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Typical somatic symptoms of pregnancy and their impact on a diagnosis of major depressive disorder☆,☆☆

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Abstract

Objective: We sought to determine whether trimester of pregnancy influences the ability to diagnose major depressive disorder (MDD).
Method: Eight hundred thirty-eight subjects completed a Composite International Diagnostic Interview and the Edinburgh Postnatal Depression Scale (EPDS) before 17 weeks of pregnancy, at 26–30 weeks of pregnancy and at 4–12 weeks postpartum. Subjects responded to a checklist of MDD symptoms regardless of stem question endorsement. We compared rates of symptom expression by response (Y/N) to stem questions, and trimester, using logit analysis. Receiver operating characteristic curves determined optimal EPDS thresholds.
Results: Most symptoms from the *DSM-IV* checklist were endorsed significantly more often in the first compared to later trimesters (odds ratios ranged from 1.39 to 14.16 for the first vs. later trimesters), independent of response to depression stem questions or medication treatment. Despite this, stem-positive and stem-negative groups differed significantly for 10 out of 13 symptoms (odds ratios, 2.29–6.89), independent of trimester. The EPDS had an optimal cutoff of 10 and showed acceptable predictive value.
Conclusions: Pregnant women commonly experience somatic and other symptoms in this first trimester, but depressed women still differ from those who are not depressed. "Appetite increase," "oversleeping" and "increase in energy" (e.g., agitation) were uninformative with regard to an MDD diagnosis.

Keywords: Mood disorders/unipolar; Obstetrics and gynecology; Pregnancy; Women

1. Introduction

It is widely acknowledged that women who become pregnant experience alterations in sleep, appetite/weight, energy and possibly concentration. Candidate symptoms for a depressive disorder also include disruptions in sleep, changes in appetite or weight, fatigue, psychomotor retardation and difficulty concentrating. Some suggest that the overlap between selected symptoms of depression and the normative experiences of pregnancy render it difficult to make a diagnosis of depression in pregnant women [1]. On the one hand, clinicians and patients may attribute symptoms to pregnancy rather than to a depressive disorder. Alternatively, clinicians and especially researchers who rely on the use of standardized questionnaires may overdiagnose a depressive disorder in pregnant women if they consider somatic experiences "pathological" rather than normal [1]. As a potential solution, some researchers recommend elimination of questions that assess somatic and behavioral symptoms of pregnancy when screening and diagnosing mood disorders in pregnant women [1–3]. The relevance of somatic symptoms to the criteria for a depressive disorder has also been questioned by Zimmerman et al. and Andrews

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et al. [4] who note that they may confound a diagnosis of major depressive disorder (MDD) among individuals with a general medical condition [5]. On the other hand, sleep, energy and appetite vary across gestation and may confound the assessment of a depressive disorder at one time but not on another. Moreover, behavioral and somatic complaints expressed by depressed pregnant women have been found to statistically relate to the severity of a mood disorder [6], and when strongly endorsed, may alert clinicians to the existence of a depressive disorder in pregnancy [7].

Depression screening measures are used to identify women who are at high risk for a depressive disorder and hence require additional clinical assessment. In pregnant and postpartum women, a measure that is widely used is the Edinburgh Postnatal Depression Scale (EPDS) [2]. Although this questionnaire asks about sleep, it does not rely on other somatic or behavioral symptoms to identify women at risk for a unipolar mood disorder. This may lessen confounding by somatic and behavioral symptoms. However, even a screening measure such as this may have operating characteristics that change across pregnancy and the postpartum period [8,9]. Repeat longitudinal assessments from a large cohort of pregnant women may help to clarify whether there are changes in the performance of diagnostic and screening instruments for depression during different stages of pregnancy.

In this report we aimed to (1) determine if the rates of behavioral and somatic symptoms in pregnant women vary across trimesters and independently of a possible depressive disorder diagnosis; (2) assess whether somatic and behavioral complaints differ between women who did vs. did not endorse gateway symptoms that are necessary for a depressive disorder diagnosis (e.g., depressed mood, diminished interest or discouragement); (3) compare rates of a depressive episode during each trimester of pregnancy using standard *DSM-IV* criteria and the criteria given by Zimmerman et al. [5] that eliminate somatic symptoms; (4) compare the performance of a screening measure (the EPDS) during the three trimesters of pregnancy to assess whether the stage of pregnancy, during which somatic and behavioral symptoms vary, influences optimal thresholds for a possible depressive disorder.

2. Method

2.1. Inclusion/exclusion criteria

Subjects in this analysis were the first 838 qualifying participants of the Yale Pink and Blue Study, a longitudinal cohort study investigating the effects of depression and antidepressant treatment on birth outcomes. For this analysis, we included women who were screened and interviewed for the Yale Pink and Blue Study and also participated for sufficient time to have experienced the two follow-up interviews. Women were eligible to participate if they were intending to deliver at a participating hospital, were at least 17 years of age, had not yet completed 17 weeks of pregnancy and were willing to provide informed consent. Women were ineligible if they had a known multifetal pregnancy, required insulin for diabetes, did not speak English or Spanish, had plans to relocate or intended to terminate their pregnancy.

From interested respondents, we invited an "exposed group" who were either depressed or at risk of developing a depressive disorder to participate. This group included women who endorsed depressed mood or treatment for depression currently or within the past 5 years, and women who had experienced a traumatic event and had symptoms of reexperiencing that event. We also randomly selected one out of every three women who had neither a diagnosis of nor treatment for a depressive disorder in the last 5 years nor a history of trauma and reexperiencing as "non-exposed" controls.

2.2. Subject recruitment and retention

We recruited women from their clinicians' offices or from hospital-based clinics in Connecticut and Western Massachusetts between 2004 and 2008. We initially interviewed participants face to face, usually at home, before 17 completed weeks of pregnancy. Participants were reinterviewed by phone at 30 (±2) weeks of pregnancy and again at 8 (±4) weeks postpartum. Subjects were reimbursed $20 per interview and a $20 bonus for all three interviews. Approval for the study was obtained from the Human Investigation Committee at Yale University School of Medicine and from affiliated hospitals, and all participants provided verbal and written consent.

Our recruitment flow is illustrated in Fig. 1. By October 14, 2006, we screened 3161 women, including 596 (19%) who potentially had a psychiatric illness, recent history of an illness or were taking psychotropic medication, and another 1485 (47%) who had none of the stipulated exposures. We randomly selected 487 (33%) of the women with no exposures to participate as a comparison group. Of the 1083 potentially eligible women, we interviewed 928 (86%) women within the cutoff date for this data set. Seven hundred sixty (82%) women successfully completed both subsequent interviews and 88 (9%) completed one of the two remaining interviews. We excluded 10 of the 848 women who completed a face-to-face interview due to uncertainty about their pregnancy dates, leaving 838 subjects available for the final analysis.

2.3. Assessment procedures

All interviews included the depression and anxiety disorder sections of the World Mental Health Composite International Diagnostic Interview [10], a valid and reliable lay interview [11]. Interviewers underwent at least 4 days of training and completed a minimum of six practice interviews and at least two fully supervised interviews each type before becoming eligible to conduct independent interviews.