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Relationship with the father of the baby and perceived stress among Black women

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Abstract

Objective—The purpose of this study was to examine whether the relationship with the father of the baby was related to psychological stress among Black women.

Methods—This is a secondary analysis of data derived from a retrospective cohort study of 1,410 Black new mothers participating in the Life-course Influences on Fetal Environments (LIFE) study conducted in the Detroit Metropolitan area. Data were obtained from maternal interview and medical records abstraction. Perceived stress was measured by the Cohen's Perceived Stress Scale. The mother's relationship with the father of the baby before and after pregnancy was measured using two questions.

Results—Women who reported sometimes close/sometimes distant relationship with the father of the baby *prior to* pregnancy had higher levels of perceived stress compared with women who reported close relationship with the father of the baby *prior to* pregnancy (38.73 and 35.10, respectively, $p < .001$). Women who reported *current* distant relationship (38.82 and 34.45, respectively, $p < .001$) and sometimes close/ sometimes distant relationship (38.83 and 34.45, respectively, $p < .001$) reported higher levels of perceived stress compared with women who had *current* close relationship with the father of the baby.

Clinical Implications—Women who reported to have a close relationship with the father of the baby before and during the pregnancy reported lower levels of stress compared with women with a distant relationship with the father of the baby. Nurses should assess women's relationship with the father of the baby and their levels of stress.

Keywords

fathers; psychological stress; pregnancy

Introduction

Black women experience higher levels of psychological stress compared with White women (Catov, Abatemarco, Markovic, & Roberts, 2010; Giurgescu, 2004; Holzman et al., 2006; Mustillo et al., 2004; Seng, Kohn-Wood, McPherson, & Sperlich, 2011). Lack of social support from family and friends is associated with higher levels of stress and depressive symptoms for pregnant Black women (Giurgescu et al., 2015). Support from fathers of the babies may alleviate psychological stress experienced by pregnant women (Ghosh, Wilhelm, Dunkel-Schetter, Lombardi, & Ritz, 2010). In a sample of 95 pregnant Black women, father involvement during pregnancy was related to lower levels of psychological distress and depressive symptoms (Giurgescu & Templin, 2015). In another study, focusing on low-income pregnant women (of which only 10% were Black), women who had no relationship with the father of the baby had higher levels of depressive symptoms (Byrd-Craven & Massey, 2013).

While any father involvement during pregnancy may be protective and may increase support and thereby decrease stress, the nature of the relationship of the pregnant woman with the father of the baby could have an impact on stress in either direction. If the father of the baby is involved in the pregnancy but there is a poor relationship with him, the pregnant woman may experience more psychological stress rather than less. In a study of unmarried pregnant women, those in a poor relationship with the father of the baby were more likely to have stress and depressive symptoms compared with women in a good relationship with the father of the baby (Bloch et al., 2010). Similarly, in a study in Iceland, dissatisfaction of the pregnant woman with the relationship with her partner was related to psychological distress (Jonsdottir et al., 2017). Lu and Chen (2004) examined stressful life events using in a multiracial cohort of 33,542 women (~20% Black) giving birth to babies in 2000 in 19 states in the United States. They found that partner-related stress was greater among Black women compared to White women, even after controlling for sociodemographic characteristics. While these studies provide support for further study of fathers, available research has been limited in the extent to which it examines the role of babies' fathers, particularly in the lives of pregnant Black women.

According to the Transactional Model of Stress and Coping, stress is defined as a "relationship between the person and the environment that is perceived by the person as exceeding his/her resources and endangering his/her well-being" (Lazarus & Folkman, 1984, p. 21). We focused on the relationship with the father of the baby to assess the social environment of pregnancy for Black women. According to the model, the short-term outcomes are positive and negative feeling (Lazarus & Folkman, 1984). We examined the short-term outcome of psychological stress for these women. The purpose of this secondary analysis was to examine whether the relationship with the father of the baby prior to and during pregnancy was related to psychological stress among Black women during their pregnancy. Our research question was: Among pregnant Black women, do women with a close relationship with the father of the baby have lower levels of psychological stress compared with those without a close relationship with the father of the baby? This question was examined for both the relationship prior to the pregnancy and during the pregnancy, as the relationship may have changed with learning of the pregnancy.

