Racial and Ethnic Differences in Weight Management Behavior by Weight Perception Status

Rashida R. Dorsey, PhD, MPH; Mark S. Eberhardt, PhD; Cynthia L. Ogden, PhD

Objective: To examine racial/ethnic differences in the relationship between weight perception and weight management behaviors among overweight and obese adults.

Participants: The study examined a nationally representative sample of 11,319 non-Hispanic White, non-Hispanic Black and Mexican American overweight and obese adults aged ≥20 years from the 1999–2006 National Health and Nutrition Examination Survey.

Design: Body mass index (BMI, defined as weight in kilograms divided by height in meters squared) was used to categorize overweight (25≤BMI<30) and obesity (BMI≥30). Measured height and weight were used to calculate BMI. Subjects reported self-perception of weight status (correct perception and misperception) and weight management behaviors over the previous 12 months (trying to lose weight, trying not to gain weight, and having a desired weight goal). Weight perception stratified logistic regression was used to model odds of weight management behavior by race/ethnicity.

Results: Among overweight and obese non-Hispanic White, non-Hispanic Black, and Mexican American adults, correct weight perception was positively associated with weight management behavior. In multiple logistic regression models, overweight non-Hispanic Blacks with a weight misperception were less likely to have tried to lose weight (adjusted odds ratio [aOR]=.7; 95% confidence interval [CI]=.5,1.0) or to have tried not to gain weight (aOR=.7; 95% CI=.5,1.0) compared to overweight non-Hispanic Whites with a weight misperception. Among the obese with a misperception, non-Hispanic Blacks were less likely to desire to weigh less compared to non-Hispanic Whites (aOR=.5; 95% CI=.3,.9).

Conclusions: Weight perception was associated with weight management behaviors, and this relationship varied by race/ethnicity. Weight perception may need to be addressed among overweight and obese individuals to increase appropriate weight management behaviors, particularly among minority communities. (*Ethn Dis.* 2010;20:244–250)

Key Words: Obesity, Weight management, Weight Perception, Race/Ethnicity, National Health and Nutrition Examination Survey

Introduction

Over two-thirds of the adult US population is overweight or obese with significant disparities by race/ethnicity.[1,2] Weight loss is often recommended for obese individuals, with the goal of reducing risk for, or severity of, obesity-related outcomes.[3–6] The initiation and maintenance of weight loss by obese individuals, however, is still a challenge and a barrier in reducing the prevalence of obesity and racial/ethnic disparities in obesity. Weight perception, the concept of how an individual perceives his or her weight appropriateness, has been shown to be related to weight loss behavior.[7–9] Among the overweight and obese, weight misperception, the discordance between perceived and measured weight, may be associated with lack of awareness of healthy weight levels or the desire to reach a healthy weight.

Racial and ethnic differences in weight perception have been reported previously. Overweight and obese non-Hispanic Blacks and Mexican Americans have been found to under-assess their weight and incorrectly perceive themselves to be at the recommended weight.[10–12] In addition, studies have found racial/ethnic differences in patterns of weight management and weight loss behaviors.[13–15] Few studies, however, have described racial/ethnic differences in the relationship between weight perception and weight management behavior together. Racial/ethnic differences in weight perception may be associated with weight management behaviors, and that relationship may be associated with the observed racial/ethnic differences in overweight and obesity. Investigating this relationship may provide useful and important data that could be used to design interventions to reduce prevalence and racial/ethnic differences in obesity.

The literature describing racial/ethnic differences in the relationship between weight perception and weight management using nationally representative data or assessments of weight perception based upon measured body mass index (BMI) is scant. The objective of this study was to examine the relationship between weight perception and weight management among overweight and obese non-Hispanic white, non-Hispanic black, and Mexican American adults and to determine whether weight management behavior varies by race/ethnicity after controlling for weight perception, using a nationally representative sample.

Overweight and obese non-Hispanic Blacks and Mexican Americans have been found to under-assess their weight and incorrectly perceive themselves to be at the recommended weight.[10–12]

From National Center for Health Statistics, Centers for Disease Control and Prevention, Hyattsville, MD (RRD, MSE, CLO), and Epidemic Intelligence Service, Centers for Disease Control and Prevention, Atlanta, GA (RRD).

Address correspondence to Rashida Dorsey, PhD, MPH; Office of the Assistant Secretary for Planning and Evaluation; 200 Independence Avenue, SW; Hubert Humphrey Building, Room 446F.7, Washington, DC 20201; 202-690-5925; 202-690-5882 (fax); rrdorsey@gmail.com

METHODS

Data Source and Design

Data from the National Health and Nutrition Examination Survey (NHANES) 1999–2006 were used in this analysis. NHANES is conducted by the National Center for Health Statistics (NCHS) of the Centers for Disease Control and Prevention, and is a nationally representative survey of the health and nutritional status of the US civilian, non-institutionalized population; since 1999 two-year samples are selected through a complex, multistage probability design.[16] NHANES consists of an in-person interview and physical examination. The protocol was approved by the NCHS Research Ethics Review Board. A cross sectional data analysis of NHANES data was performed for this study.

