ELSEVIER

Prenatal Social Support, Postnatal Social Support, and Postpartum Depression

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PURPOSE: To assess the association of antenatal and postnatal social support with postpartum depression (PPD).
METHODS: We carried out a prospective cohort study of 534 pregnant women between February and September 2007 in Hunan, China. The association between prenatal and postnatal social support with PPD was examined.
RESULTS: A total of 103 (19.29%) women had PPD. Women with low prenatal and postnatal social support had higher rates of PPD. For prenatal support, PPD was 28.20% in the lowest quartile versus 9.90% in the highest quartile (adjusted odds ratio [OR]: 3.38, 95% confidence interval [CI] = 1.64,6.98). For postnatal support, PPD was 44.10% in the lowest quartile versus 5.40% in the highest quartile (adjusted OR: 9.64, 95% CI = 4.09, 22.69).
CONCLUSIONS: Lower or lack of social support is a risk factor of PPD. *The* association between postnatal social support and PPD is much stronger than that of prenatal social support.
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KEY WORDS: Postpartum Depression, Edinburgh Postnatal Depression Scale, Social Support, Antenatal, Postpartum.

INTRODUCTION

Postpartum depression (PPD) is a subtype of major depression with onset within 6 months after childbirth (1). The reported rates of PPD range from 10% to 20% (2–6). It is a serious problem that affects a woman's health and well-being, marital relationship, as well as the offspring's health and well-being (7–10). The etiology of PPD remains elusive, although epidemiologic studies have identified several risk factors such as perinatal stressors, psychosocial stressors, and demographic, socio-economic and socio-cultural factors (4, 6, 9, 11).

Psychosocial studies suggest that lack of social support is an important risk factor for PPD, whereas strong social ties serve as a buffer against depression during the postpartum period (12). Dimensions of social support include subjective support, objective support, and support availability (13). Subjective support reflects an individual's level of satisfaction of being respected, supported, and understood by key individuals in their interpersonal environment. Objective support reflects the degree of practical support the social network is able to provide (including monetary or other living necessities). Support availability refers to the availability and effectiveness of social supports for dealing with a life event (e.g., childbirth) (13). Although social support is a variable of importance in PPD research, studies on the association between social support and PPD suffer from methodological limitations. Many studies have used cross-sectional or case-control designs (12, 14–16). Although some studies have used prospective cohort design (17–23), most of them measured social supports only once. Studies comparing effects of social support levels measured at different time points during the perinatal period and risk of PPD are limited. Moreover, there is a paucity of research addressing which dimension(s) of support is associated most strongly with depression risk. Understanding the impact of social support and dimensions of support at different time periods in pregnancy may have important implications for the prevention and treatment of PPD. The objective of this study was to use a prospective cohort study to examine the associations of prenatal social support, postnatal social support, and components of social support with PPD.

METHODS

We recruited study subjects between February and September 2007 at Hunan Maternal and Infant Hospital, the First Affiliated and the Third Affiliated Hospitals of the Central South University in Changsha, Hunan, People's

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List of Abbreviations and Acronyms

PPD = Postpartum depression
SSRS = Social Support Rating Scale
EPDS = Edinburgh Postnatal Depression Scale
SD = Standard Deviation
OR = Odds Ratio
aOR = Adjusted Odds Ratio
95%CI = 95% Confidence Interval

Republic of China, during their prenatal visits at 30–32 weeks of gestation. Married primiparous women of 20–45 years of age who came to the participating hospitals for prenatal care (including childbirth) and planned to stay in Changsha city during the postpartum period were invited to participate in the study. Participating women gave signed informed consent. Women with a multi-fetal pregnancy, a current or lifetime history of bipolar disorder, schizophrenia or other psychotic illnesses, a major chronic disease, or obstetric and pregnancy complication (severe preeclampsia/eclampsia, placenta previa, placental abruption, major postpartum infection, still birth, major birth defects, or birth weight $<1{,}500$ grams) as recorded in medical charts were excluded, because these conditions may increase PPD risk (11) and bias our findings.

Research nurses conducted face-to-face interviews with participating women to collect relevant clinical and demographic data. A standardized data form was used to record obstetric and demographic data at 30–32 weeks of gestation.

Social support level was measured with the Social Support Rating Scale (SSRS) at 30–32 weeks of gestation and was measured again at the postpartum visit that was scheduled 2 weeks after childbirth. The SSRS used in this study was developed by Xiao (13), based on the unique environmental and cultural conditions in China. This scale consists of 10 items, with three dimensions: subjective support (4 items), objective support (3 items), and support availability (3 items). The highest possible score for subjective support is 32: Item 1 with the highest score of 4, Item 3 with the highest score of 4, Item 4 with the highest score of 4, and Item 5 with the highest score of 20. The highest possible score for objective support is 22: Item 2 with the highest score of 4, Item 6 with highest score of 9, and Item 7 with the highest score of 9. The highest possible score for support availability is 12: Item 8 with the highest score of 4, Item 9 with the highest score of 4, and Item 10 with the highest score of 4. The highest possible total score for this scale is 66 (Appendix). This scale can be used in the general population for individuals 14 years of age or older. It has been used widely in the Chinese population and has shown high validity and reproducibility (13).

The Chinese version of the Edinburgh Postnatal Depression Scale (EPDS) was administered 2 weeks postpartum to assess PPD. A score of 13 or higher was used as the cut-off for PPD (24). Previous studies have shown the reliability and validity of the EPDS in identifying depression, and it has been applied widely in both research and clinical settings (25). The sensitivity (0.82) and specificity (0.86) of the Chinese version of the EPDS is comparable to the original scale (24).

We first compared the distribution of demographic characteristics between women who completed the 2-week postpartum follow-up with those who did not. We then described the perinatal characteristics of the study subjects, including prenatal and postnatal social support levels, and compared PPD rates in women with different levels of prenatal and postnatal social support. Adjusted odds ratio (aOR) and 95% confidence interval (CI) for PPD were estimated with multiple logistic regression models, with PPD as the dependent variable and social support as the independent variable. SSRS scores were stratified into quartiles, with the highest quartile as the reference group. Potential confounding variables included in the regression model were maternal age, education, household income, planned pregnancy, the number of abortion, model of delivery, Doula, and fetal gender. The selection of confounding variables that were entered into the multiple logistic regression models was based on a combination of preliminary analysis of data collected in this study and biological rationale. Full model with all independent variables being included in the final model was used. The regression models were run first for the SSRS total scores and then for the SSRS subscale scores (i.e., subjective support, objective support, and support availability). These analyses were carried out separately for prenatal support and postnatal support. All analyses were carried out using SPSS Version 13.0 (SPSS, Chicago, IL). This study has been approved by the Research Ethics Board of Central South University.

RESULTS

A total of 666 women were invited to participate in the study and 615 women agreed and completed the prenatal survey. At the 2-week postpartum survey, 24 women withdrew, 25 were lost to follow-up, and 10 had missing information in more than 20% of the variables. A further 41 women were excluded because of recorded major psychiatric disorders and obstetric and/or pregnancy complications, leaving 534 (86.8% of the consented women at 30–32 weeks of gestation) for analysis.

Mean age of the women was 28.3 years and ~50% had a university education and monthly income of greater than 2,000 Yuan per family member (Table 1). The sociodemographic characteristics of women who participated in the postpartum follow-up and those who did not were similar (Table 1).