Methods

Design

This is a secondary data analysis of the Life-course Influences on Fetal Environments (LIFE), a retrospective cohort study of Black new mothers from the Detroit Metropolitan area (Giurgescu et al., 2015; Osypuk, Caldwell, Platt, & Misra, 2012). The purpose of the original study was to examine the influence of racism on birth outcomes among Black women. Data were also collected on psychosocial factors such as psychological stress and relationship with the father of the baby. This analysis examined whether the relationship with the father of the baby was related to psychological stress among these women.

Sample and Setting

A sample of 1,410 Black new mothers were enrolled into LIFE. Postpartum women were included in the study if they self-identified as African American or Black, were 18-45 years old, and had singleton pregnancy. Women were excluded if they had intellectual disability (intellectual developmental disorder), on the basis of history or any prior records, since these conditions limit collection of reliable interview data on women's lives during pregnancy. Women were recruited from Labor and Birth and Postpartum units of a Detroit suburban hospital from June 2009 to December 2011.

Procedure

Institutional Review Board approval was obtained from the participating site. Research staff reviewed hospital birth logs for eligible participants. All eligible women were approached for study enrollment within approximately 48 hours after birth. Women gave informed consent if they agreed to participate in the study. Interviews were conducted by a trained interviewer in a private hospital room, and lasted about one hour. Women received a \$50 gift card to a local store for their time and participation. The final study sample included 1,410 women, which represented 71% of the women approached for study participation.

Measures

Maternal characteristics—Maternal sociodemographic characteristics (e.g., age, level of education) and medical history (e.g., hypertensive disorders) were collected by self-report and medical records.

Perceived Stress—Perceived stress was measured by Cohen's Perceived Stress Scale (S. Cohen et al., 1983; S. Cohen and Wills, 1985). The instrument contains 14 items on a 5-point scale (1=never to 5=very often) that ask about feelings and thoughts during the prior month (e.g., “felt upset,” “stressed out”). Eight items represent positive characteristics (e.g., “felt in control of life”) and were reversed coded. The sum of scores can range from 14 to 70 with higher scores representing higher levels of perceived stress. The Perceived Stress Scale has been correlated with Stressful Life Events ($r=.24-.49$) and the Center for Epidemiologic Studies Depression Scale (CES-D)($r=.65-.76$) supporting tool's validity (Cohen, Kamarck, & Mermelstein, 1983; Cohen, Tyrrell, & Smith, 1993). The instrument had good internal consistency reliability for this sample (Cronbach's $\alpha=.87$).

Relationship with the father of the baby—The participant's relationship with the father of the baby was measured using two questions on a 5-point Likert scale (1=very close to 5=very distant): “How would you describe the relationship with the father of the baby before pregnancy?” and “How would you describe your current relationship with the father of the baby?”. Women's responses were grouped into three categories: responses of *very close* and *somewhat close* were classified as close relationship with the father of the baby; responses of *sometimes close*/ *sometimes distant* were classified as neutral relationship with the father of the baby; and responses of *somewhat distant* and *very distant* were classified as distant relationship with the father of the baby.

Data Analysis

Descriptive statistics (frequency, mean, standard deviation, range) were used to describe the characteristics of the sample, perceived stress and relationship with the father of the baby. One-way Analyses of Variance (ANOVA) were used to examine differences in perceived stress among the three groups of relationship with the father of the baby (close relationship, neutral relationship, and distant relationship). Chi-square was used to examine the relationship between the three groups of relationship with the father of the baby and the top 25th percentile of Cohen's Perceived Stress Scale scores (bottom 75th percentile for scores 14-40 and top 25th percentile for scores 41-64).

Results

A sample of 1,410 Black new mothers were enrolled into LIFE. Women had a mean age of 27 years. They reported moderate levels of perceived stress (35.45 ± 8.09). The majority had health insurance (99%), completed high school (87%), had very close or somewhat close relationship with the father of the baby (77%), reported good or excellent health (76%), were either married or cohabiting (54%), and were working (49%) (see Table 1).

Women who reported sometimes close/sometimes distant relationship with the father of the baby prior to pregnancy had higher levels of perceived stress compared with women who reported close relationship with the father of the baby prior to pregnancy (38.73 and 35.10, respectively, $p < .001$). Women who reported current distant relationship (38.82 and 34.45, respectively, $p < .001$) and sometimes close/sometimes distant relationship (38.83 and 34.45, respectively, $p < .001$) reported higher levels of perceived stress compared with women who had current close relationship with the father of the baby (see Table 2).

