CE **1.5 ANCC Contact Hours**

Psychosocial Factors *and* Preterm Birth *Among Black Mothers and Fathers*

Carmen Giurgescu, PhD, RN, WHNP, and Dawn P. Misra, MHS, PhD

Abstract

Objective: Black women are more likely to live in disadvantaged neighborhoods and experience racial discrimination and psychological stress compared with White women. These factors have been related to preterm birth (PTB). However, research is limited on the associations of disadvantaged neighborhoods, racial discrimination, and psychological stress among expectant Black fathers and PTB. This review focuses on what is known about psychosocial factors in relation to PTB among Black parents.

Methods: The Scopus database was used to search for studies using keywords of adverse childhood experiences, neighborhood environment, racial discrimination, psychological stress, depressive symptoms/depression, coping, locus of control, social support, and mother–father relationship. Each of these keywords was combined with the term preterm birth. This review focused on the associations of these psychosocial factors collected during the prenatal period and risk for PTB. However, due to lack of data for some of these factors during the prenatal period, studies conducted in the immediate period after birth were included. The focus of this review was on research conducted with Black expectant fathers given the limited data on the association between paternal psychosocial factors and PTB. This review only highlights studies that examined the associations of maternal psychosocial factors and PTB. It does not present a comprehensive review of studies on maternal factors given the extent of the studies that examined these associations.

Results: Pregnant Black women are more likely to report living in disadvantaged neighborhoods; experiencing racial discrimination, psychological stress, and depressive symptoms; using avoidance coping; and reporting lower levels of social support compared with White women. Limited data suggest that Black expectant fathers experience higher rates of everyday unfair treatment because of race/ethnicity compared with White fathers. Research suggests that these psychosocial factors have been related to PTB among pregnant Black women; however, research is limited on examining these associations among expectant Black fathers.

Clinical Implications: Maternal–child nurses are in the position to assess these psychosocial factors among expectant parents. Nurses should also assess risk factors for PTB for both expectant parents and provide support to couples who are at risk for PTB.

Key words: Discrimination; Neighborhood; Premature birth; Psychological stress; Social support.

Black women are more likely to have preterm birth (<37 completed weeks gestation) compared with White women (Martin, Hamilton, Osterman, Driscoll, & Drake, 2018). A recent meta-analysis reported that paternal Black race is a risk factor for preterm birth (PTB) in addition to maternal Black race (Srinivasjois, Shah, & Shah, 2012). Black mother–Black father couples were two times more likely to have PTB compared with White mother–White father couples (Srinivasjois et al.). Preterm birth has been related to negative infant and child outcomes including developmental delays and chronic illness. Preterm birth is the leading cause of infant mortality among Black families (Kochanek, Murphy, Xu, & Tejada-Vera, 2016). Although maternal characteristics (e.g., low socioeconomic status, chronic hypertension) are associated with a higher incidence of PTB and are more prevalent among Black families, these factors do not explain very much of the disparity.

Using the Ecological model (Bronfenbrenner, 1986) and the transactional model of Stress and Coping (Lazarus, 1999; Lazarus & Folkman, 1984), we reviewed psychosocial factors among Black mothers and fathers that may increase their risk for PTB. According to the Ecological model, health outcomes are influenced by personal and environmental factors (Bronfenbrenner). The Ecological model has been developed for child development, but it can also be used with other health outcomes such as PTB. The Ecological model identifies systems with which an individual interacts. For example, the microsystem refers to the institutions and groups that directly influence the person (e.g., family, neighborhood), whereas the mesosystem includes interactions between various aspects of the microsystem (e.g., relationships). The chronosystem refers to negative events over the life course (e.g., parents' divorce). The Stress and Coping transactional model views the person and the environment in a "dynamic, mutually reciprocal, bi-directional relationship" (Lazarus & Folkman, p. 293). Stress arises from events within the situation and the person. Antecedents are social demands placed on the individual (e.g., neighborhood environment). Mediators are psychosocial factors such as individual's perception of a stressful situation, coping, and social support. Short-term outcomes

include negative feelings (e.g., depressive symptoms) and the long-term outcomes represent health outcomes (e.g., PTB).

