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Father involvement and psychological well-being of pregnant women

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Abstract

Purpose—This study examined the relationships among father of the baby involvement during pregnancy, depressive symptoms and psychological well-being in African American women.

Study Design and Methods—Using a prospective study design, a sample of 95 pregnant African American women receiving prenatal care at a medical center in Chicago completed the self-report instruments about father of the baby involvement, depressive symptoms, and psychological well-being twice during pregnancy; once at between 15-25 and once between 25-37 weeks.

Results—Eighty percent of women reported that the father of the baby was involved during their pregnancy. Twenty-eight percent of women had clinically relevant depressive symptoms (CES-D scores ≥ 16) at the first data collection and 25% of women had clinically relevant depressive symptoms at the second data collection. Compared with women who reported no father involvement during pregnancy, women who reported father involvement during pregnancy had lower levels of depressive symptoms and higher levels of psychological well-being.

Clinical Implications—Fathers' involvement is important during pregnancy; nurses should encourage fathers to participate at prenatal visits and ask questions and educate fathers on pregnancy process and procedures during prenatal care.

Keywords

Depressive symptoms; psychological well-being; father of the baby involvement; pregnancy; African American

Introduction

Depressive symptoms and psychological distress are common in pregnant women. In a meta-analysis of women from different countries, Gavin and colleagues (Gavin et al., 2005) reported that 11.0% of women in the first trimester and 8.5% of women in the second and third trimester have depressive symptoms. Individual studies conducted in the United States

report depressive symptoms in up to 50% of pregnant African American women and pregnant women with low income (Holzman et al., 2006; Orr, Blazer, & James, 2006). Depressive symptoms and psychological distress during pregnancy have been related to higher risk of negative birth outcomes such as preterm birth and low birthweight infants, postpartum depression, and maladaptive mother-infant interactions (Davalos, Yadon, & Tregellas, 2012; Dayan et al., 2006; Field, 2011; Field et al., 2004; Meltzer-Brody et al., 2013; Messer, Dole, Kaufman, & Savitz, 2005; Schetter, 2011). Numerous factors may increase the risk of depressive symptoms and psychological distress during pregnancy including low socio-economic status, living in disadvantaged neighborhoods, and medical complications (e.g., chronic hypertension, high-risk pregnancy) (Field, 2011; Giurgescu, Penckofer, Maurer, & Bryant, 2006; Giurgescu et al., 2012; Holzman et al., 2006; Ko, Farr, Dietz, & Robbins, 2012; Messer, Maxson, & Miranda, 2012; Monti, Agostini, Fagandini, La Sala, & Blickstein, 2009; Patterson, Seravalli, Hanlon, & Nelson, 2012; Toffol, Koponen, & Partonen, 2013). In contrast, father involvement may have a positive impact on pregnant women's psychological well-being, a positive affect and pleasant emotional experience (Diener, 1984).

Father of the baby involvement during pregnancy has been shown to influence maternal and infant outcomes. Women whose father of the baby were involved during pregnancy were more likely to start prenatal care in the first trimester, have higher number of prenatal visits, attend prenatal classes, reduce cigarette consumption, have fewer premature and low birthweight infants, have skin-to-skin contact with the baby soon after birth, breastfeed and report lower levels of postpartum depression (Alio, Mbah, Grunsten, & Salihu, 2011; Fagan & Lee, 2010; Martin, McNamara, Milot, Halle, & Hair, 2007; Meltzer-Brody et al., 2013; Redshaw & Henderson, 2013). In a study involving focus groups of men and women, the researchers found that reduction of maternal stress levels was reported as the primary benefit of having the father of the baby involved during pregnancy (Alio, Lewis, Scarborough, Harris, & Fiscella, 2013). However, data on the relationship between father of the baby involvement and prenatal depressive symptoms or psychological well-being are limited.

Limited data suggest that father of the baby involvement during pregnancy is related to lower levels of depressive symptoms. In a sample of low-income African American women, baby's father support during pregnancy was associated with lower levels of prenatal depressive symptoms for women who were "partnered" with the baby's father; but, baby's father support was not associated with depressive symptoms for women who had no relationship with the father of the baby (Edwards et al., 2012). However, other researchers found that low-income pregnant women who had no relationship with the father of the baby had higher the levels of prenatal depressive symptoms (Byrd-Craven & Massey, 2013). Lastly, father involvement during pregnancy has been related to lower levels of postpartum depressive symptoms, but not prenatal depressive symptoms, in samples of low income mostly minority adolescents (Fagan & Lee, 2010; Meltzer-Brody et al., 2013). While these studies suggest that father involvement may play a role in prenatal depressive symptoms and psychological well-being, findings are inconsistent overall. Therefore, the purpose of this study was to examine the relationships among father involvement, depressive symptoms and psychological well-being in a sample of pregnant African American women.

