

Nutrition, Physical Activity and Obesity

PRAMS Indicators: Prepregnancy Obesity, Preconception Dieting and Exercise

Background

One *Healthy People 2020* objective related to nutrition and weight status is to reduce to 30.6% the proportion of adults who are obese.¹ Among adults aged 20 years and older, obesity is measured by body mass index (BMI), which is calculated from a person's weight and height (weight in kilograms divided by the square of the height in meters). BMI categories for adults 20 years of age and older include underweight (BMI<18.5), normal weight (BMI:18.5-24.9), overweight (BMI:25.0-29.9), and obese (BMI≥30.0). Recent data from the 2009-2010 National Health and Nutrition Examination Survey (NHANES) show that 35.7% of U.S. adults 20 years and older are obese.² Being overweight or obese is associated with an increased risk of developing chronic conditions such as heart disease, stroke, diabetes, and certain cancers, all of which are among the leading causes of death in the nation. CDC has identified Nutrition, Physical Activity, and Obesity as a Winnable Battle.³



Weight status in women is of particular concern due to the association between higher than normal body weight and adverse reproductive outcomes. Obese women are at increased risk for infertility, pregnancy loss, complications during pregnancy such as hypertensive disorders and gestational diabetes, and cesarean delivery. Fetal risks include prematurity, stillbirth, neural tube defects, and an increased risk of the child becoming obese or developing heart disease in the future.⁴⁻⁷ In addition, obese mothers are less likely than those of normal weight to begin breastfeeding their new baby or to continue breastfeeding after initiation.⁸

Focusing on modifiable risk factors such as eating habits and physical activity to achieve a healthy weight prior to conception could increase the chances of a healthy pregnancy and delivery.

PRAMS Questions

Q1*: *Just before* you got pregnant with your new baby, how much did you weigh? Response options are ___ Pounds or ___ Kilos.

Q2*: How tall are you without shoes? Response options are ___ Feet ___ Inches or ___ Meters.

*NOTE: Q1 and Q2 were used to calculate BMI (kg/m^2) among women 20 years of age and older, with a BMI of 30.0 and above considered obese.

Q3: At any time during the *12 months before* you got pregnant with your new baby, did you do any of the following things? Response options are Yes and No.

- I was dieting (changing my eating habits) to lose weight

- I was exercising 3 or more days of the week

Findings from women who delivered a live-born infant in 2009 in any of the 29 PRAMS states that met the response rate threshold of 65%* are included in this report. Please note that findings regarding prepregnancy obesity are reported only for participants who were 20 years of age or older at the time they completed the survey.

Findings in Brief

About 1 in 5 (22.6%) women aged 20 years and older who delivered a live-born infant in 2009 were obese prior to becoming pregnant (Figure 1). The prevalence of obesity was highest among women who were 35 years of age and older (24.0%); black, non-Hispanic (32.1%); had a high school education (27.6%); and reported Medicaid as their source of insurance coverage before pregnancy (29.6%). The prevalence of obesity was lowest among women who were 20-34 years of age (22.3%); of “other” race/ethnicity (13.4%); had more than a high school education (19.7%); and who reported having private insurance coverage before pregnancy (19.7%).

Dieting (changing their eating habits) to lose weight before getting pregnant was reported by 28.0% of women delivering a live-born infant in 2009 (Figure 2). The prevalence of dieting during the preconception period was highest among women who were at least 20 years of age (29.3%); white, non-Hispanic (29.9%); had more than a high school education (32.3%); and reported private insurance coverage before pregnancy (31.4%). The prevalence of dieting during the preconception period was lowest among women younger than 20 years of age (16.9%); black, non-Hispanic (24.0%); women with less than a high school education (18.8%); and women who reported Medicaid as their source of insurance coverage before pregnancy (20.5%).

Exercising three or more days of the week before getting pregnant was reported by 39.8% of women (Figure 3). The prevalence of preconception exercise was highest among women who were at least 35 years old (43.3%); white, non-Hispanic (44.4%); had more than a high school education (47.1%); and reported private insurance coverage before pregnancy (46.5%). The lowest prevalence of preconception exercise was found among women who were younger than 20 years of age (35.5%); black, non-Hispanic (31.5%); had less than a high school education (29.7%); and who reported Medicaid as their source of insurance before pregnancy (29.8%).