Forty-five percent of women who reported sometimes close/sometimes distant relationship with the father of the baby prior to pregnancy had Cohen's Perceived Stress Scale scores 41-64 (high stress score) compared with 23% of women who reported close relationship prior to pregnancy who had Cohen's Perceived Stress Scale scores 41-64. Forty-three percent of women who reported current distant relationship and 41% of those who reported current sometimes close/sometimes distant relationship had Cohen's Perceived Stress Scale scores 41-64 compared with 21% of women who reported current close relationship with the father of the baby (see Table 3).

Discussion

Black women in our study who reported currently having a distant relationship with the father of the baby had higher levels of perceived stress compared with women who reported currently having a close relationship with the father of the baby. Forty-three percent of women with currently a distant relationship had perceived stress scores in the top 25th percentile compared with 21% of women with currently a close relationship with the father of the baby. Our results suggest that the relationship with the father of the baby influences women's psychological stress levels.

Past studies have not examined the mother's report of her relationship with the father of the baby prior to or during pregnancy. Most studies have considered marital status and cohabitation as the sole descriptors of the relationship (Gondwe, White-Traut, Brandon, Pan, & Holditch-Davis, 2017; Shah, Zao, & Ali, 2011). This is lacking in nuance on understanding how fathers may contribute to or reduce stress during pregnancy. Our results provide support for the few past studies looking at the relationship beyond marriage and cohabitation. Our results are consistent with a prior study by Ghosh Dunkel-Schetter, Lombardi, and Ritz (2010) reporting that a relationship with the father of the baby may alleviate psychological stress experienced by pregnant women. However, Gosh et al. did not consider the quality of the relationship. In two studies that provided more detail on the relationship, whether about the quality (poor vs. no poor) (Bloch et al., 2010) or satisfaction (dissatisfied vs. not) (Jonsdottir et al., 2017), both were consistent with our findings of associations in the expected directions with stress (negative relationship characteristics associated with higher prenatal stress).

Our study has limitations. The sample of Black women was recruited from a medical center in the Detroit area. Thus, the results may not be generalizable to women from other racial/ethnic groups or in other cities. However, Black women are the highest risk racial group for adverse birth outcomes. As a consequence, knowledge of contributors to prenatal stress for this population are critical. Data were collected from maternal reports. We did not have fathers' reports of their perceptions of the relationship. Future studies should examine how the father of the baby feels about his relationship with the mother and his levels of perceived stress. Despite these limitations, we found that the relationship with the father of the baby influences psychological well-being of Black women.

Clinical Implications

Maternal-child nurses should assess women's relationships with the father of their babies during prenatal visits. Based on the results of our study, the current relationship with the father of the baby seems to be more important than relationship with the father of the baby prior to pregnancy, suggesting that pregnancy is not too late to intervene. Stress during pregnancy has been well established as a risk factor for adverse birth outcomes. Stress resulting from the relationship with the father of the baby would be expected to increase risk of preterm birth and low birth weight. Research on this topic is very promising and suggests that paternal factors play a role. Given the high risk of adverse birth outcomes for Black

families, a potentially modifiable risk factor such as the relationship with the father of the baby seems particularly relevant to examine further and consider addressing in future efforts.

Pregnancy is a period in which nurses can intervene to improve pregnant woman's relationship with the father of her baby and ultimately decrease her level of stress in the pregnancy and subsequently improve pregnancy outcomes. While prenatal care may be late or sporadic, most women do access care at some point in their pregnancy, even if just for pregnancy testing. Nurses could suggest that women participate in enhanced prenatal services (EPS) sponsored by their state in conjunction with federal Maternal Child Health Block Grant funding. To be eligible for this program, the future mother has to qualify for Medicaid. This is unlikely to be a barrier as approximately two-thirds of Black births in the United States are covered by Medicaid. (Curtin, Osterman, Uddin, Sutton, & Reed, 2013). Enhanced prenatal services programs address behavioral, psychosocial, and health risks among low-income pregnant and postpartum women by providing risk assessment, care coordination, home visiting, psychosocial support, nutritional counseling and other services (Roman, et al. 2010). Being a part of this program will give women the social support they are seeking if they are not receiving the same support from the father of the baby. The nurse should encourage the mother to talk about their relationship with the father of the baby with program workers so they could help the mother come up with a plan that could potentially alleviate the stressors in the woman's life.