Study Design and Methods

Design

A prospective design was used with survey data, including women's report of father involvement, depressive symptoms, and psychological well-being. Data were collected twice during pregnancy (once between 15-25 weeks and once between 25-37 weeks).

Sample

We approached 120 women to participate in the study. Six women declined participation due to time restraints. A sample of 114 self-identified African American women was enrolled in the study if they had a singleton medically low-risk pregnancy and were in the second trimester of pregnancy. Women were excluded if they had a pre-existing medical diagnosis or obstetrical complications (e.g., chronic hypertension, pre-gestational diabetes, cervical incompetence) since these factors may increase women's levels of psychological distress. Women were recruited between 2009 and 2011 from the midwifery practice of a medical center in Chicago. Seven women did not mail the questionnaires or the questionnaires were lost in the mail. Of the 107 women who completed the questionnaires at the first data collection, 95 women also completed questionnaires at the second data collection. Reasons that women did not complete questionnaires at the second data collection were: missing prenatal visits ($n=3$), changing prenatal care from the participating clinical site ($n=3$), giving birth prior to data collection ($n=3$), having termination of pregnancy ($n=2$), and declining participation due to time restraints ($n=1$). There were no differences in age, gestational age at data collection, marital status, education, income, employment or depressive symptoms at the first data collection between women who completed the questionnaires at the second data collection ($N=95$) and women who did not complete the questionnaires at the second data collection ($N=12$) ($p>.05$). We used the 95 complete cases for the analysis. Our sample size had an observed power of .85 ($\alpha=.05$) for the One-way Analysis of Covariance (ANCOVA) for the three groups of father involvement and the variables of depressive symptoms and psychological well-being.

Procedures

After approval by the Institutional Review Board at the participating site, potential participants were identified from medical records or by the healthcare providers. The principal investigator obtained a waiver to access prenatal records for potential participants who fit the inclusion/exclusion criteria for the study. Potential participants were approached by their healthcare provider. Women who were interested in participating in the study met with the principal investigator or research staff who explained the study, invited them to participate and completed the informed consent process. Prior to enrollment into the study women were asked to confirm their race as African American. Each woman received a unique identification number for the study. Only the principal investigator and research staff had access to the list of names and identification numbers. The majority of participants completed the packet of questionnaires in a private room in the clinic. Twelve women completed the questionnaires at home and mailed them. The research staff provided stamped envelopes addressed to the principal investigator for women who took the questionnaires at home. Women received \$25 reimbursement for their time and participation. The same

procedures were conducted at the second data collection and women received an additional \$25 reimbursement.

Variables and instruments

Sample characteristics—Maternal socio-demographic characteristics such as maternal age, marital status, education, and income were collected from self-report. Obstetrical characteristics such as gestational age at time of data collection and medical history were collected from prenatal medical records by the research staff.

Father involvement during pregnancy—Father involvement during pregnancy was measured by women's responses to one item on a 5-point scale (*none of the time to most of the time*) developed by the principal investigator that asked "Is the father of this baby involved with you during your pregnancy?". Women's responses were grouped into three categories: responses of *none of the time* and *a little of the time* were classified as no father involvement; responses of *some of the time* were classified as some father involvement; and responses of *most of the time* and *all of the time* were classified as father involved.

Depressive symptoms—Depressive symptoms were measured by the Center for Epidemiologic Studies Depression Scale (CES-D)(Radloff, 1977). This scale assesses the presence of salient symptoms of depression within the past seven days. The CES-D has 20 items each rated on a 4-point scale referring to frequency of symptoms (*rarely to most of the time*) with a total possible score ranging from 0-60. The CES-D does not provide a diagnosis of clinical depression, but measures the presence of elevated levels of depressive symptoms. A customary cutoff score of 16 or higher is used to identify those with "elevated" (clinically relevant) levels of depressive symptoms. Furthermore, CES-D values ≥ 23 have been correlated with major depression diagnosis (Orr, Blazer, James, & Reiter, 2007; Radloff & Locke, 1986). The CES-D has been used in pregnant African American women with good reliability (Garfield et al., 2014; Giurgescu et al., 2013; Orr, Blazer, & Orr, 2012). In the current study Cronbach's alpha was 0.87.

Psychological well-being was measured by the Psychological General Well-Being Index (PGWBI) that assesses subjective well-being (Dupuy, 1984). The instrument consists of 22 items on a 6-point scale (*most distress to most positive option*). The sum of the items creates the total score with a possible range of 0 to 110, with some items being reverse-scored. Higher scores represent higher levels of psychological well-being. Scores 72 or lower represent psychological distress. Evidence of concurrent validity had acceptable correlations ranging from 0.52-0.80 (Dupuy, 1984). The PGWBI has been used with good reliability in pregnant and postpartum women including African American women (Giurgescu et al., 2013; Giurgescu et al., 2006; Giurgescu et al., 2012). In the current study, the Cronbach's alpha was 0.94.