Public Health Implications

Providing high-quality preconception and interconception care and ensuring that a woman is in optimal health prior to becoming pregnant can greatly reduce adverse pregnancy outcomes. There are recommendations to improve the quality of preconception care and to address certain risk factors such as obesity.⁹ Providers should counsel obese women about associated pregnancy-related complications and encourage action steps for weight reduction, such as changing eating habits and increasing physical activity before trying to become pregnant. It is equally important to advise women on the appropriate amount of weight to gain during pregnancy based on their prepregnant weight status.^{10,11}

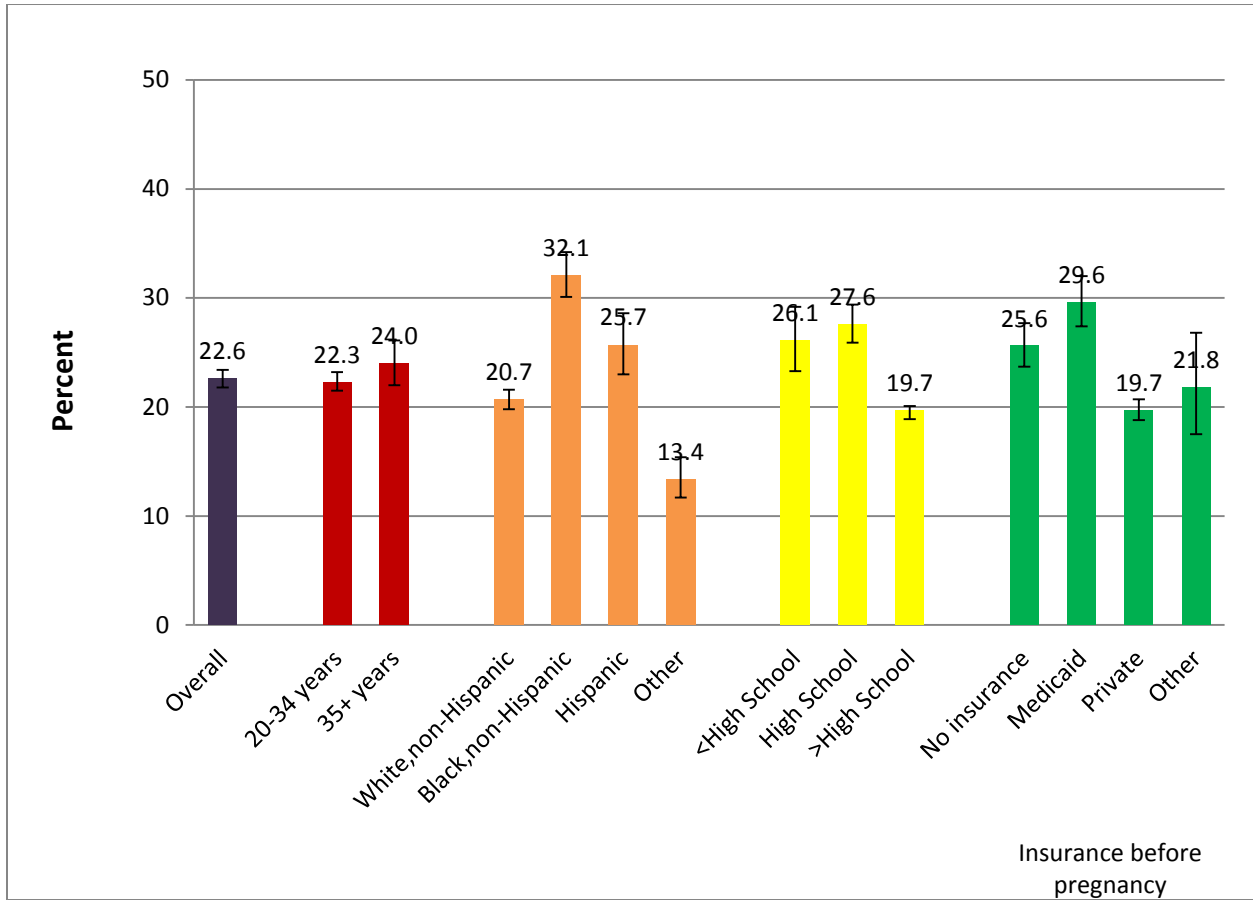
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PRAMS provides data on self-reported maternal prepregnancy weight status, which can be used to estimate the prevalence of women who are overweight and obese prior to pregnancy. In addition, PRAMS collects data regarding prepregnancy dieting and exercise. Understanding these types of preconception behaviors can help to guide development of interventions that increase the prevalence of women who are at a healthy weight when they become pregnant, which could ultimately lead to improvements in birth outcomes.