Conclusion

Relationship with the father of the baby may influence psychological well-being of pregnant women. We found that women who report distant relationship with the fathers of their babies during pregnancy had higher levels of perceived stress. Future research needs to examine paternal report of the mother-father relationship and stress levels. Maternal-child nurses should assess the relationship between mothers and fathers and offer support to women who report distant relationship and/or higher levels of perceived stress. How the fathers and mothers relate to each other is an important area of study that may increase our understanding of designing interventions to eliminate disparities in birth outcomes and enhance parental mental health functioning. The mechanisms by which paternal factors exert their effects within Black families must be better understood if appropriate interventions are to be developed.

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Callouts

- Dissatisfaction with the relationship with the father of the baby may increase stress for pregnant women.
- Black women who reported a distant relationship with the father of the baby had higher levels of perceived stress compared with Black women who reported close relationship with the father of the baby.
- Nurses should assess pregnant Black women's relationship with the father of the baby and their levels of stress.

Table 1
Maternal Characteristics (N=1,410)^a

Variable	Mean $\pm$ SD	Range
Age	27.31 $\pm$ 6.2	18-45
Perceived stress	35.45 $\pm$ 8.09	14-64
	N (%)	
Marital Status		
Married	396 (28.1)	
Living with partner	365 (25.9)	
Widowed	3 (0.2)	
Divorced	30 (2.1)	
Separated	22 (1.6)	
Never Married	589 (41.8)	
Employment		
Yes, currently working	695 (49.3)	
Yes, temporarily laid off	134 (9.5)	
Not working	559 (39.5)	
Education		
Completion of High School	1230 (87.3)	
High School Diploma	60 (4.3)	
High School Equivalency	118 (8.4)	
Did not complete High School		
Health Insurance		
Had health insurance	1393 (98.9)	
Did not have health insurance	7 (0.5)	
Rate of Physical Health		
Excellent	183 (13.0)	
Very Good	409 (29.0)	
Good	475 (33.7)	
Fair	265 (18.8)	
Poor	73 (5.2)	
Cohen's Perceived Stress Scale scores based on quartiles		
14-29	311 (22.8)	
30-34	319 (23.4)	
35-40	378 (22.7)	
41-64	357 (26.2)	
Relationship with the father of the baby before pregnancy		

Variable	Mean $\pm$ SD	Range
Very close	984 (70.2)	
Somewhat close	235 (16.5)	
Sometimes close/ sometimes distant	154 (11.0)	
Somewhat distant	20 (1.4)	
Very distant	8 (0.6)	
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Current relationship with the father of the baby		
Very close	872 (62.4)	
Somewhat close	203 (14.5)	
Sometimes close/sometimes distant	172 (12.3)	
Somewhat distant	63 (4.5)	
Very distant	88 (6.3)	

^aThe sample size differs for variables based on availability of data.

Table 2

Differences in perceived stress among the three groups of relationship with the father of the baby prior to pregnancy and current relationship with the father of the baby.

Relationship with the father of the baby	Perceived stress <i>M</i>
Relationship with the father of the baby prior to pregnancy^a	
Close relationship (N=1,184)	35.10 ^c
Neutral relationship (N=146)	38.73
Distant relationship (N=26)	36.12
Current relationship with the father of the baby^b	
Close relationship (N=1,044)	34.45 ^{c,d}
Neutral relationship (N=165)	38.83
Distant relationship (N=145)	38.82

^a $F=14.13, p<.001$

^b $F=36.69, p<.001$

^c $p<.05$ between close relationship to neutral relationship

^d $p<.05$ between close relationship to distant relationship

Table 3
Relationship with the father of the baby and Perceived stress

Relationship with the father of the baby	Cohen's Perceived Stress Scale bottom 75 th percentile (scores 14-40) N (%)	Cohen's Perceived Stress Scale top 25 th percentile (scores 41-64) N (%)
Relationship with the father of the baby prior to pregnancy^a		
Close relationship	906 (76.5)	278 (23.5)
Neutral relationship	80 (54.8)	66 (45.2)
Distant relationship	17 (65.4)	9 (34.6)
Current relationship with the father of the baby^b		
Close relationship	822 (78.7)	222 (21.3)
Neutral relationship	96 (58.2)	69 (41.8)
Distant relationship	83 (56.6)	63 (43.4)

^a $\chi^2=32.874$, $p<.001$

^b $\chi^2=56.353$, $p<.001$

Clinical Implications

Table 4

•During prenatal visits, discuss with women about their relationships with the father of their babies
•Assess levels of stress for pregnant women through self-reported survey
•Suggest that women participate in enhanced prenatal services such as group prenatal care
•Encourage women to talk with nurses regarding their relationship with the father of the baby