This review examined the relationship of psychosocial factors with PTB among Black expectant mothers and fathers. The Scopus database was used to search for studies using keywords of adverse childhood experiences, neighborhood environment, racial discrimination, psychological stress, depressive symptoms/depression, coping, locus of control, social support, and mother–father relationship. Each of these keywords was combined with the term preterm birth. We attempted to focus on these psychosocial factors collected during the prenatal period; however, due to lack of data for some of these factors studies in the immediate period after birth were also included. No limitation was places for years of publication. The focus of this review was on research conducted with Black expectant fathers given limited data on the association between paternal prenatal psychosocial factors and PTB. We did not include all of the studies that examined the relationship between maternal prenatal psychosocial factors and PTB. Data are more readily available on these associations for pregnant Black women.


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Adverse Childhood Experiences

Black children are more likely to experience adverse childhood experiences compared with White children. Slopen et al. (2016) used the 2011–2012 National Survey of Children's Health to examine racial/ethnic differences in nine adversities among a sample of 84,837 children (from birth to age 17 years): financial hardship, parental divorce/separation, parental death, parental imprisonment, witness to domestic violence, victim or witness of neighborhood violence, lived with mentally ill/suicidal person, lived with someone with alcohol/drug problem, and treated unfairly because of race/ethnicity. They found that 49% of children were exposed to at least one adversity and 23% were exposed to two or more adversities (Slopen et al.). Adversities for Black children were 33% higher than those of White children after adjustment for child age, gender, number of children in the household, and highest parental education (Slopen et al.). Adversities were more prevalent in poor families (Slopen et al.). Poor Black children had 2.3 times the rate of exposure to adversities compared with high-income Black children (Slopen et al.).

Research with pregnant women also report adverse childhood experiences for these women. In a multiethnic sample of 2,303 pregnant women (only 7% were Black), 50% of women reported experiencing at least one adverse childhood event prior to the age of 18 (Smith, Gotman, & Yonkers, 2016). The most frequent reported events by women were substance abuse by a parent (22%), sexual molestation/abuse (16%), and witnessed violence toward others (14%)

(Smith et al.). In another sample of 1,476 low-income pregnant Black women, 70% of women reported at least one adverse event during childhood. Specifically, women reported physical abuse (52%), verbal hostility (27%), witnessing a shooting (19%), domestic violence (14%), sexual abuse (13%), having a guardian in trouble with the law or in jail (11%), and homelessness (3%). Thus, many pregnant women report adverse childhood experiences.

Adverse childhood experiences have been related to PTB. In a multiethnic sample, there was a decrease in gestational weeks of 0.063 for each unit increase of adverse childhood experiences after accounting for race/ethnicity (Smith et al., 2016). In a sample of White women from Canada, women who reported two or more adverse childhood experiences had a twofold increase in the risk of spontaneous PTB compared with women who did not report adverse childhood experiences (Christiaens, Hegadoren, & Olson, 2015). A recent literature review reported that three (two conducted in the United States) of the six studies included in the review observed significant associations of childhood sexual abuse with PTB or shorter mean gestational age at birth (Wosu, Gelaye, & Williams, 2015). We did not find any study that examined the relationship between adverse childhood experiences and PTB in pregnant Black women. Data on paternal adverse childhood experiences and risk for PTB are lacking.

Black women are more likely to live in disadvantaged neighborhoods and to experience racial discrimination compared with White women.

Neighborhood Environment and Experiences of Racial Discrimination

Pregnant Black women are more likely to live in disadvantaged neighborhoods (e.g., vacant housing) and to experience racial discrimination compared with pregnant White women (Dominguez, Dunkel-Schetter, Glynn, Hobel, & Sandman, 2008; Laraia et al., 2006; Mustillo et al., 2004; Pickett, Ahern, Selvin, & Abrams, 2002; Reagan & Salsberry, 2005). Living in disadvantaged neighborhoods and experiencing racial discrimination have been related to PTB among Black women (Alhusen, Bower, Epstein, & Sharps, 2016; Giurgescu, McFarlin, Lomax, Craddock, & Albrecht, 2011; Misra, Slaughter-Acey, Giurgescu, Nowak, & Sealy-Jefferson, 2017; Nowak & Giurgescu, 2017). Reagan and Salsberry found that living in neighborhoods with greater disorder, as measured by housing vacancy, was associated with an increased risk for PTB in Black women, but no relationship was found between neighborhood disorder and PTB for non-Hispanic White women (Reagan & Salsberry). Similarly, Masi, Hawkley, Piotrowski, and Pickett (2007) found that Black women living in disadvantaged neighborhoods, but not White women living in disadvantaged neighborhoods, were at risk of PTB. O'Campo et al. (2008) found that both Black and White women living in deprived areas had an increased risk for PTB. In another study, Black women living in neighborhoods with low poverty were more than two times as likely to have PTB than White women living in neighborhoods with low poverty independent of individual socioeconomic position (Wallace et al., 2013). Black fathers also report higher rates of everyday unfair treatment because of race/ethnicity compared with White fathers (Dunkel Schetter et al., 2013). However, there are no data on effects of paternal neighborhoods disadvantage and experiences of racial discrimination on PTB.

