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PREVALENCE AND RISK FACTORS FOR URINARY INCONTINENCE IN HEALTHY PREGNANT BRAZILIAN WOMEN

Hypothesis / aims of study

The physiological effects of pregnancy on the urinary tract are still not completely understood.[1] Lower urinary tract symptoms (LUTS) during pregnancy occur frequently and there may be a mistaken belief that is normal and, thus, the symptoms may be dismissed by both patients and health professionals [2]. Little attention has been paid to addressing broader symptoms of lower urinary tract dysfunction in pregnant women. Whilst last trimester UI and delivery types are known risk factors for UI during and after pregnancy, other factors throughout the pregnancy have not been systematically studied and may also play a key role in the incidence of UI. Therefore, the primary aim of this study was to evaluate overall prevalence and risk factors to developing UI throughout pregnancy; secondary aim was to compare LUTS prevalence rates prior and during current pregnancy period between primigravidae and multigravidae.

Study design, materials and methods

This study was a cross-section, prospective evaluation of 500 healthy pregnant women living in Sao Jose do Rio Preto city, an averaged-size Brazilian town. The data were collected at 14 outpatient clinics which are part of the public health system of this municipality. The study was approved by the local Ethical Committee, including authorization from the Department of Public Health whereby each participant signed a consent form.

Women were consecutively recruited at each prenatal care site and each participant was interviewed privately by one nurse with expertise in pregnancy and in urology. The sample size was based on 9 variables corresponding to risk factors identified in the literature on non-pregnant women and was also used to determine a minimum sample size for logistic regression analysis. A two part questionnaire was developed and pre-tested in order to collect demographic information and to investigate 9 risk factors involved with UI development in women at reproductive age. The inclusion criteria were: healthy pregnant women in any stage of pregnancy; living in Sao Jose do Rio Preto; and attending public prenatal clinics in this municipality. The exclusion criteria were: high risk pregnancy; parents who did not give their consent to pregnant women under 18 years of age; and those who had attended prenatal care at private clinics.

Results

Five hundred women were enrolled and interviewed. The UI prevalence was 63.3% (319/500) and the average of age was 24. A statistically significant difference was observed between multigravidae and primigravidae in the presence of UI (54%/46%). Most participants were married (79%), graduated from high school (43%), had a mean annual family income of US$19.500 (79%), 45% paid rent and 60% were unemployed at the time of interview. 156 had been laid off from their position because they were pregnant. The number of previous deliveries and pregnancy was statistically significantly higher in incontinent pregnant women compared to the continent ones. There was no association with UI and delivery types: caesarean section, vaginal birth and caesarean section-vaginal birth.

Urge-incontinence and a previous history of bed wetting during childhood were risk factors for UI related to pregnancy. The risk factors associated with UI during pregnancy were smoking, constipation and coffee consumption (Table 1).

Table 1. Multivariate logistic analysis for UI and risk factors associated with UI during pregnancy. Sao Jose do Rio Preto, Brazil, 2009.

Variables	**UI during pregnancy**		**Total**	**P value**
	No	**Yes**		
≤ 3 micturations a day	58	93	151	.248
Dysuria symptoms	26	56	82	.261
Smoking				
No smoker/Ex-smoker	171	274	445	.631
Smoker	10	45	55	**.010***
Constipation (< 3 bowel movements per week)	81	168	249	**020***
Regular physical activity (at least 3 times per week)	49	77	126	.479
Daily Coffee Consumption				
≤ 1 cup a day	71	149	220	0.600
≥ 2 cups a day	28	66	94	**0.008***
UI familial history	49	119	168	.080

Obesity (BMI ≥30)	46	103	149	.137
Multiparity (≥2 deliveries)	80	172	252	.281

Interpretation of results

This study highlighted the importance of risk factors involved with UI development in women at younger age, focusing on the role of pregnancy period itself and not only on obstetrical contributors. These data indicate that those risk factors are related to lifestyle and eating habits and are modifiable factors. With heightened awareness of these modifiable factors, active and early treatment may be implemented and effective in preventing the onset of more severe incontinence in later life.

Concluding message

The risk factors associated with UI during pregnancy should be known by health professionals in order to create preventative and educational guidelines to be used in the public health care system. This approach can be the initial step for the early implementation of urogynecology assistance within the prenatal care of healthy women, focusing on adequate professional healthcare to address UI among women at reproductive age, mainly when they are pregnant.

References

1. Fitzgerald MP, Graziano S (2007) Anatomic and functional changes of the lower urinary tract during pregnancy. Urol Clin N Am 34: 7-12.
2. Cardozo L, Cutner A (1997) Lower urinary tract symptoms in pregnancy. Br J Urol; 80 (suppl 1): 14-23.

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Is this a clinical trial?	**No**
What were the subjects in the study?	**HUMAN**
Was this study approved by an ethics committee?	**Yes**
Specify Name of Ethics Committee	**Ethical Committee at Faculty of Medicine in Sao Jose do Rio Preto (FAMERP), Sao Paulo State, Brazil**
Was the Declaration of Helsinki followed?	**Yes**
Was informed consent obtained from the patients?	**Yes**