



Discrimination and excessive weight gain during pregnancy among Black and Latina young women



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ABSTRACT

Rationale: Excessive weight gain during pregnancy is a major determinant of later life obesity among both Black and Latina women and their offspring. However, psychosocial determinants of this risk, including everyday discrimination, and potential moderators of such effects remain unexplored.

Objective: We examined the influence of discrimination, a culturally relevant stressor, on odds of gaining weight beyond Institute of Medicine recommendations during pregnancy. Whether the effect was moderated by race/ethnicity, age, or depressive symptoms was also examined.

Method: Participants were 413 Black and Latina pregnant young women, ages 14–21 years. Experience with discrimination and all moderators were assessed in the second trimester. Last weight recorded in the third trimester was abstracted from medical records and used to determine excessive weight gain.

Results: Ever experiencing discrimination was associated with a 71% increase in the odds of excessive weight gain. The effect of discrimination was primarily present among women who attributed this treatment to membership in a historically oppressed group (e.g., ethnic minority, female) or to membership in other stigmatized groups (e.g., overweight). The effect of ever experiencing discrimination was not moderated by race/ethnicity or age but was moderated by depressive symptoms. Supporting the perspective of the environmental affordances model, discrimination strongly predicted excessive weight gain when women were low in depressive symptoms but had no effect when women were high in depressive symptoms. The moderating role of depressive symptoms was equivalent for Black and Latina women.

Conclusion: Results highlight the role of discrimination in perpetuating weight-related health disparities and suggest opportunities for improving health outcomes among young pregnant women.

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Overweight and obesity are serious threats to health worldwide. Almost 70% of adults and one-third of children and adolescents in the United States (U.S.) are overweight or obese, with a body mass index (BMI) of 25–29.9 or ≥ 30 kg/m², respectively (Ogden et al., 2014). Women of color have been disproportionately affected by this epidemic. The prevalence of overweight and obesity among

Black and Latina women is 82.1% and 76.2%, respectively, 17% and 12% higher than the prevalence among White women (Ogden et al., 2014). Elevated rates of overweight and obesity among Black and Latina women are evident in adolescence and continue to climb into adulthood (Ogden et al., 2014).

The majority of women gain weight beyond medical recommendations during pregnancy (Caulfield et al., 1996; Gould Rothberg et al., 2011; Wells et al., 2006). Excessive pregnancy weight gain, in turn, increases risk for obesity in subsequent years among both mother and child due to increased postpartum weight retention and large for gestational age babies, respectively

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(Amorim et al., 2007; Frederick et al., 2008; Gould Rothberg et al., 2011; Magriples et al., 2009; Oken et al., 2008). The literature examining differences in weight gain by race/ethnicity is mixed, with some studies indicating that Black women are particularly likely to exceed recommendations relative to White women (Wells et al., 2006). Latinas are consistently less likely to exceed recommendations than Black and White women (Gould Rothberg et al., 2011; Wells et al., 2006). However, they remain an important group to study in the context of pregnancy weight gain given their increased risk for obesity in later life.

A growing body of research indicates that experiencing everyday discrimination, characterized by ongoing day-to-day experiences of being treated differently than others, is associated with increased waist circumference and abdominal fat over time, and ultimately increased weight (Cozier et al., 2009; Hickson et al., 2012; Hunte, 2011; Lewis et al., 2011). The effect of discrimination on weight-related outcomes persists whether attributed to race/ethnicity (Cozier et al., 2009) or not attributed to any specific factor (Lewis et al., 2011). However, null effects have also been observed (Hunte and Williams, 2009; Vines et al., 2007), suggesting the need to continue evaluating conditions under which discrimination affects weight-related outcomes.

Discrimination is believed to affect health outcomes because, as a chronic stressor (Mays et al., 2007), it impairs the sympathetic nervous system and alters hypothalamic-pituitary-adrenal axis (HPA-axis) reactivity to and recovery following exposure to a stressor (Bjorntorp, 2001). In the context of weight gain, the stress hormone cortisol, which is released by the HPA-axis in response to stress, can influence both overeating and the accumulation of abdominal fat (Bjorntorp, 2001; Epel et al., 2001). Everyday discrimination has been shown to affect levels of cortisol during pregnancy (Thayer and Kuzawa, 2015), suggesting one potential pathway through which discrimination may contribute to excess pregnancy weight gain and future obesity among women. However, the association between discrimination and pregnancy weight gain has not been examined in previous research.

