Obesity Risk Knowledge, Weight Misperception, and Diet and Health-Related Attitudes among Women Intending to Become Pregnant

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ABSTRACT

Objective Our aim was to evaluate obesity risk knowledge, weight misperception, and diet and health-related attitudes among women intending to become pregnant compared to those not intending to become pregnant.

Design We conducted a cross-sectional survey of health behaviors, including obesity risk knowledge, weight misperception, and diet and health-related attitudes among women (aged 16 to 40 years) attending reproductive health clinics in southeast Texas. Data were collected through self-administered questionnaires and chart review. Multivariable logistic regression analyses were performed to examine the association between pregnancy intention and obesity risk knowledge, weight misperception, and health-related attitudes after adjusting for age, race, income, and gravidity.

Results Overall, 1,726 women completed the survey, of which 1,420 responded to a question on pregnancy intention. Of these, 126 stated they were intending to become pregnant. Obesity risk knowledge (adjusted odds ratio = 1.14; 95% confidence interval [CI] 0.74 to 1.77) and weight misperception (adjusted odds ratio=1.17; 95% CI 0.75 to 1.83) did not differ between women intending and not intending to become pregnant. In addition, diet and health-related attitudes did not differ between these two groups ($P>0.05$ for all). Among women intending to become pregnant, 51% had low obesity risk knowledge and 31% misperceived their body weight. Further, 76% of these women felt confused about what constitutes a healthy diet, although 47% believed that their current diet was healthy and saw no reason to change their current eating patterns. While weight misperception did not differ significantly between the two groups, overweight women intending to become pregnant were more likely to misperceive their weight than obese women intending to become pregnant (71% vs 10%; $P<0.001$).

Conclusions There is a need for improved preconception counseling, especially for women intending to become pregnant, regarding the risks associated with being overweight or obese, misperception of body weight, and negative diet and health-related attitudes.
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MORE THAN HALF OF WOMEN OF CHILDBEARING age in the United States are overweight or obese, according to 2009-2010 data.[1] Excess weight is associated with several chronic conditions, such as diabetes and high blood pressure, which can increase the risk for adverse pregnancy outcomes, such as gestational diabetes, pre-eclampsia, cesarean delivery, stillbirth, congenital abnormalities, and delivery of a large-for-gestational-age infant if the woman becomes pregnant.[2-4] In addition, the offspring of obese women face an increased risk of obesity and related chronic diseases.[5-8] In 2006, the Center for Disease Control and Prevention's Select Panel on Preconception Care released recommendations to improve preconception care of women, including addressing preconception obesity and associated risks and improving health-related knowledge and attitudes of reproductive-aged women.[9] To reduce obesity-related risks, women should be advised to lose weight before conception.[10] However, many women often do not perceive themselves as overweight or obese, and may be less likely to try to lose weight, putting themselves and their child at risk.[11]

Previous research has also shown that overall, women of reproductive age have poor knowledge of the risks associated with obesity[12]; however, it is not known whether women intending to become pregnant have better diet and health-related knowledge and attitudes as compared to women not intending to become pregnant. To address these gaps, this study was designed to assess obesity risk

knowledge, misperception of body weight, and diet and health-related attitudes among women intending to become pregnant as compared to women not intending to become pregnant.

METHODS

The University of Texas Medical Branch Institutional Review Board approved the administration of a cross-sectional survey (English and Spanish) on health behaviors. The surveys were administered to nonpregnant women (aged 16 to 40 years) attending reproductive health clinics located in southeast Texas from July 2010 to February 2011. These clinics serve low-income women, and >80% had annual incomes <$30,000/year. Women were seen for family-planning services, pregnancy testing, treatment of sexually transmitted infections, and cervical cancer screening. All eligible participants were approached and asked whether they would agree to complete a health survey. A total of 2,059 eligible women were approached. Of these, 1,726 agreed to participate and 333 declined. The overall response rate was 83.8%. Of these 1,726 participants, 1,420 responded to the question on pregnancy intention. All analyses reported in this study were based on these 1,420 women.

