

	NVD only (n=117)	Ever VE (n=172)	Ever forceps (n=37)	P-value
Age at first delivery (years)	30.6 (3.3)	31.0 (3.8)	31.1 (4.8)	0.58
Birthweight of heaviest baby delivered vaginally (kg)	3.12 (0.36)	3.19 (0.40)	3.07 (0.53)	0.17
Age at follow-up (years)	34.3 (3.4)	34.7 (3.7)	34.0 (4.7)	0.29
BMI at follow-up (kg/m <sup>2</sup> )	21.7 (3.2)	22.4 (4.3)	21.8 (4.6)	0.35
Multiparous	50 (42.7%)	46 (26.7%)	12 (32.4%)	0.019
<b>Symptoms of pelvic floor disorders</b>				
Stress urinary incontinence	43 (36.8%)	68 (39.5%)	20 (54.1%)	0.17
Urgency urinary incontinence	12 (10.3%)	21 (12.3%)	4 (10.8%)	0.86
Faecal incontinence	4 (3.4%)	16 (9.3%)	4 (10.8%)	0.12
Symptoms of pelvic organ prolapse	12 (10.3%)	22 (12.8%)	6 (16.2%)	0.60
<b>PFDI and PFIQ</b>				
PFDI UDI	8.8 (26.3)	10.5 (24.8)	18.5 (22.8)	0.025
PFDI POPDI	8.3 (25.0)	15.5 (42.8)	39.3 (32.7)	0.001
PFDI CRADI	16.7 (43.8)	18.1 (61.9)	41.7 (61.6)	0.002
PFIQ UIQ	0 (15.3)	0 (6.4)	0 (59.9)	0.296
PFIQ POPIQ	0 (0)	0 (0)	0 (7.2)	0.124
PFIQ CRAIQ	0 (0)	0 (0)	0 (11.2)	<0.005

CRADI = Colorectal-Anal Distress Inventory, CRAIQ = Colorectal-Anal Impact Questionnaire, NVD = normal vaginal delivery, PFDI = Pelvic Floor Distress Inventory, PFIQ = Pelvic Floor Impact Questionnaire, PFMC = pelvic floor muscle contraction, POPDI = Pelvic Organ Prolapse Distress Inventory, POPIQ = Pelvic Organ Prolapse Impact Questionnaire, UDI = Urinary Distress Inventory, UIQ = Urinary Impact Questionnaire, VE = ventous extraction, VM = Valsalva  
Data are presented in number (percentage) or median (interquartile range)