Data Management and Analysis

Data were entered, cleaned, and prepared for analysis on an ongoing basis using SPSS 20 (SPSS Inc., Chicago, IL). Descriptive statistics (mean, standard deviation, frequency distribution) were used to analyze sample characteristics, depressive symptoms,

psychological well-being and father involvement. One-way Analysis of Covariance (ANCOVA) with Tukey HSD post-hoc procedures was used to examine differences in depressive symptoms and psychological well-being among the three groups of father involvement (no father involvement, some father involvement, and father involved). We included the following covariates into the analysis: age, gravidity, marital status, living with the baby's father, level of education, and income. We used Bonferroni adjustment for multiple comparisons.

Results

Women had a mean age of 24 years. Women had a mean gestational age of 20 weeks at first data collection and 29 weeks at the second data collection. The majority of women were multigravida, were single, lived with the father of the baby, did not have a college degree, were unemployed and had an annual household income of less than \$20,000 (see Table 1). There were no differences in depressive symptoms (11.32 ± 7.91 and 13.02 ± 10.57 , $t_{(93)} = -1.411$, $p > .05$) and psychological well-being (80.65 ± 16.62 and 75.54 ± 18.66 , $t_{(93)} = -.746$, $p > .05$) at the first data collection between women who lived with the father of the baby and women who did not live with the father of the baby. Similar results were observed at the second data collection.

Eighty percent of women reported that the father of the baby was involved during their pregnancy. Women reported low levels of depressive symptoms and high levels of psychological well-being. However, 28% of women had clinically relevant depressive symptoms (CES-D 16) at the first data collection and 25% of women had clinically relevant depressive symptoms at the second data collection (see Table 2). There were no differences in depressive symptoms between first and second data collection (12.11 ± 9.22 and 12.23 ± 9.30 , $t_{(94)} = -.162$, $p > .05$). However, women had higher levels of psychological well-being at the second data collection compared with the first data collection (80.77 ± 16.13 and 78.28 ± 17.29 , $t_{(94)} = -2.217$, $p = .028$). Women who had higher levels of psychological well-being also had lower level of depressive symptoms ($r = -.708$, $p = .000$).

Women who reported father involvement had lower levels of depressive symptoms and higher levels of psychological well-being compared with women who reported no father involvement after adjustment for age, gravidity, marital status, living with the baby's father, level of education, and household income. At first data collection, women who reported no father involvement had a CES-D mean of 23.5, value which have been correlated with major depression (Orr et al., 2007; Radloff & Locke, 1986), and a PGWBI mean of 56.37, value which represents severe distress (Dupuy, 1984). In contrast, women who reported father involvement had a CES-D mean of 10.38 which represent low levels of depressive symptoms and a PGWBI mean of 82.19 which represents high levels of psychological well-being (see Table 3).

Clinical Nursing Implications

Pregnant African American women who reported father involvement during pregnancy were more likely to report lower levels of depressive symptoms and higher levels of

psychological well-being compared with pregnant African American women who reported no father involvement during pregnancy. Other researchers reported lack of father involvement during pregnancy is positively related to higher levels of depressive symptoms (Byrd-Craven & Massey, 2013). Our results suggest that father involvement during pregnancy has a positive impact on pregnant African American women's psychological well-being.

Previous research suggests that not living with the father of the baby was related to prenatal depressive symptoms (Sidebottom, Hellerstedt, Harrison, & Hennrikus, 2014). However, in our study there were no differences in depressive symptoms or psychological well-being between pregnant African American women who reported living with the father of the baby and pregnant African American women who reported not living with the father of the baby. Therefore, maternal-child nurses need to assess father involvement during pregnancy in addition to cohabitation status.

This sample consisted largely of young, single, unemployed African American women from a midwifery practice in Chicago. Results cannot be generalized to pregnant African American women from higher socio-economic status or pregnant women from other racial groups or clinical settings. Every effort was made to contact women for their second data collection. Some women failed to attend prenatal visits or changed their healthcare provider, and we were not able to contact them. Therefore, not all women completed both data collection points. Women with CES-D scores 16 or above were referred to the health care provider. The principal investigator did not make referrals for mental health for these women. Women were informed about their CES-D scores and interpretation of the results, and encouraged to talk with their healthcare provider. We do not have data on how many women received mental health follow up. Even though the sample size is relatively small, the strength of this study is in its prospective design. Results of this study need to be replicated with a larger sample.

