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Presence of eating disorders and its relationship to anxiety and depression in pregnant women

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ABSTRACT

Background: women who have inadequate nutrient intake are more likely to develop a risky pregnancy. The purpose of this study was to determine the presence of eating disorders and its association with anxiety and depression symptomatology in high-risk pregnancies.
Methods: this is a cross-sectional and prospective study conducted at the tertiary university hospital in the city of São Paulo, Brazil. 913 pregnant women waiting for the Obstetrics' outpatient appointment were invited to participate in the study on their 2nd and 3rd trimester of pregnancy. Structured interviews were carried out and the Structured Clinical Interview for DSM Disorders and Hospital Anxiety and Depression Scale were applied.
Findings: prevalence of eating disorder (ED) during pregnancy was 7.6% (n=69) (95% CI: 5.84% –9.28%), 0.1% (n=1) for anorexia nervosa; 0.7% (n=6) for bulimia nervosa; 1.1% (n=10) for binge eating disorder, and 5.7% (n=52) for pica. A statistically significant difference was found between the anxiety ($p < 0.01$) and depressive symptoms ($p < 0.01$).
Conclusions: the prevalence of ED (7.6%) and its association with anxiety and depression symptoms during pregnancy highlights the need for specialist care for prevention, diagnosis and treatment. Given the importance of proper nutrition during pregnancy, both with regard to maternal health and fetal development, it is necessary to have specific predetermined evaluation protocols implemented by health care professionals for the diagnosis of ED during pregnancy.

Introduction

Women who have inadequate nutrient intake are more likely to develop a risky pregnancy. This problem is particularly severe when the woman presents an eating disorder (ED). Women diagnosed with ED had high-risk pregnancies, with a higher probability of unfavorable development both for the fetus and themselves, increasing the likelihood of adverse perinatal and life-threatening results. Under these conditions, the diagnosis of ED is particularly important, since the affected person is at a time of life which the demand for energy and nutrients is essential.

The current scientific literature of ED varies across studies. It is estimated that one in every 20 women have inappropriate eating habits (Simon, 2008) and the prevalence rates of 7,5% for eating disorders during pregnancy (Easter et al., 2013).

There is a paradox between woman with ED who did not want to get fat and need to strengthen nutrition diet during pregnancy, or those who eat indiscriminately certain foods and substances and need to maintain a healthy diet. This can negatively affect their emotional state, thereby increasing their vulnerability and the possibility to develop changes in mental health because dealing with these requirements can lead to frustration and result in the development of anxious or depressive symptoms.

The study of ED in pregnant women and its association with anxiety and depression is of paramount importance, since the consequences of an ED can be serious and even result in maternal or fetal death (Helgstrand and Andersen, 2005; Crow, 2013). Other studies point to preterm birth, higher risk of congenital malformation, and a higher risk of development of disorders of the neural tube (Sollid et al., 2004; Micali et al., 2007; American Psychiatric Association, 2013). Therefore the assessment and early detection of ED allow improvement in the prognosis of the disease, preventing its progression and minimizing the

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physical and mental consequences.

Previous studies have demonstrated the relationship between ED and pregnancy and the relationship between ED and affective disorders, but few studies have investigated the relationship between ED, pregnancy and anxiety and depression. In face of this lack of scientific studies the purposes of this paper are to highlight the complexity between pregnancy and eating disorders and evaluate ED and its association with anxiety and depression in high-risk pregnancies.

Methods

This is a cross-sectional and prospective study conducted at the tertiary university hospital in the city of São Paulo, Brazil. 913 pregnant women waiting for the Obstetrics' outpatient appointment were invited to participate in the study on their 2nd and 3rd trimester of pregnancy. The research project, as well as the informed consent statement were previously approved by the institution's Research Ethics Committee under No. 0081/11. A total of 913 pregnant women were interviewed and signed the informed consent form within a period of 24 months. The inclusion criteria were signing the informed consent form and considered to be at least 18 years old. The exclusion criteria were fetal malformation and fetal death.

To achieve the objectives proposed in this study, a structured interview was carried out and the Structured Clinical Interview for DSM Disorders (SCID), which is a semi-structured interview used in observational and clinical studies worldwide, aiming the diagnosis with the DSM-IV system was applied (American Psychiatric Association, 2000). By the time the data collection was carried out there was not still an instrument based on DSM-V therefore the SCID was completed according to the test instructions, but next to each ED symptom additional information was described, allowing further classification in ED according to the DSM-V.