Psychological Stress and Depressive Symptoms

Psychological stress and depressive symptoms may be the pathways by which disadvantaged neighborhoods and racial discrimination increase the risk for PTB for Black women. Pregnant and postpartum Black women who live in disadvantaged neighborhoods and experience racial discrimination are more likely to experience psychological stress and depressive symptoms (Giurgescu et al., 2012; Giurgescu et al., 2017; Nowak & Giurgescu, 2017; Sealy-Jefferson, Giurgescu, Slaughter-Acey, Caldwell, & Misra, 2016). Maternal psychological stress and depressive symptoms have been related to PTB (Accortt, Cheadle, & Dunkel Schetter, 2015; Giurgescu et al., 2012; Giurgescu et al., 2017). Research also suggests that psychological stress mediates the associations of disadvantaged neighborhoods with PTB among Black women (Giurgescu et al., 2012; Giurgescu et al., 2017).

Fathers experience stress during pregnancy and birth of similar levels to that of mothers (Dunkel Schetter et al., 2013). Living in disadvantaged neighborhoods and experiencing racial discrimination are a source of psychological stress for Black fathers. Dunkel Schetter et al.

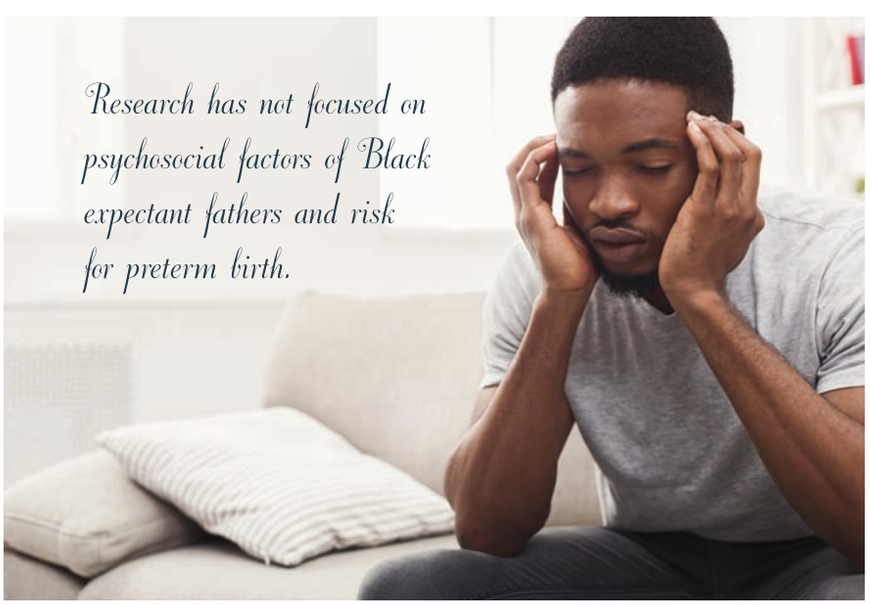
conducted a national study of 2,448 mothers (54% of sample identified as African American or Black) and 1,383 fathers (48% of sample identified as African American or Black) with measures at 1, 6, 12, 18, and 24 months after the birth of a child. They found that Black fathers had significantly higher chronic stress than White fathers (Dunkel Schetter et al.). Black poor fathers (less than 100% federal poverty) also had higher perceived stress compared with Black fathers who were near poverty (near poor; 100%–200% federal poverty level) (Dunkel Schetter et al.). Black fathers were subjected to very high rates of unfair everyday treatment because of race and skin color, which was a source of chronic stress for these fathers (Dunkel Schetter et al.). Father's experiences of racism were related to depressive symptoms in the year after the birth of a child (Bamishigbin et al., 2017). A meta-analysis reported that 13% of fathers experience depressive symptoms during their partner's pregnancy and first year after birth; and maternal depression was related to paternal depression (Cameron, Sedov, & Tomfohr-Madsen, 2016). The majority of studies have examined maternal and paternal stress after the birth of a premature infant (Ionio et al., 2016; Kantrowitz-Gordon, Altman, & Vandermause, 2016). Data are limited on prenatal paternal stress and risk for PTB. A study conducted in Sweden reported that both maternal and paternal prenatal depression are risk factors for PTB (Liu, Cnattingius, Bergström, Östberg, & Hjern, 2016). However, research has not focused on prenatal psychological stress and depressive symptoms for Black fathers and risk for PTB.

