A Qualitative Study of Motivators and Barriers to Healthy Eating in Pregnancy for Low-Income, Overweight, African-American Mothers

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ABSTRACT

Poor diet quality is common among low-income, overweight, African-American mothers, placing them at high risk for adverse pregnancy outcomes. We sought to better understand the contextual factors that may influence low-income African-American mothers' diet quality during pregnancy. In 2011, we conducted semi-structured interviews with 21 overweight/obese, pregnant African Americans in Philadelphia, PA, all of whom received Medicaid and were eligible for the Special Supplemental Nutrition Program for Women, Infants, and Children. Two readers independently coded the interview transcripts to identify recurrent themes. We identified 10 themes around motivators and barriers to healthy eating in pregnancy. Mothers believed that consuming healthy foods, like fruits and vegetables, would lead to healthy babies and limit the physical discomforts of pregnancy. However, more often than not, mothers chose foods that were high in fats and sugars because of taste, cost, and convenience. In addition, mothers had several misconceptions about the definition of healthy (eg, "juice is good for baby"), which led to overconsumption. Many mothers feared they might "starve" their babies if they did not get enough to eat, promoting persistent snacking and larger portions. Living in multigenerational households and sharing resources also limited the mothers' control over food choices and made consuming healthy foods especially difficult. Despite the good intentions of low-income African-American mothers to improve diet quality during pregnancy, multiple factors worked together as barriers to healthy eating. Interventions that emphasize tasty and affordable healthy food substitutes, address misconceptions, and counsel mothers about true energy needs in pregnancy may improve low-income, African-American, overweight/obese mothers' diet quality.
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DIET QUALITY IN PREGNANCY IS A STRONG DETERMINANT of maternal and infant health.[1] Poor diet quality can result in micronutrient deficiencies that predispose to neural tube defects, preterm birth, and infants born small for gestational age.[2,3] In addition, reduced fruit and vegetable intake, along with increased consumption of energy-dense, fried foods have been linked to excessive gestational weight gain,[4-6] increasing risk of diabetes in pregnancy, hypertension, and complications at delivery.[7]

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Both income and pregravid weight status have been shown to be important predictors of diet quality in pregnancy.[8-13] Evidence suggests that low-income, overweight and obese mothers consume less vegetables, iron, and folate and more fried potatoes, juice, whole milk, and high-fat biscuits/muffins than their normal-weight pregnant counterparts.[8,11] Previous investigators have speculated that cost, palatability, and food availability among low-income, obese mothers might be major drivers of energy-dense and nutrient-poor choices.[11] However, few studies have explored factors influencing diet quality in pregnancy from the perspectives of these high-risk mothers,[14-18] and these investigations are limited by a lack of focus solely on dietary intake, little data about motivators and barriers to healthy eating, and scant recommendations for intervention planning. With prevalence rates of obesity among low-income women >50%,[19] and the highest rates among those self-identifying as African American, a better understanding of the contextual factors and beliefs that impact low-income

African-American mothers' eating habits in pregnancy is urgently needed.

The objective of this study was to understand the perceptions of low-income, overweight, and obese, African-American mothers about diet quality in pregnancy, specifically focused on what facilitators and barriers exist to eating healthy. Identifying these perspectives is critical for developing effective interventions to improve low-income African-American mothers' diet quality. We used qualitative research methods because they are ideally suited for understanding how an individual's frame of reference and social context influence health-related behaviors.[20]

METHODS

Study Design and Participants

We conducted semi-structured individual interviews with pregnant African-American participants in 2011. One of the study authors (A.A.K.) recruited mothers from the waiting room of a single university-affiliated outpatient prenatal care clinic in Philadelphia, PA, which served primarily Medicaid-insured patients. We restricted enrollment to those mothers who self-identified as African American, were at least 18 years of age, and received Medicaid (income proxy). We included mothers of all gestational ages, but tried to oversample mothers in early pregnancy (first or second trimesters), as dietary quality during this period is especially critical for fetal development and maternal antenatal health.[17,18]