Participants

Overweight and obese adults aged ≥20 years completing the NHANES exam were included in this analysis. This report focuses on the overweight and obese, due to potential health risks associated with these BMI groups.[17] Underweight (BMI<18.5) and healthy weight individuals (18.5≤BMI<25.0) were excluded (n=5497). Overweight and obese women who were pregnant were excluded (n=763). The final analytic sample was 11,319.

Measures

Height and weight measurements were taken during the physical examination, and with a standardized protocol were used to calculate BMI (kg/m^2).[18] Body mass index classifications were based on cut-points established by the World Health Organization and recommended by the US Dietary Guidelines.[3,19] Individuals with a BMI≥25.0 and ≤29.9 were considered overweight; and individuals with BMI≥30 were considered obese. Prior to being weighed, participants were asked to classify their weight as overweight, underweight, or about the right weight. Overweight or obese respondents self-reporting underweight or about the right weight were classified as having a weight misperception, while those self-reporting overweight were classified as having the correct weight perception.

Weight management was investigated using three variables; desired weight, weight loss attempts, and an individual's attempts to maintain weight over the previous 12 months. Participants were asked if they desired to weigh: 1) more; 2) less; or 3) stay the same. Respondents were asked if they lost weight and the number of pounds lost, if any, over the previous 12 months. A second question asked participants who self-reported a weight loss of at least 10 pounds in the previous year if the weight loss was intentional or unintentional. Persons reporting an unintentional weight loss of at least 10 pounds were excluded, due to the possibility that the weight loss was due to chronic illness (n=653). Participants were then asked if they had tried to lose weight over the previous 12 months (yes/no). Participants were also asked if they had done anything to keep from gaining weight in the past 12 months (yes/no). The weight management response variables were categorized as dichotomous.

All demographic data were self-reported in the survey. We restricted race/ethnicity-specific analyses to non-Hispanic White, non-Hispanic Black and Mexican American due to the limited sample size of other groups. Education was categorized as less than high school, high school graduate including certificate of general education development (GED), or some college or greater.

Statistical Analysis

The prevalence of different weight management activities by weight perception status and race/ethnicity was calculated for overweight and obese persons. All analyses were stratified by BMI category. Two-sample t-tests were used to test for racial and ethnic differences in weight management practices within weight perception categories.

Logistic regression was used to model the odds of weight management behavior by weight perception status. Both simple and multiple logistic regression models (adjusted for age, race/ethnicity, sex, education level, and health insurance status) were conducted. In the adjusted models, race/ethnicity by weight perception interactions and sex by weight perception interactions were observed. Consequently, models were stratified by weight perception and BMI category. Race/ethnicity by sex interactions were also explored. Relevant sex stratified results are presented. The desired weight variable was only used for the adjusted regression models. In the unadjusted models, odds ratios for the desired weight variables were unreliable due to the extremely large cell sizes of persons with correct perception desiring to weigh less, and therefore not reported.

Data management was performed using SAS and statistical analyses were performed using SUDAAN to account for the complex survey design. Data were analyzed using sample weights to account for differential probabilities of sample selection, non-response and sample non-coverage. All prevalence estimates were age-standardized to the 2000 US population using the following age groups: 20–39, 40–59, and ≥60 years. The Bonferroni correction was used to adjust for multiple comparisons and because there were 6 comparisons, P-values less than .008 (0.05/6) were considered statistically significant.

For logistic regression models, 95% confidence intervals of odds ratios (odds of weight management behavior) were used to determine significance. If the confidence interval did not contain 1, the associated odds ratio was considered statistically significant.

Table 1. Selected characteristics of overweight and obese adults aged ≥20 years by race/ethnicity, NHANES 1999–2006

Characteristic % (SE)	Total *N*=11319	Non-Hispanic White *n*=5770	Non-Hispanic Black *n* =2677	Mexican American *n* =2872
Age (mean years(± SE)	48.2 (.3)	49.7 (.4)	44.8 (.3) * †	39.8 (.4) *
Sex ‡				
Male	52.0 (.6)	54.0 (.8)	40.5 (.9) * †	52.2 (.7)
Education ‡				
Less than high school	19.6 (.7)	13.1 (.8)	31.0 (1.4) *†	58.1 (1.4)*
High school graduate or GED	27.4 (.7)	28.6 (.9)	24.3 (1.0)	18.0 (.8)
Some college or greater	53.0 (1.0)	58.3 (1.3)	44.7 (1.5)	23.9 (1.3)
Health insurance‡				
Present	83.0 (.7)	87.1 (.7)	79.7 (1.0) * †	58.9 (1.6) *
BMI Classification‡				
Obese	49.2 (.7)	47.8 (.9)	58.4 (1.0) *	46.9 (1.1)

* $P<.008$ compared to non-Hispanic White.
† $P<.008$ compared to Mexican American.
‡ Age-standardized to the 2000 U.S. population.