References

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Figure 1. Prevalence of prepregnancy obesity* among women aged 20 years and older, stratified by selected maternal demographics, 29 states†, Pregnancy Risk Assessment Monitoring System, 2009



*Prepregnancy obesity among women aged 20 years and older is defined as body mass index (BMI) ≥ 30.0 . BMI is calculated as weight in kilograms divided by the square of the height in meters.

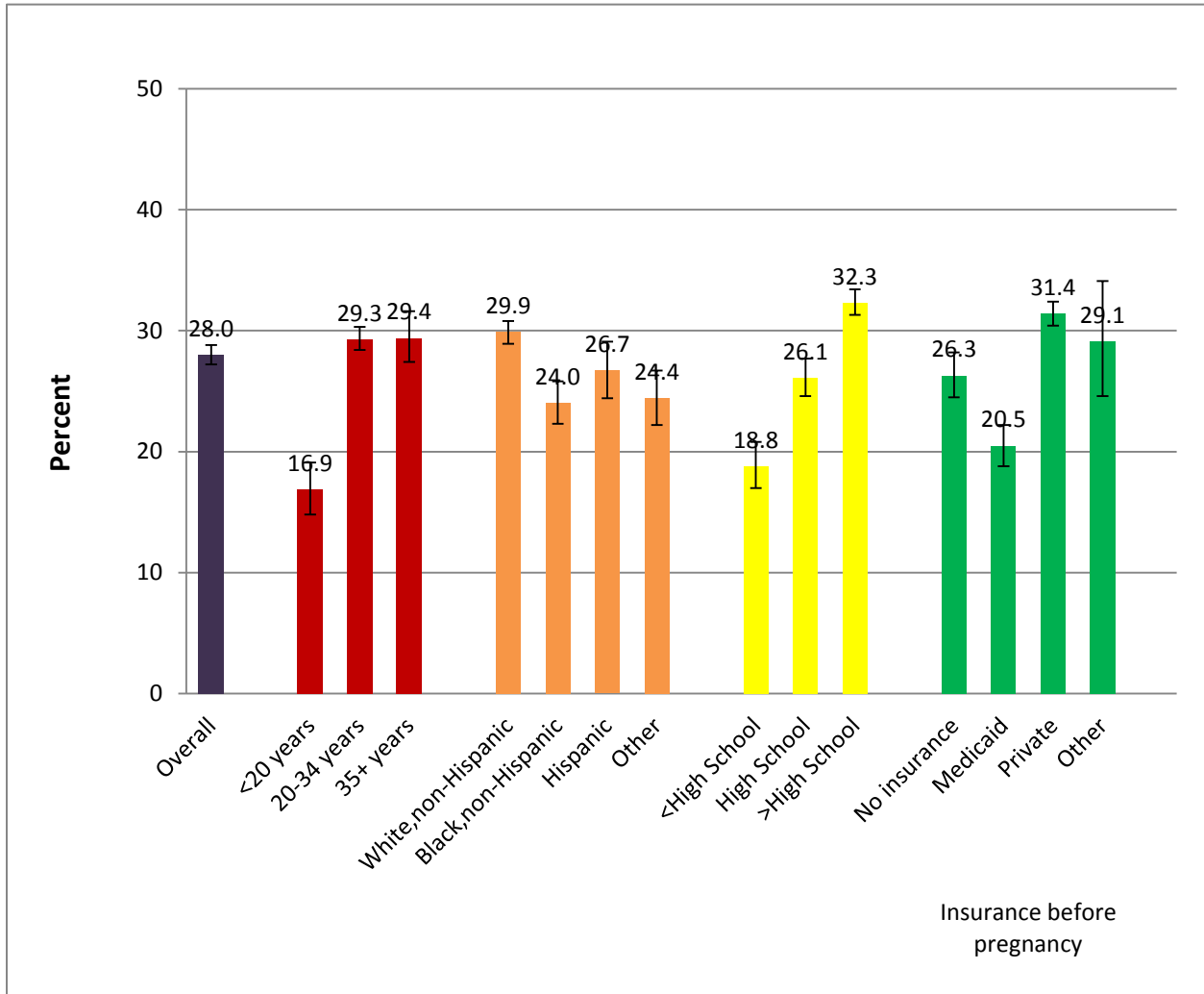
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Table 1. Prevalence of prepregnancy obesity among women aged 20 years and older, stratified by selected maternal demographics, 29 States*, PRAMS, 2009