We did not obtain data on types of father involvement during pregnancy (e.g., financial, emotional support). Further research is needed to assess which types of father involvement are most beneficial for pregnant African American women. Research on other sources of support such as family, friends and church members and their impact on psychological well-being of pregnant African American women is also needed. Qualitative data are needed in order to understand coping strategies of women who report high levels of psychological well-being despite the significant stressors (e.g., low socioeconomic status) apparent in their lives. Prior studies have relied on mother as a proxy reporter of father involvement during pregnancy; and discrepancies exist between maternal and paternal reports of father involvement (Lu et al., 2010; Misra, Caldwell, Young Jr, & Abelson, 2010). Future studies need to collect data directly from the father (Lederman, 2011; Misra et al., 2010). Studies on how the mother and the father relate to each other are needed in order to develop interventions (Misra et al., 2010). While there are some interventions to encourage greater father involvement with their infants and children such as the United States Department of Health and Human Services Fatherhood Initiative (Lu et al., 2010; US Department of Health and Human Services, n.d.), interventions that strengthen father involvement during pregnancy are needed.

Results support need for father of the baby involvement with the pregnant woman. Nurses should encourage fathers to participate at prenatal visits and ask questions and educate fathers on pregnancy process and procedures during prenatal care.

Clinical Nursing Implications

- Raise awareness of importance of father of the baby involvement during pregnancy
- Encourage fathers to participate at prenatal visits and ask questions
- Educate fathers of the pregnancy process and procedures during prenatal care
- Provide support and education to women about communication skills that strengthen their relationship with the father of the baby

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Callouts

Depressive symptoms and psychological distress are common during pregnancy.

Father of the baby involvement during pregnancy has been related to better maternal and infant health outcomes.

Twenty-eight percent of pregnant African American women in this study had clinically relevant depressive symptoms.

Pregnant women who reported father involvement had lower levels of depressive symptoms and higher levels of psychological well-being.

Table 1

Sample characteristics (N=95)

Variable		
	<i>M (SD)</i>	Range
Age ^b	23.97 (5.40)	18-41
Gestational age at T ₁ (weeks)	19.97 (2.51)	15-25
Gestational age at T ₂ (weeks)	29.04 (2.68)	25-37
<i>N (%)</i>		
Multigravida	65 (68.4)	
Single	79 (83.2)	
Living with the baby's father	51 (53.7)	
Education		
Less than high school	13 (13.7)	
Graduated high school	23 (24.2)	
Some college	39 (41.1)	
Associate degree	6 (6.3)	
Bachelor degree	11 (11.6)	
Graduate program	3 (3.2)	
Employed	46 (48.4)	
Household income		
Less than \$10,000	45 (47.4)	
\$10,001-20,000	14 (14.7)	
\$20,001-30,000	22 (23.2)	
More than \$30,001	14 (14.7)	

Note:

^a T₁= first data collection; T₂=second data collection;

^b Socio-demographic variables are measured at T1 only

Table 2
Descriptive statistics for depressive symptoms, psychological well-being and father involvement (N=95)

Variable	<i>M (SD)</i>	Range
Depressive symptoms at T ₁ ^a	12.11 (9.23)	0-54
Depressive symptoms at T ₂	12.23 (9.38)	0-53
Psychological well-being at T ₁	78.29 (17.69)	11-110
Psychological well-being at T ₂	80.77 (16.13)	27-108
<i>N (%)</i>		
Father involvement at T ₁		
No father involvement	10 (10.5)	
Some father involvement	9 (9.5)	
Father involved	76 (80.5)	
Clinical depressive symptoms ^b at T ₁	27 (28.4)	
Clinical depressive symptoms ^b at T ₂	24 (25.3)	

Note:

^aT₁= first data collection; T₂=second data collection;

^bCenter for Epidemiological Studies Depression scores of 16 or higher

Table 3
Differences in depressive symptoms and psychological well-being among the three groups of father involvement for the first and second data collection (N=95)

Variable	No father involvement at T ₁ (N=10) <i>M</i>	Some father involvement at T ₁ (N=9) <i>M</i>	Father involved at T ₁ (N=76) <i>M</i>
Depressive symptoms at T ₁ ^a	23.50 ^{ef}	13.89	10.44
Depressive symptoms at T ₂ ^b	20.75 ^{ef}	10.12	11.36
Psychological well-being at T ₁ ^c	56.37 ^f	71.00	82.03
Psychological well-being at T ₂ ^d	64.97 ^{ef}	81.03	82.81

Note:

^a $F(2) = 11.436, p = .000$

^b $F(2) = 5.619, p = .005$

^c $F(2) = 12.833, p = .000$

^d $F(2) = 6.842, p = .002$

^e $p < .05$ between no father involvement and some father involvement

^f $p < .05$ between no father involvement and father involved

T1=first data collection; T2=second data collection

Adjusted for age, gravida, marital status, living with the baby's father, level of education, and household income.