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African American and White women's perceptions of weight gain, physical activity, and nutrition during pregnancy

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ABSTRACT

Objective: To describe African American and White women's perceptions of weight gain, physical activity, and nutrition during pregnancy and to explore differences in perceptions by race.

Design: Qualitative interview study.

Setting: Two Ob/Gyn clinics in South Carolina, USA.

Participants: Thirty pregnant women (15 African American, 15 White) between 20 and 30 weeks gestation, equally represented across pre-pregnancy BMI categories (10 normal weight, 10 overweight, and 10 obese).

Findings: White women more frequently described intentions to meet weight gain, physical activity, and dietary guidelines in pregnancy than African American women. African American women were more concerned with inadequate weight gain while White women more commonly expressed concerns about excessive weight gain. More White women discussed the importance of physical activity for weight management. Regardless of race, few women described risks of excessive weight gain or benefits of physical activity as it relates to the baby's health. The primary cited barrier of healthy eating was the high cost of fresh produce.

Key conclusions and implications for practice: Several knowledge gaps as well as race differences were identified in women's perceptions and intentions toward weight gain, physical activity, and nutrition during pregnancy. Future interventions should seek to educate women about common misperceptions. It may be necessary to culturally tailor gestational weight gain interventions to optimise health outcomes.

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Introduction

The high and increasing prevalence of women who enter pregnancy overweight or obese is a major public health concern. Approximately 75% of Non-Hispanic Black women and 50% of Non-Hispanic White women of childbearing age are overweight or obese (Flegal et al., 2012). The increasing trend in pre-pregnancy BMI seems to parallel the increasing trend of excessive gestational

weight gain, with up to 50% of women exceeding the Institute of Medicine (IOM) weight gain guidelines during pregnancy (National Research Council and Institute of Medicine, 2007; Olson, 2008; Simas et al., 2011).

Excessive gestational weight gain is associated with many adverse health outcomes, including an increased risk of gestational diabetes, preeclampsia, caesarean birth, macrosomia, and overweight or obesity in the mother (Guelinckx et al., 2008; Nehring et al., 2011; Hernandez, 2012). Evidence also suggests an association between excessive gestational weight gain and future overweight and obesity in the offspring (Lau et al., 2014). Given the high prevalence of excessive weight gain and the adverse health implications for both mother and child, there is a clear need for effective gestational weight gain interventions.

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A growing body of literature has examined the efficacy of interventions to limit gestational weight gain. Interventions have included dietary counselling, physical activity promotion, weight gain tracking charts, as well as behavioural change strategies (Muktabhant et al., 2012; Thangaratinam et al., 2012). Overall, results have been modest and there is substantial heterogeneity across studies. A Cochrane review including 27 randomized controlled trials and semi-randomized trials concluded there was insufficient evidence to recommend any intervention for preventing excessive pregnancy weight gain in part due to the small observed effect sizes (Muktabhant et al., 2012). In order to develop more effective gestational weight gain interventions, it is first necessary to better understand women's perceptions of weight gain and related behaviours during pregnancy.

Few studies have examined women's attitudes toward weight gain, physical activity, or nutrition in pregnancy. Some evidence suggests that there is a general lack of knowledge of the risks of excessive weight gain (Groth and Kearney, 2009; Brooten et al., 2012; Groth et al., 2012). Other studies have identified misperceptions about the risks and benefits of exercise during pregnancy (Evenson and Bradley, 2010; Goodrich et al., 2013; Padmanabhan et al., 2015). While it appears the health benefits of proper nutrition are better understood, women consistently cite many barriers to healthy eating, including lack of self-control in response to cravings (Goodrich et al., 2013; Sui et al., 2013; Padmanabhan et al., 2015). Some data also suggest there may be racial or ethnic differences in how women view these topics, particularly for weight gain and exercise (Groth and Kearney, 2009; Evenson and Bradley, 2010; Brooten et al., 2012; Groth et al., 2012; Sui et al., 2013). However, research examining race differences in women's perceptions is limited and warrants further investigation.