After obtaining informed consent, participants completed a self-administered questionnaire that included questions pertaining to sociodemographic characteristics. Race and ethnicity were categorized as non-Hispanic white, non-Hispanic black, and Hispanic by self-identification. Height and weight were obtained from data recorded in the participant's medical chart. Body mass index (BMI) was calculated as weight (kg)/height (m^2). Women with a BMI <25.0 were classified as underweight and normal weight, ≥25.0 to 29.9 were considered overweight, and ≥30.0 were considered obese.

Pregnancy intention was assessed using the question, "Are you trying or hoping to get pregnant right now?" The response options were "yes" and "no." We used the Obesity Risk Knowledge (ORK-10) instrument (this contains 10 questions; 1 point for each correct response and 0 for incorrect or "do not know" response, for a total score range of 0 to 10) to measure obesity-related health risk knowledge. The ORK-10 scale has been reported to be reliable, discriminant, and valid, with high internal consistency (Cronbach α=.83).[13] A higher score indicates a higher level of obesity risk knowledge. Diet and health-related attitudes were measured using a subscale from the US Department of Agriculture's Diet and Health Knowledge Survey (DHKS), 1994-1996,[14] which was developed to collect information related to nutrition knowledge, health awareness, and dietary attitudes.

Self-perception of weight was measured by asking, "How do you describe your weight?" Response options included "very underweight," "slightly underweight," "about the right weight," "slightly overweight," and "very overweight," For analysis purposes, these five response options were collapsed into the following categories: underweight (this included slightly underweight and very underweight), normal weight (this included about the right weight), and overweight (this included slightly overweight and very overweight). Women were also asked the question "What would you like to weigh?" Response options included "less than I currently weigh," "the same as I currently weigh," and "more than I currently weigh."

Completed surveys were reviewed individually by a research assistant for missing items and inconsistencies and then reconciled and sent to another staff member for data entry. Descriptive statistical procedures were used to evaluate the data for accuracy and consistency. In addition, to ensure a precise representation of the physical data, 10% of all weekly surveys were contrasted with their corresponding electronic data.

Univariate and bivariate comparisons were performed using the Student's t test, χ^2 test, and Fisher's exact test, as appropriate. Adjusted multivariable logistic regression analyses were performed to examine the association of pregnancy intention with obesity risk knowledge, weight misperception, and diet and health-related attitudes. Sociodemographic variables with a $P \leq 0.20$ on bivariate analyses were included into the multivariable models. Age in continuous scale was included in multivariable models. All analyses were performed using Stata software, version 12 (2011, Stata Corp).

RESULTS

The mean±standard deviation age of the 1,420 women was 26.2±6.2 years. Of these women, 8.9% (126 of 1,420) were intending to become pregnant (mean age 25.7±6.0 years). Women intending to become pregnant were more likely to be non-Hispanic black than non-Hispanic white (P=0.03) or Hispanic (P=0.05), and less likely to have had a prior pregnancy (P=0.01) as compared to those not intending to become pregnant (Table 1). While there was no difference in BMI between the groups, the majority of women intending to become pregnant were overweight or obese (≥25).

The mean score on the ORK scale was 5.4 for both groups (range=1 to 10). The obesity risk knowledge and weight misperception did not differ significantly between women intending to become pregnant and not intending to become pregnant (P=0.89 and P=0.59, respectively). These did not differ between the groups irrespective of BMI class (Table 2). The association between pregnancy intention, obesity risk knowledge, and weight misperception did not differ significantly between the groups, even after adjusting for age, race/ethnicity, annual income, and gravidity (adjusted odds ratio=1.14; 95% confidence interval [CI] 0.74 to 1.77 and adjusted odds ratio=1.17; 95% CI 0.75 to 1.83, respectively). While weight misperception did not differ significantly between women intending to become pregnant and not intending to become pregnant, there was a significant difference in weight misperception based on BMI class among women intending to become pregnant; >70% of overweight women misperceived their weight compared to 30% of underweight and normal weight women (P<0.01) and only 10% of obese women (P<0.01) (Table 3).

Bivariate and multivariable logistic regression analyses did not show any significant differences in the percentage of women agreeing to the statements measuring diet and health-related attitudes between women intending to become pregnant and those not intending (Table 4). Among women intending to become pregnant, 43% agreed with the statement "Some people are born to be fat and some thin; there is not much you can do about it"; 47% agreed with the statement "The things I eat and drink now are healthy so