RESULTS

Demographic characteristics of the study population are described in Table 1. The mean age was approximately 48 years overall. Among those with a BMI≥25, non-Hispanic Blacks were more likely to be obese compared to both non-Hispanic Whites and Mexican-Americans (58% vs. 48% and 47%, respectively, $P<.008$).

Among overweight adults with a weight misperception, non-Hispanic Blacks and Mexican Americans were less likely to report two of the three weight management behaviors (Table 2) compared to non-Hispanic Whites. Almost all (98%) obese non-Hispanic Whites, non-Hispanic Blacks and Mexican Americans with a correct perception had the desire to weigh less. In contrast, less than half of obese non-Hispanic Whites, non-Hispanic Blacks and Mexican Americans with a weight misperception had the desire to weigh less (Table 2).

In simple logistic regression models, persons with a correct weight perception

Table 2. Age-standardized prevalence of weight management behaviors among overweight and obese adults aged ≥20 years, NHANES 1999–2006*

		Tried to lose weight	Tried not to gain weight	Desired weight		
Race/ethnicity %(SE)	Sample size	Yes	Yes	Less	Same	More
Overweight with misperception						
Total	2546	25.6 (1.4)	28.2 (1.4)	27.6 (1.4)	67.6 (1.4)	4.9 (.7)
Non-Hispanic White	1150	27.5 (1.9)	31.9 (1.9)	33.1 (1.9)	62.4 (2.0)	4.5 (1.0)
Non-Hispanic Black	643	20.4 (2.0)	21.5 (1.9)†	12.4 (1.7)†	78.9 (1.8)†	8.7 (1.1)
Mexican American	753	22.7 (2.0)	17.1 (1.9)†	18.6 (2.1)†	78.3 (2.1)†	3.2 (.7)
Overweight with correct perception						
Total	3119	57.6 (1.0)	53.8 (1.3)	96.2 (.5)	3.5 (.4)	‡
Non-Hispanic White	1887	57.9 (1.3)	55.1 (1.5)	96.6 (.5)	3.2 (.05)	‡
Non-Hispanic Black	484	60.3 (2.3)	52.6 (2.8)	93.5 (1.5)	‡	‡
Mexican American	748	52.7 (1.6)	42.9 (2.6)†	95.3 (1.1)	‡	‡
Obese with misperception						
Total	552	32.7 (3.4)	31.2 (3.7)	39.0 (3.8)	58.9 (3.8)	‡
Non-Hispanic White	171	35.5 (5.0)	34.5 (4.7)	46.7 (5.3)	51.7 (5.2)	‡
Non-Hispanic Black	229	27.9 (3.7)	28.5 (3.8)	28.2 (4.2)†	70.7 (4.2)‡	‡
Mexican American	152	27.6 (4.4)	‡	22.0 (4.3)†	72.8 (5.2)‡	‡
Obese with correct perception						
Total	4745	64.5 (1.0)	51.3 (.9)	98.3 (.2)	1.6 (.2)	‡
Non-Hispanic White	2410	64.3 (1.3)	52.1 (1.3)	98.2 (.3)	‡	‡
Non-Hispanic Black	1248	67.5 (1.2)	50.1 (1.5)	97.7 (.4)	‡	‡
Mexican American	1087	63.2 (1.5)	45.6 (2.2)	97.7 (.4)	‡	‡

* Age-standardized to the 2000 US population.
† $P < .008$, Compared to non-Hispanic Whites.
‡ Unreliable cell estimates, relative standard error>30%.