Coping Strategies, Locus of Control, and Social Support

Maternal maladaptive coping strategies have been related to PTB among Black women. Pregnant Black women who used avoidance to cope with their neighborhood stressors had higher risk of PTB (Giurgescu et al., 2017). Black women who used internality locus of control were more likely to have PTB compared with those who did not use internality (Misra, O'Campo, & Strobino, 2001). Chance locus of control was related to PTB in a multiethnic sample (Ashford & Rayens, 2015). Among pregnant depressed women (only 3% were African American), perceived lack of support from partner increased the risk of earlier birth (Nylen, O'Hara, & Engeldinger, 2013). In a sample of Black fathers, avoidant coping predicted more depressive symptoms in fathers a year after the child's birth (Bamishigbin et al., 2017). A meta-analysis with multiethnic samples reported an increased risk for PTB among women with high levels of stress and low levels of social support, suggesting a buffering effect of social support on the association between stress and PTB (Hetherington et al., 2015). However, research on the association of paternal prenatal coping strategies, locus of control, and social support with risk for PTB is minimal.

Mother–Father Relationship

Negative mother–father relationship may increase psychological stress and depressive symptoms for both parents. Dissatisfaction with the relationship with the partner has been related to psychological stress for mothers and fathers during the pregnancy and postpartum period among multiethnic samples (Bloch et al., 2010; Jonsdottir et al., 2017; Wee, Skouteris, Pier, Richardson, & Milgrom, 2011). In another sample, Black teen mothers with absent fathers, measured as the absence of father's name on the birth certificate, were 1.7 times more likely to have PTB compared with White teen mothers with fathers involved (Alio, Mbah, Grunsten, & Salihu, 2011). These results suggest that maternal–paternal relationship influences expectant parents' psychological well-being and birth outcomes. Although the preponderance of published work on fathers has been limited to the postpartum period, the few publications that focused on the prenatal period strongly support the importance of considering the psychological health of Black fathers and its intersection with the psychological health of Black mothers and, in turn, the potential influence on birth outcomes in Black families.



Clinical Implication and Future Research Recommendations

Pregnant women report adverse childhood experiences. The Adverse Childhood Experiences Questionnaire is a 10-item instrument that asks about adverse experiences prior to 18 years of age (e.g., Did a parent or other adult in the household often swear at you, insult you, put you down, or humiliate you? OR Act in a way that made you afraid that you might

be physically hurt?). The questionnaire is short and can be administered in the clinical setting while women wait for prenatal visits. The assessment should be conducted early in the prenatal period given the research findings that adverse childhood experiences were related to depressive symptoms among pregnant women.

Pregnant women and expectant fathers experience stress due to living in disadvantaged neighborhoods and experiencing racial discrimination. Expectant parents also experience depressive symptoms, and a recent meta-analysis reported that maternal depression was related to paternal depression (Cameron et al., 2016). Psychological stress and depressive symptoms have been related to PTB among Black women. Maternal–child nurses are in the position to assess the levels of stress and depressive symptoms of expectant parents. The Patient Health Questionnaire (PHQ-9) is a 9-item instrument that asks about symptoms of depression within the past 2 weeks (e.g., little interest or pleasure in doing things; feeling down, depressed, or hopeless). The PHQ-9 is easy to administer and has been used in both pregnant and nonpregnant samples. The Edinburgh Postnatal Depression Scale is a 10-item questionnaire to assess for postpartum depression, but has also been used to screen for symptoms of depression during pregnancy. Nurses should make referrals for mental healthcare providers for pregnant women who report symptoms of depression. Expectant fathers who report symptoms of depression should also be offered resources for community and healthcare services available to them. Prenatal clinics should have available a list of resources, including local community resources, for both pregnant women and expectant fathers who experience depressive symptoms.

