Disparities in obesity prevalence in the United States: black women at risk\textsuperscript{1,2}

Cynthia L Ogden

The prevalence of obesity among black women in America is higher than it is in most other subgroups. In 2005–2006, 52.9% of non-Hispanic black women aged \textgeq 20 y were obese compared with 37.2% of non-Hispanic black men and 32.9% of non-Hispanic white women. Moreover, the highest prevalence of extreme obesity, 13.7%, was found among non-Hispanic black women. This compares with 5.9% among black men and 6.7% among white women [unpublished data, based on the National Health and Nutrition Examination Survey (NHANES) 2005–2006].

Understanding the causes of this disparity will help in the design and targeting of appropriate interventions. In this issue of the Journal, Robinson et al (1) contribute to this effort; they showed that the disparity between young black men and black women is highest in families with the lowest level of parental education.

Data on obesity prevalence and trends from the NHANES provide an overall context to this finding. NHANES measures the weight and height of a nationally representative sample of individuals. The data document significant increases in the prevalence of obesity in all age and race-ethnic groups over the past 25 y. In fact, the prevalence more than doubled from 13.4% in 1960–1962 to 35.1% in 2005–2006 among adults aged 20–74 y (2). Moreover, the entire distribution of body mass index (BMI; in kg/m\textsuperscript{2}) has shifted to the right and has become more skewed (3), indicating that the heaviest individuals have gotten even heavier. This skewness can be seen in the change in prevalence of extreme obesity, which increased from 0.9% in 1960–1962 to 6.2% in 2005–2006 among adults aged 20–74 y (2).

Similar changes in BMI have occurred among teens in the past 25 y. In 2003–2006, 17.6% (4) of teens aged 12–19 y had high BMIs (BMI \textgeq 95th percentile) compared with 5.0% in 1976–1980 (5). Non-Hispanic black teen girls suffer from the highest prevalence of high BMI; in 2003–2006, 27.7% of non-Hispanic black teen girls had high BMIs compared with 14.5% of non-Hispanic white teen girls and 18.5% of non-Hispanic black teen boys (4).

Recent trends between 1999 and 2006 suggest that obesity among children and women may be leveling off (3, 4, 6). Among men, however, obesity prevalence continued to increase during this period (3).

Disparities in obesity prevalence are not only related to differences between black and white women or black men and black women. Significant inverse associations between income and obesity have been seen in non-Hispanic white women, and significant positive associations have been documented among Mexican American men (5). Among both men and women, there are significant differences in obesity prevalence by age group after adjusting for race-ethnic group. Between 1999 and 2004, younger women (20–39 y) were less likely to be obese compared with women aged 40–59 and 60–79 y (6). In 2005–2006, 41.1% of women aged 40–59 y were obese compared with 30.5% of 20–39-y-old women (3). And, among non-Hispanic blacks \textgeq 60 y, 36.8% of men and 61% of women were obese in 2005–2006 (3). In addition, Mexican American women and girls have increased risk of obesity compared with non-Hispanic white women and girls. Among women aged 40–59 y, Mexican Americans are significantly more likely to be obese compared with whites (3). Moreover, Mexican American teenage girls are significantly more likely to have high BMIs compared with their white counterparts (4). The relation between education and obesity disparity between young black men and women reported by Robinson et al (1) may also explain other disparities, such as those shown between non-Hispanic white and black women, those between older black men and women, or those between Mexican American and non-Hispanic white women.

NHANES data suggest that the relation between obesity and income may have changed during the past 10 y. Between 1988–1994 and 1999–2002, the increase in obesity prevalence was highest in the high-income group for all race-ethnic groups. Among non-Hispanic black women, the prevalence of obesity among the lowest income group (poverty-income ratio < 130%) increased from 42.1% to 51%; in the highest income group (poverty-income ratio \geq 350%), the prevalence increased from 28.8% to 45.5% (7, 5). Similar changes may have occurred in the

\textsuperscript{1} From the National Center for Health Statistics, Centers for Disease Control and Prevention, Hyattsville, MD.
\textsuperscript{2} Reprints not available. Address correspondence to CL Ogden, National Center for Health Statistics, Centers for Disease Control and Prevention, 3311 Toledo Road, Room 4414, Hyattsville, MD 20782. E-mail: cogden@cdc.gov.

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relation between education and obesity documented by Robinson et al.

The research presented by Robinson et al is based on data from the National Longitudinal Study of Adolescent Health in 1994–1995 and 2001–2002. The authors state that weight and height were measured in 2001–2002. But self-reported data were substituted when measured data were not available for 5.4% of respondents, including 7.2% of black females and 5.6% of white females. Individuals tend to underreport weight and overreport height, which leads to an underestimation of BMI (8). Self-reported data (and degree of under- or overestimation) may not be randomly distributed across education level of parents. Without an adjustment, this may have resulted in some distortion of results.

Other research has explored why African American women experience such a high prevalence of obesity. Differences in how BMI tracks from childhood to adulthood between blacks and whites have been documented. Freedman et al (9) showed that BMI increases with age were larger among black girls than among white girls. Differences in weight perception between white and black women (10) have also been suggested as an explanation for why black women suffer from a disproportionate level of obesity compared with white women. It is clear that obesity is a complex condition, and there are many factors that contribute to disparities in prevalence.

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REFERENCES