	Prevalence of prepregnancy Obesity (BMI \geq 30.0)		Prevalence of prepregnancy normal weight, overweight, or underweight (BMI<30.0)	
	Percent (%)	95% CI	Percent (%)	95% CI
Overall	22.6	21.8-23.4	77.4	76.6-78.2
Maternal age				
20-34 years	22.3	21.5-23.2	77.7	76.8-78.5
35+ years	24.0	22.0-26.1	76.0	73.9-78.0
Maternal race/ethnicity				
White, non-Hispanic	20.7	19.8-21.6	79.3	78.4-80.2
Black, non-Hispanic	32.1	30.0-34.2	67.9	65.8-70.0
Hispanic	25.7	23.0-28.6	74.3	71.4-77.0
Other	13.4	11.7-15.4	86.6	84.6-88.3
Maternal education				
<High School	26.1	23.3-29.2	73.9	70.8-76.7
High School	27.6	25.9-29.4	72.4	70.6-74.1
>High School	19.7	18.9-20.7	80.3	79.3-81.2
Insurance before pregnancy				
No insurance	25.6	23.7-27.7	74.4	72.3-76.3
Medicaid	29.6	27.4-32.0	70.4	68.0-72.7
Private	19.7	18.8-20.7	80.3	79.3-81.2
Other	21.8	17.5-26.8	78.2	73.2-82.5

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Figure 2. Prevalence of prepregnancy dieting stratified by selected maternal demographics, 29 States*, PRAMS 2009