The Association of Women's Health, Obstetric and Neonatal Nurses (AWHONN), the American College of Nurse Midwives (ACNM), and other professional organizations provide resources for nurses who care for women with depressive symptoms. For example, AWHONN and ACNM joined the Alliance for Innovation in Maternal Health (AIM), a national initiative that aims to equip and empower every state, perinatal quality collaborative, hospital network/system, birth facility, and maternity care provider in the United States to improve maternal health. Representatives from AWHONN and ACNM collaborated on AIM patient safety bundles and tools, including the *Maternal Mental Health: Perinatal Depression and Anxiety* (Council on Patient Safety in Women's Health Care, 2016). This resource makes recommendation for: every clinical setting to be ready to assess women for depressive symptoms (e.g., establish a response protocol and identify screening tools for use based on local resources); every healthcare provider to recognize and prevent depressive symptoms (e.g., conduct validated mental health screening during appropriately timed patient encounters, to include both during pregnancy and in the postpartum period; provide appropriately timed perinatal depression and anxiety awareness education to women and family members or other support persons); every provider to know how to respond if he/she identifies a woman with depressive symptoms (e.g., initiate a stage-based response protocol for a positive mental health screen; provide appropriate and timely support for women, as well as family members and staff, as needed); and every clinical care setting to know how to report outcomes (e.g., establish a nonjudgmental culture of safety through multidisciplinary mental health rounds; establish local standards for recognition and response to measure compliance, understand individual performance, and track outcomes) (Council on Patient Safety in Women's Health Care).

Maternal–child nurses should assess risk factors for PTB for both expectant parents and provide support to couples who are at risk for PTB. Social support has been related to lower levels of psychological stress and depressive symptoms among pregnant women. Offering support to pregnant women and the fathers of their babies could improve mental health for expectant parents and has the potential to improve birth outcomes. There are also numerous online support groups for expectant mothers and fathers. Prenatal clinics/hospital settings should evaluate online resources for potential use in their practice based on their patients' needs.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Maternal–child nurses should assess risk factors for preterm birth for both expectant parents.

Disadvantaged neighborhoods and experiences of racial discrimination have been related to higher risk of PTB among Black women. However, data are lacking on the associations of disadvantaged neighborhoods and racial discrimination with PTB among Black expectant fathers.

Clinical Implications

- Assess pregnant women for adverse childhood events.
- Assess the levels of stress and depressive symptoms of both expectant parents.
- Make referrals to mental healthcare providers for pregnant women who report symptoms of depression.
- Offer resources for community and healthcare services for expectant fathers who report symptoms of depression.
- Provide support to couples who are at risk for preterm birth.

Research suggests that psychological stress and depressive symptoms might be the pathway by which disadvantaged neighborhoods and racial discrimination increase the risk of PTB among Black women. However, data are lacking on the examination of these potential pathways for expectant Black fathers. Future research needs to examine these relationships among expectant Black fathers.

Conclusion

Black women are 1.5 times more likely to experience PTB compared with White women (Martin et al., 2018). Research suggests that Black mother–Black father couples were two times more likely to have PTB compared with White mother–White father couples (Srinivasjois et al., 2012). Psychosocial factors (e.g., living in disadvantaged neighborhoods, experiencing racial discrimination and psychological stress) were related to PTB among Black women. However, data are limited for the relationship between psychosocial factors and PTB among Black expectant fathers. Future research needs to examine the role of fathers in risk for PTB. Maternal–child nurses should assess for symptoms of depression in both pregnant women and expectant fathers and offer resources for expectant parents. ✣

Carmen Giurgescu is an Associate Professor, College of Nursing, The Ohio State University, Columbus, OH. The author can be reached via e-mail at giurgescu.1@osu.edu

Dawn P. Misra is a Professor, Department of Family Medicine & Public Health Sciences, School of Medicine, Wayne State University, Detroit, MI.

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