Demographic factors, including race/ethnicity and age, may moderate the relationship between discrimination and pregnancy weight gain. Following the arguments that Black individuals have a different history of oppression in the U.S. and that Latinos are more likely to be immigrants and therefore may be less sensitized to detecting the subtle indications of prejudice that are common in day-to-day life, racial discrimination in particular has been found to more strongly affect Black relative to Latino individuals (Gee et al., 2006). Yet, other research has observed no differences by race/ethnicity in the influence of discrimination due to any cause on health (Earnshaw et al., 2013; Lewis et al., 2013). Similarly, age may alter the relationship between discrimination and health. Early adolescence may be a critical period during which discrimination and stigma strongly influence initiation of maladaptive behaviors (Gibbons et al., 2007; Reid et al., 2014). On the other hand, the “weathering” hypothesis indicates that experiences with discrimination accumulate, strongly impacting older adults’ health (Geronimus et al., 2006). Thus, it is unclear whether and in what direction race/ethnicity and age might affect the relationship between discrimination and weight gain.

Depression and other mood disorders have primarily been considered as outcomes of discrimination (Pascoe and Smart Richman, 2009), or as potential confounders or mediators of the influence of discrimination on health (Earnshaw et al., 2013; Gibbons et al., 2004; Lewis et al., 2015). However, the moderating role of depression has also been examined. Chae et al. (2012) found that history of a mood disorder heightened the effect of discrimination on cardiovascular disease risk. On the other hand, the environmental affordances model (Mezuk et al., 2013) has

demonstrated a tradeoff, whereby discrimination may affect either mental or physical health but not necessarily both. Specifically, Black women who smoke, use substances, and/or are obese (an indicator of unhealthy eating) have a lower likelihood of developing depression in response to chronic stress than women who engage in none of these practices (Boardman and Alexander, 2011; Jackson et al., 2010; Mezuk et al., 2010). This model draws on research demonstrating that each of these behaviors reduces the experience of stress. Consuming unhealthy foods, for example, dampens HPA-axis response to stress (Dallman, 2010; Foster et al., 2009; Pecoraro et al., 2004). Likewise, although cigarettes and alcohol both activate the HPA-axis, they also act on the dopamine system, producing feelings of calm and relaxation and dampening the body’s response to stressful events (Koob et al., 1998; Pierce and Kumaresan, 2006). Black women may prefer unhealthy eating as the most gender- and socially-appropriate physical means for coping with stress (Giscombe, 2005; Jackson et al., 2010), especially while pregnant. This research has viewed the presence of obesity as an indicator of coping with stress in a manner that either protects against or masks the effects of stress on depression. Likewise, the presence of heightened depressive symptoms may be seen as an indicator of coping with stress in a manner that limits its effects on obesity and excess weight gain. Discrimination may therefore have less effect on weight gain among women with heightened depressive symptoms. Thus, as with race/ethnicity and age, there are conflicting views regarding whether depression may exacerbate or dampen the effect of discrimination on weight.

The present research sought to make a novel contribution to the literature by prospectively examining the relationship between everyday discrimination and weight gain during pregnancy, a contributing factor to later life obesity, among Black and Latina young women. Because these young women are likely to be exposed to discrimination on the basis of a number of different characteristics (e.g. race/ethnicity, language, income level, etc.) we examined discrimination due to any cause, rather than specifically due to race/ethnicity. We predicted that reports of discrimination in the second trimester of pregnancy would be associated with excessive weight gain in the third trimester, over and above important covariates. Given mixed results in previous research, we explored whether the influence of discrimination was moderated by race/ethnicity, age, and depressive symptoms.

1. Method

1.1. Procedures

Data were drawn from the control condition of a randomized controlled trial testing the efficacy of group prenatal care versus standard individual prenatal care (Ickovics et al., 2015). Fourteen study sites in New York City were randomized. The present analysis reports data from the seven sites randomized to standard prenatal care. Young women receiving prenatal care at a study site between 2008 and 2011 were invited to participate. Inclusion in the study required that the woman was 14–21 years old, no more than 24 weeks gestation, not considered high-risk (e.g., HIV positive), willing to be randomized, and comfortable speaking English or Spanish.

Structured interviews were completed in English or Spanish using Audio-Handheld Assisted Personal Interview, allowing participants to simultaneously listen to and read questions, then enter their responses on a handheld computer. Participants received \$20 for participation in each interview. All self-report data used in the present analysis were taken from interviews conducted at study enrollment in the second trimester, between 14 and 24 weeks gestation. Procedures were approved by the Institutional Review

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