The Theory of Planned Behavior (TPB) was developed to predict and explain behaviours and serves as a framework for behaviour change interventions (Ajzen, 1985, 1991). This theory posits that attitudes, subjective norms, and perceived behavioural control influence behavioural intentions and thus behaviours. This theory has been used extensively in research examining health behaviours such as physical activity and diet (Symons Downs and Hausenblas, 2005; McEachan et al., 2011), and has also been used in pregnant populations (Downs and Hausenblas, 2003). The TPB is therefore well suited to guide the exploration of women's perceptions of weight-related behaviours in pregnancy.

The aim of the current study is to use the TPB framework to describe African American and White women's perceptions of weight gain, physical activity, and nutrition during pregnancy using qualitative methods and to explore differences in perceptions by race. Findings may facilitate the development of more effective gestational weight gain interventions.

Methods

Participants

A total of 30 patients were recruited to take part in qualitative interviews from June–August, 2014 at two clinics in South Carolina; a medium sized obstetrics and gynaecologist (Ob/Gyn) university clinic and a large women's health clinic that primarily serves uninsured and underinsured patients. Patients were recruited using flyers posted in the clinics and via in-person recruitment during a antenatal visit. Eligibility criteria for patients include: African American or White women, 20–30 weeks gestation, singleton pregnancy, pre-pregnancy BMI of >18.5 – 45.0 kg/m², 18–44 years old, and initiated antenatal care ≤ 16 weeks gestation. Women were screened for eligibility over the telephone or in-person. Five African American and five White women were purposively

recruited who were normal weight, overweight, and obese, respectively, in order to better represent the views of women resembling the general population. Underweight women were not included in this study due to the small percentage of underweight women in South Carolina. We continued to recruit participants until five women had completed interviews in each category based on race and BMI.

Interview guide

An interview guide was developed using the TPB to assess women's perceptions of weight gain, physical activity, and healthy eating during pregnancy. The guide addressed the following areas: (1) weight gain, physical activity, and dietary intentions during pregnancy; (2) personal beliefs toward weight gain, physical activity, and healthy eating during pregnancy, including perceived advantages and disadvantages (attitudes); (3) beliefs of important others about weight gain, physical activity, and healthy eating during pregnancy (subjective norm), and (4) perceptions of current weight gain, physical activity, and nutrition guidelines during pregnancy, including barriers and facilitators to meeting guidelines (perceived behavioural control). Sample questions are included in Table 1. If needed, participants were prompted to expand on their answers and provide additional details.

Behavioural intentions were assessed before women were informed of guidelines to limit social desirability bias. Women were then provided with a verbal and written description of the current weight gain, physical activity, and nutrition guidelines during pregnancy in order to assess perceptions of these guidelines. Weight gain recommendations were based on the 2009 IOM guidelines and were tailored based on the woman's pre-pregnancy body mass index (BMI). It is recommended that normal weight women (BMI 18.5–24.9 kg/m²) gain 25–35 pounds (11.3–15.9 kg) in pregnancy, overweight women (BMI 25.0–29.9 kg/m²) gain 15–25 pounds (6.8–11.3 kg), and obese women (BMI ≥ 30.0 kg/m²) gain 11–20 pounds (5.0–9.1 kg) (Institute of Medicine and National Research Council, 2009). Physical activity recommendations during pregnancy were based on the 2008 Physical Activity Guidelines for Americans, or 150 minutes of moderate to vigorous intensity physical activity per week (U.S. Department of Health and Human Services, 2008). Nutrition recommendations were based on the 2010 Dietary Guidelines for Americans (U.S. Department of Agriculture and U.S. Department of Health and Human Services, 2010). Specifically, women were told that a healthy diet includes plenty of fruits and vegetables, low fat dairy products, protein, fibre, and whole wheat breads and pastas instead of refined grains like white bread, rice, and pasta. It also recommended women to watch portion sizes and to avoid eating too much of very sugary or fatty foods.

Additional measures

Participants completed an interviewer-administered survey following the interview. Sociodemographic measures included: age, highest grade or years of education, income level, employment status, marital status, and parity. Self-rated health, fruit and vegetable consumption (cups/day), smoking status, and major chronic health conditions were also assessed. Physical activity was measured using the validated short form of the International Physical Activity Questionnaire (IPAQ) (Craig et al., 2003; Ekelund et al., 2006). Respondents were categorized as inactive, minimally active, or exceeding public health recommendations, as recommended by the IPAQ short form guidelines for data processing and analysis, (IPAQ Research Committee, 2004).

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