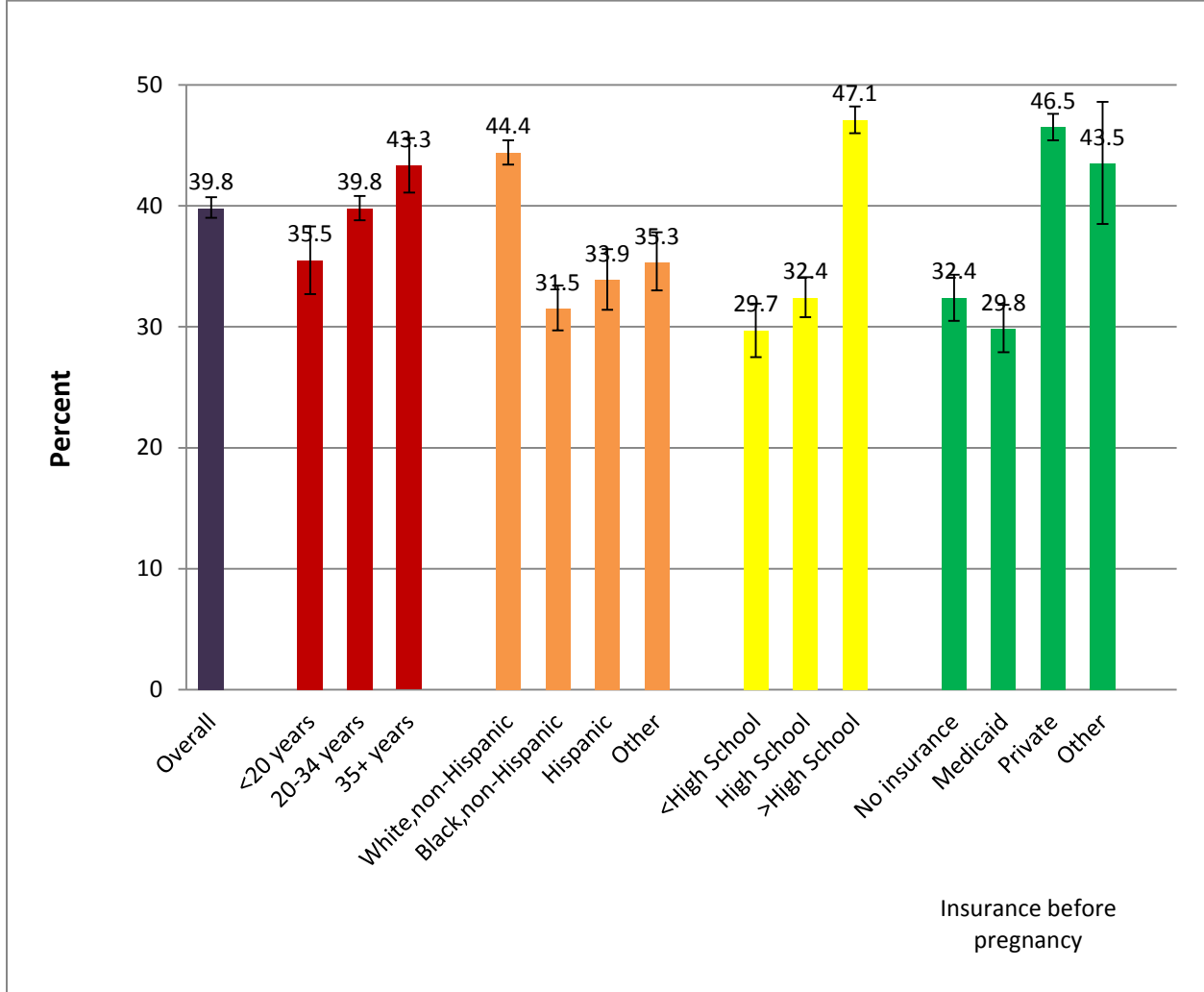
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Table 2. Prevalence of prepregnancy dieting stratified by selected maternal demographics, 29 States*, PRAMS 2009

	Prevalence of preconception dieting	
	Percent (%)	95% CI
Overall	28.0	27.2-28.8
Maternal age		
<20 years	16.9	14.8-19.1
20-34 years	29.3	28.4-30.3
35+ years	29.4	27.4-31.6
Maternal race/ethnicity		
White, non-Hispanic	29.9	28.9-30.8
Black, non-Hispanic	24.0	22.3-25.8
Hispanic	26.7	24.4-29.1
Other	24.4	22.2-26.7
Maternal education		
<High School	18.8	17.0-20.8
High School	26.1	24.6-27.7
>High School	32.3	31.3-33.4
Insurance before pregnancy		
No insurance	26.3	24.5-28.2
Medicaid	20.5	18.8-22.2
Private	31.4	30.4-32.4
Other	29.1	24.6-34.1

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Figure 3. Prevalence of pre-pregnancy exercise stratified by selected maternal demographics, 29 States*, PRAMS 2009



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Table 3. Prevalence of prepregnancy exercise stratified by selected maternal demographics, 29 States*, PRAMS 2009

	Prevalence of prepregnancy exercise ≥ 3 days/week	
	Percent (%)	95% CI
Overall	39.8	39.0-40.7
Maternal age		
<20 years	35.5	32.7-38.3
20-34 years	39.8	38.8-40.8
35+ years	43.3	41.1-45.6
Maternal race/ethnicity		
White, non-Hispanic	44.4	43.4-45.4
Black, non-Hispanic	31.5	29.7-33.4
Hispanic	33.9	31.4-36.4
Other	35.3	33.0-37.8
Maternal education		
<High School	29.7	27.5-31.9
High School	32.4	30.8-34.1
>High School	47.1	46.0-48.2
Insurance before pregnancy		
No insurance	32.4	30.5-34.3
Medicaid	29.8	27.9-31.8
Private	46.5	45.4-47.6
Other	43.5	38.5-48.6

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