Of the 49 mothers screened for eligibility, we excluded 9 mothers who were under 18 years of age, 10 who did not self-report African-American race/ethnicity, and 1 who was disinterested, leaving 29 mothers scheduled for interviews. We completed 24 individual interviews, as 5 mothers did not show on their scheduled interview day. For this analysis, we also excluded participants with a prepregnancy body mass index (BMI) <25 (n=3), as these mothers were few in number and at low risk for poor diet quality in pregnancy.[8,11] Thus, 21 pregnant participants were included in this analysis. Each participant provided written consent and was compensated for time and travel with $50 in cash. The Temple University Institutional Review Board approved the study protocol.

Data Collection

Interviews were conducted by one of the study authors (S.J.H.), a general internist with nearly 10 years of clinical experience working with low-income African-American women. The interviewer was white and was not involved in providing health care to the subjects. Interviews were held in a private office near the mothers' prenatal clinic; only the interviewer and participant were present for the 60- to 90-minute discussion. The interview guide and prompting questions were developed by the authors and informed by earlier research in this area, including previous qualitative studies about eating habits among African-American women.[21,22] All study questions were pilot tested for clarity among a convenience sample of two African-American mothers.

Questions were divided into the following broad categories: eating behaviors and beliefs about eating in pregnancy. Sample behavior questions included: "How has your eating changed now that you're pregnant?"; "Do you prepare your meals or eat out?"; "Do you do the food shopping for you and your family? How do you decide what to buy?" Sample belief questions included: "Do you think your diet is healthy now?"; "What might get in the way of eating healthier?"; "Do you feel like you have control over what you eat and the amount you eat?" Specific probing questions, such as "Can you tell me more about that?" or "Can you help me understand that better?" were used to clarify participant responses and narrow the discussion. Sessions were audio-recorded and transcribed verbatim.

At the time of their interview, participants were also asked to complete a questionnaire assessing demographics, food security (using the short form of the US Household Food Security Module),[23] prepregnancy weight, and height.

Data Analysis

Using principles of grounded theory,[24] two of the authors (N.R.R. and S.J.H.) independently coded the data to identify recurrent themes contained within the text of the interview transcripts, selecting participant comments that served as examples of each theme. Atlas.ti software (version 6.1, 2010, ATLAS.ti GmbH) was used to assist with data coding and management. The first three interviews were used to develop a coding template. The remaining interviews were coded independently by the two authors applying the coding template, which was modified as the analysis proceeded. The two reviewers met regularly to assess the level of concordance about themes and their supporting comments, discuss emerging or new themes, and check for completeness of the codes. Coding disagreements were discussed until consensus was reached, with transcripts regularly revisited for context.

RESULTS

Participant Characteristics

The majority of mothers were in their first or second trimester of pregnancy (n=15 [71%]) and multiparous (n=16 [76%]). Mean age was 23.8±5.0 years (range=18 to 37 years) and mean prepregnancy BMI was 32.0±6.3 (range=26 to 41). Approximately one third (n=7 [33%]) had not completed high school and nearly half (n=10 [48%]) were unemployed. Although 19 (90%) mothers reported they were single, all participants lived with other adults or children (average number of people in the home was 2.6). Food insecurity was present in 7 (33%) mothers. Despite the fact that all mothers were eligible for the Special Supplemental Nutrition Program for Women, Infants, and Children (WIC), just over half (n=11 [52%]) were enrolled in WIC at the time of the interview.

Themes

We consolidated related themes and then separated them into two categories that emerged from patterns within the data: motivators of healthy eating (n=2) and barriers to healthy eating (n=8). Themes and representative quotes supporting each theme are summarized here and in Figures 1 and 2.

Motivators of Healthy Eating. Mothers shared that they were especially motivated to make healthy food choices during pregnancy in order to have a healthy baby (Theme 1). Compared with their eating habits before pregnancy, most mothers reported that healthy eating was now a higher