

ASSOCIATION OF GESTATIONAL HYPERGLYCEMIC DISORDERS WITH URINARY INCONTINENCE OCCURRENCE AND ITS INFLUENCE ON QUALITY OF LIFE DURING PREGNANCY

Hypothesis / aims of study

To determine whether hyperglycemic disorders have any influence on urinary incontinence (UI) and lower urinary tract symptoms, as well as to assess the impact of UI on the quality of life of incontinent pregnant women.

Study design, materials and methods

This cross-sectional study included pregnant women were normoglycemic (NG group) or had hyperglycemia/gestational diabetes mellitus (GDM) (HG group) at ≥ 24 weeks of gestation according to GDM screening. Exclusion criteria were GDM diagnosed during a previous pregnancy, pre-gestational diabetes mellitus, systemic arterial hypertension or gestational hypertensive disorders, neuromuscular diseases, cognitive disorders, current or previous twin pregnancy, vaginal inflammatory or infectious processes, age under 18 years, refusal to participate in the study. Assuming a type I error of 5% and a type II error rate of 20%, the minimum sample size was estimated as 33 individuals per group, based on the proportion of incontinent women among diabetics and the probability of diabetes occurrence among pregnant women reported in the literature. During interviews, the *Kings Health Questionnaire* (KHQ) (1) was administered. This instrument, designed to evaluate quality of life among incontinent women, comprises 21 questions divided into eight domains: general health perception, IU impact, role limitations, physical limitations, social limitations, personal relationships, emotions, and sleep/energy. It also contains two independent subscales for the evaluation of UI severity (severity measures) and presence and intensity of lower urinary tract symptoms (urinary symptoms scale). All scales offer four options ("not at all", "a little", "moderately" and "a lot", or "never", "sometimes", "often" and "all the time"). The only exceptions are the domains general health perception ("very good", "good", "fair", "poor", "very poor") and personal relationships ("not applicable", "not at all", "slightly", "moderately" and "a lot"). Rather than an overall score, the KHQ provides a 0-100 score for each domain where the highest score indicates the poorest quality of life in that domain (1).

Results

Of the total 102 study participants, 69 were normoglycemic (67.6%) and 33 were hyperglycemic (32.4%). By excluding continent pregnant women, who were not asked to respond to the questionnaire, it was observed that 37(53.6%) in NG and 20 in HG (60.6%) reported UI. Although UI was highly prevalent, this difference in the proportion of UI occurrence did not reach statistical significance. The HG group had the poorest KHQ scores (Table 1). However, significant differences were found in general health perception, incontinence impact, personal relationships, emotion, and sleep/energy ($p < 0.05$). No significant differences in lower urinary tract symptoms were observed.

Table 1: KHQ scores among incontinent pregnant women.

		HG (n=20)			NG (n=37)			
		p25	p50	p75	p25	p50	p75	valor-p*
General perception	health	25.00	25.00	50.00	0.00	25.00	25.00	0.001*
Incontinence impact		33.33	33.33	66.67	33.33	33.33	33.33	0.002*
Role limitations		8.33	33.33	58.34	0.00	0.00	33.33	0.054
Physical limitations		0.00	33.33	58.34	0.00	16.67	33.33	0.118
Social limitations		11.11	19.45	45.83	0.00	16.67	27.78	0.064
Personal relationships		0.00	0.00	29.17	0.00	0.00	0.00	0.012*
Emotions		11.11	33.33	63.89	0.00	0.00	33.33	0.012*

Sleep and energy	33.33	66.67	100.00	16.67	66.67	66.67	0.035*
Severity measures	20.00	33.33	51.67	16.67	26.67	43.34	0.313

Mann-Whitney test $p < 0.05$.

Interpretation of results

Studies have shown that diabetes mellitus may increase UI occurrence (2). The fact that UI may cause social and physical problems, psychological and sexual embarrassment, as well as quality of life impairment (1), reveals the need for assessing quality of life among incontinent NG and HG pregnant women. The analysis of KHQ responses showed that incontinent NG women rated their general health as "good", while incontinent HG women rated it as "fair". This is consistent with the findings reported by other authors who observed that women with a history of GDM had poorer perceived health than those who had not previously developed this condition (3).

Concluding message

The high prevalence of UI during pregnancy and its impact on quality of life are good arguments in favor of implementing practices that allow UI assessment, prevention and treatment during gestation in order to reduce its occurrence and negative impact on the quality of life of pregnant women, particularly those who are hyperglycemic.

References

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<i>Is this a clinical trial?</i>	No
<i>What were the subjects in the study?</i>	HUMAN
<i>Was this study approved by an ethics committee?</i>	Yes
<i>Specify Name of Ethics Committee</i>	Comitê de ética em pesquisa da Faculdade de Medicina de Botucatu (n.606/08)
<i>Was the Declaration of Helsinki followed?</i>	Yes
<i>Was informed consent obtained from the patients?</i>	Yes