The structured interview aimed at gathering socioeconomic data and identifying the presence or absence of pica based on the diagnostic criteria set by International Classification of Diseases and adjusted in the DSM-V for specific issues formulated according to Saunders et al. (2009). To classify the cases, questions concerning the occurrence of the disorder, its frequency, the substances ingested, the occurrence in previous pregnancies and the reasons for such a craving or desire were asked.

This study used a version of the SCID-I Researcher, specifically the module for the diagnosis of ED, and the Hospital Anxiety and Depression (HAD) scale developed by Zigmond and Snaith (1983) to evaluate mood disorders in situations of physical comorbidities. It has the advantage of being easy to apply, with multiple choice questions.

The data collected were submitted to quantitative analysis and evaluated with the software IBM SPSS for Windows version 20.0.

In the exploratory analysis of the data, the following measurements were calculated: mean and median (central tendency), and standard deviation (SD) (continuous variable dispersion). For the categorical variables, we used per cent with absolute and relative frequencies.

In the analysis of association tables, we applied the χ^2 test with the Yates correction for continuity. Where the χ^2 test was not applicable and with 2×2 tables, Fisher's exact test was used. For continuous variables, we used the Kolmogorov-Smirnov and Shapiro-Wilk normality tests that showed that the distribution of variables did not approach normality and, thus, the non-parametric Mann Whitney test was applied. The significance level was set at 0,05 (alpha=5%). With this, the descriptive levels (p) below this value were considered significant ($p \leq 0{,}05$).

Findigs

From the studied sample (n=913), 7.6% (n=69) (95% CI: 5.84–9.28%) showed some type of eating disorder during pregnancy, being 0.1% (n=1) anorexia nervosa (AN); 0.7% (n=6) bulimia nervosa (BN); 1.1% (n=10) binge-eating disorder (BED), and 5.7% (n=52) pica.

Table 1
Distribution of cases according to type of eating disorder diagnosed in 69 pregnant women.

Eating disorder	Prevalence	
	n=69	%
Anorexia nervosa	1	1.5
Bulimia nervosa	6	8.7
Binge-eating disorder	10	14.5
Pica	52	75.3

Table 2
Socio demographic data of the pregnant women according to presence or absence of eating disorders.

Eating disorder			
Characteristic	**Presence n (%) n=69**	**Absence n (%) n=844**	***p****
Schooling			
Elementary	21 (30.4)	165 (19.5)	0.09
High School	39 (56.5)	521 (61.7)	
College	9 (13.0)	158 (18.7)	
Marital status			
No partner	9 (13.0)	94 (11.1)	0.69
With partner	60 (87.0)	750 (88.9)	
Paid employment			
Yes	39 (56.5)	30 (43.5)	0.89
Religion			
Catholic	21 (30.4)	404 (47.9)	0.02
Protestant	35 (50.7)	291 (34.5)	
Other	4 (5.8)	59 (7.0)	
None	9 (13.0)	90 (10.7)	
Previous spontaneous abortion			
Yes	24 (34.8)	239 (28.3)	0.27
Previous induced abortion			
Yes	4 (5.8)	8 (0.9)	< 0.01

* χ^2 test.

Considering the relative frequencies of AN, BN, BED and pica in the specific group of ED-affected women (n=69), the prevalent diagnostic of pica comprises 75.3% (n=52) of cases, according to the data presented in Table 1.

The socio demographic data are organised according to presence or absence of ED in Table 2. The statistically significant categorical variables were religion (p=0.02) and previous induced abortion ($p < 0.01$).

The statistically significant continuous variables associated to ED diagnostics were duration of relationship (p=0.01), per capita income (p=0.04), number of previous gestations ($p < 0.01$), and number of children alive ($p < 0.01$), as shown in Table 3.

There was no statistical difference between ED and pre-gestational Body Mass Index (BMI), and weight gain and gestational BMI (Table 4).

Symptoms of anxiety and depression were assessed and results show an association with ED diagnostics in pregnant women. We found statistical significance between eating disorder and risk of anxious symptomatology ($p < 0.01$), and between eating disorder and risk of depressive symptomatology ($p < 0.01$), as shown in Table 5.

Discussion

The overall prevalence of eating disorders was 7.6% in the current sample, with pica being relatively more common than AN or BN. This rate supports the findings from Easter et al. (2013) with low-risk pregnancies associated with ED of 7.5% and approaches the results