

OBSTETRICAL HISTORY AND STRESS URINARY INCONTINENCE. A SURVEY ON 2783 FRENCH WOMEN BETWEEN 49 AND 61 YEARS OLD ENROLLED IN A COHORT STUDY.

Aims of Study

To estimate the prevalence of stress urinary incontinence (SUI) among peri and postmenopausal women and to assess obstetrical risks factors.

Methods

Mailed questionnaires sent to 3119 women enrolled in the GAZEL cohort. This cohort is composed of women who work for the French national Power Company (EDF-GDF) and who volunteered to participate in medical research. A total of 2783 questionnaires were suitable for analysis (89%). Median age was 54.2 years (SD: 3.4; range: 49.5–61.6). Severe SUI was defined by an answer *most of the time* or *all of the time* at the question *does urine leak when you are physically active, exert yourself, cough or sneeze?* Bivariate analysis was conducted with the following variables: general characteristics (age, BMI); medical history (diabetes mellitus); surgical history (hysterectomy, incontinence surgery, prolapse surgery); way of life (smoking, regular physical exercise); parity; obstetrical history of the 1st delivery (age at delivery, new-born weight, labour > 12 h, active second stage > 30 min, way of delivery, episiotomy, 3rd degree perineal tear, urinary incontinence during pregnancy and urinary incontinence during 1st week of postpartum). Multivariate analysis was performed using stepwise logistic regression Variables were introduced in the model when $p < 0.20$. A first logistic regression model was used among the whole population (nulliparous and parous women) to estimate the impact of parity. A second logistic regression model including detailed obstetrical history was performed among only parous women.

Results

SUI occurred *never* for 32% (892), *occasionally* for 27% (759), *sometimes* for 26% (717), *most of the time* for 10% (284) and *all of the time* for 5% (131). Among the whole population significant risk factors in multivariate analyse were BMI, parity and previous incontinence surgery (Table I). Risk of SUI was increased for parous women versus nulliparous, but there was no significant difference between primiparous, secondiparous and multiparous women.

Table I – Effect of parity on severe SUI among the whole population (n = 2783). Multivariate analysis.

		OR	95% CI
Parity	0	0.44	0.28–0.70
	1	1	
	2	1.22	0.95–1.57
	> 2	1.18	0.84–1.66
BMI (kg/m ²)	< 25	0.58	0.45–0.75
	25–30	1	
	> 30	1.71	1.15–2.54
Incontinence surgery		2.51	1.51–4.18

Among parous women significant risk factors in multivariate analyse were BMI, previous incontinence surgery, age at 1st delivery, active 2nd stage > 30 minutes, forceps delivery, urinary incontinence during 1st pregnancy and urinary incontinence during 1st postpartum (Table II).

Table II – Effect of obstetrical history on severe SUI among parous women (n = 2436). Multivariate analysis adjusted on BMI and previous incontinence surgery.

	OR	95% CI
Age at 1 st delivery (years)		
< 22	1.42	1.09–1.84
22–27	1	
> 27	1.00	0.75-1.35
Duration of active 2 nd stage > 30 min	1.36	1.06-1.73
Way of 1 st delivery		
Spontaneous	1	
Forceps	0.69	0.49-0.96
Caesarean	0.79	0.47-1.32
Urinary incontinence during 1 st pregnancy	2.00	1.32–3.02
Urinary incontinence during 1 st postpartum	3.50	2.24–5.45

Conclusions

Prevalence of severe SUI was 15% in our population of women around menopausal age. First delivery itself, whatever the number of further deliveries, seems to be an independent risk factor. Urinary incontinence during the 1st pregnancy or the 1st postpartum may be early markers of stress incontinence in later life. They may be used to offer preventive measures during pregnancy, delivery or postpartum. The association between SUI and policy of active second stage (prolonged versus operative) needs further investigations.