

URINARY INCONTINENCE PERSISTING AFTER CHILDBIRTH: A 12 YEAR LONGITUDINAL STUDY

Hypothesis / aims of study

Urinary incontinence [UI] is a common problem both during pregnancy and after childbirth. The prevalence of UI varies according to definition and method of ascertainment, and most studies report rates of postpartum UI after one delivery. Given that UI does sometimes resolve, it is important to investigate persistent UI but few studies have been able to follow a large enough cohort for long enough to do this. In our longitudinal study, a population of 7879 women, recruited originally 3 months after childbirth [index delivery] in three maternity units in three countries, have been followed up. 4214 women responded at 6 years, when point prevalence of UI had increased from 33% at 3 months to 45%. We have continued to follow our cohort study to 12 years to further examine the effects of delivery mode history.

The main aim of this multicentre study was to investigate persistent UI over 12 years after birth, identify associations with risk factors such as delivery mode history, and its effect on quality of life.

Study design, materials and methods

Data were collected from women by postal questionnaire at 12 years from the index birth. The question to ascertain the prevalence of UI was "at present do you ever lose any urine when you don't mean to".

The main outcome of persistent UI was defined as UI reported at 12 years as well as at least one of the previous contact points of three months or six years.

Multiple logistic regression was used to investigate independent associations between UI and delivery mode history, adjusting for age at first birth (<25/25-29/30-34/35+), total number of births (one/two/three/four or more), current BMI (underweight, normal weight, overweight, obese and not known) and ethnic origin (non-Asian/Asian): and to report on its effect on quality of life.

Results

Of 7879 women recruited at three months 3763 responded at 12 years, 2944 of whom also responded at six years: non-responders had similar obstetric characteristics to responders at 12 years. Prevalence of persistent UI was 38% (1429/3763). Among those who had reported UI at three months, 76.4% also reported it at 12 years. Women with persistent UI had significantly lower SF12 scores although only 18 had received any treatment other than pad use (41%). Compared with only SVD births, women who delivered exclusively by Caesarean section were less likely to have persistent UI (OR 0.42, 95% CI 0.33 to 0.54) but not if CS was combined with spontaneous vaginal birth(s) (OR 1.01, 95% CI 0.78 to 1.30). Older maternal age at first birth, greater parity and being overweight or obese, were all associated with increased likelihood of persistent UI (see table). Only 18 women reported having had drug or surgical treatment or physiotherapy.

Logistic regression of persistent UI and delivery mode history

	Variable	Total	Unadjusted persistent UI no. %	Adjusted OR	(95% CI)	p
Mode Delivery history	Only SVD	1858	743 (40.0)	Reference		
	Only CS *	403	101 (25.1)	0.42	(0.33 to 0.54)	<0.001
	Any forceps	956	365 (38.2)	0.85	(0.72 to 1.00)	0.056
	Any vacuum no forceps	248	97 (39.1)	0.88	(0.67 to 1.16)	0.509
	SVD + CS	294	123 (41.8)	1.01	(0.78 to 1.30)	0.952
Age at 1 st birth	≤ 24	1274	430 (33.8)	Reference		
	25-29	1493	577 (38.6)	1.38	(1.17 to 1.62)	<0.001
	30-34	788	331 (42.0)	1.78	(1.46 to 2.17)	<0.0001
	35 ≥	204	91 (44.6)	2.32	(1.68 to 3.20)	<0.001
Number of births	One	411	133 (32.4)	Reference		
	Two	1836	708 (38.6)	1.34	(1.06 to 1.70)	0.016
	Three	1015	381 (37.5)	1.37	(1.06 to 1.77)	0.018
	Four or more	497	207 (41.6)	1.73	(1.28 to 2.33)	<0.001
BMI at 12 years	Underweight	61	22 (36.1)	1.08	(0.63 to 1.85)	0.777
	Normal	1786	602 (33.7)	Reference		
	Overweight	1020	413 (40.5)	1.44	(1.22 to 1.69)	<0.001
	Obese	643	305 (47.4)	2.04	(1.69 to 2.46)	<0.001
	NK	249	87 (34.9)	1.12	(0.85 to 1.49)	0.419
Asian ethnicity	No	3598	1368 (38.0)	Reference		
	Yes	161	61 (37.9)	1.03	(0.74 to 1.45)	0.849

Total n=3759: 4 cases excluded from analysis due to missing delivery history data

*Only CS sub-divisions: only pre-labour 30/124; only post labour 24/109; only pre/post labour 44/170

Interpretation of results

This large multicentre longitudinal study, following women to 12 years after index birth has shown that 38% had persistent UI from either their three month or six year follow up. UI occurring after birth seemed to have become persistent for over three-quarters of these women: of those who had UI when first asked at three months, 76.4% also reported it at 12 years. There was a clear association with quality of life though only a very small number reported having treatment. Persistent UI was significantly less common if all of a woman's births were by caesarean section but not if CS was combined with vaginal births. Older maternal age, greater parity and being overweight or obese were all associated with increased likelihood of persistent UI.

Concluding message

This longitudinal study has measured, for the first time, the persistence of UI 12 years after birth: and demonstrated that exclusive caesarean birth reduced the likelihood but not if the woman also had other delivery modes. Being overweight or obese increased symptom likelihood and are potentially modifiable risk factors.

Disclosures

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