Table 3. Odds of weight management behavior for persons with correct weight perception among overweight and obese non-Hispanic white, non-Hispanic black and Mexican-American males and females*†

	Overweight		Obese	
	Tried to lose weight OR (95% CI)	Tried not to gain weight OR (95% CI)	Tried to lose weight OR (95% CI)	Tried not to gain weight OR (95% CI)
Non-Hispanic White male	2.8 (2.2–3.6)	2.4 (1.8–2.9)	2.4 (1.5–3.7)	1.9 (1.3–2.9)
Non-Hispanic Black male	5.8 (3.8–8.8)	4.0 (2.4–6.5)	3.6 (2.1–5.9)	1.7 (1.1–2.8)
Mexican American male	3.6 (2.6–5.1)	3.3 (2.3–4.9)	3.3 (1.7–6.2)	3.1 (1.3–7.3)
Non-Hispanic White female	3.9 (2.7–5.7)	3.2 (2.2–4.8)	5.0 (2.0–12.6)	2.4 (1.1–5.0)
Non-Hispanic Black female	5.9 (3.6–9.6)	4.6 (3.0–7.3)	7.4 (4.1–13.2)	4.1 (2.1–8.0)
Mexican American female	2.6 (1.8–3.7)	3.1 (1.7–5.4)	2.6 (1.6–7.4)	2.6 (1.1–5.8)

* Compared to persons with a weight misperception.
† Models adjusted for age only.

were more likely to report trying to lose weight or trying not to gain weight. (Table 3). This association was found for both the overweight and obese, as well as for the entire sample, and for each racial/ethnic group. The magnitude of association was strongest among non-Hispanic Black females.

In models stratified by weight perception and adjusted for covariates, overweight non-Hispanic Blacks with a weight misperception were less likely than non-Hispanic Whites to have tried to lose weight or to have tried not to gain weight.(Table 4) Among obese persons with a weight misperception, non-Hispanic Blacks were less likely than non-Hispanic Whites to have the desire to weigh less. Among overweight adults with a correct weight perception, non-Hispanic Blacks were less likely than non-Hispanic Whites to desire to lose weight. There were no significant racial/ethnic differences for any weight management behavior observed among the obese with a correct weight perception.

Among overweight persons with a weight misperception, an interaction between race/ethnicity and sex was found in the model predicting desired weight. Therefore, to control for this, sex stratified models were developed to estimate the odds ratios between the race/ethnic groups for the desire to weigh less. Non-Hispanic Black men (OR= 0.3, 95% CI 0.2–0.5) and Mexican American men (OR = 0.6, 95% CI 0.3–1.0) were less likely to desire to weigh less compared to non-Hispanic White men. Additionally, among women, non-Hispanic Blacks were less likely to desire to weigh less compared to non-Hispanic Whites (OR = 0.2, 95% CI 0.1–0.5). No statistically significant differences between Mexican American women and non-Hispanic White women were found (OR = 1.1, 95% CI 0.6–2.0).

Sex and education level differences in weight management behaviors were also observed in adjusted logistic regression models. Among the overweight and obese with a correct perception men were less likely to report weight management behavior compared to women. Persons with less than high school education and those with a high school education or GED were less likely than persons with some college education or beyond to report weight management behavior among the overweight and obese with correct weight perception and among the overweight with a weight misperception.

DISCUSSION

This study investigated the relationship between weight perception and reported weight management behavior among overweight and obese non-Hispanic White, non-Hispanic Black and Mexican American adults using a nationally representative sample. We found that overweight and obese persons with a weight misperception were less likely to have the desire to lose weight, and less likely to have tried to lose weight or not to gain weight compared to persons with a correct weight perception, among the three racial/ethnic groups represented in the sample. These findings are consistent with earlier reports that have linked satisfaction with body size and weight perception with weight management behavior.[7,20–22]

This study also found that weight management behavior varied by race/ethnicity, after stratifying by weight perception. Racial/ethnic differences in weight management preferences and behaviors among the overweight have been reported in the literature. One study investigating the correlation between body weight and desired weight found that overweight and obese Black women and overweight Hispanic wom-

We found that overweight and obese persons with a weight misperception were less likely to have the desire to lose weight, and less likely to have tried to lose weight or not to gain weight compared to persons with a correct weight perception.

Table 4. Adjusted odds ratios for weight management behaviors among overweight and obese adults aged ≥20 years with and without weight misperception, NHANES 1999–2006†**

Tried to lose weight		Tried not to gain weight		Desired weight is less	
Covariate	**OR (95% CI)**	**Covariate**	**OR (95% CI)**	**Covariate**	**OR (95% CI)**
Overweight with Misperception					
Race		Race			
NHB	.7 (.5, 1.0) ‡	NHB	.7 (.5, 1.0) ‡	Presented in text§	
MA	1.4 (1.0, 1.9)	MA	1.0 (.7, 1.4)		
Sex		Sex			
Male	.6 (.5, 1.0) ‡	Male	1.0 (.7, 1.4)		
Insurance		Insurance			
Present	1.4 (1.0, 2.0)	Present	1.6 (1.1, 2.5)		
Education		Education			
Less than HS	.4 (.3, .5)	Less than HS	.2 (.2, .3)		
HS or GED	.6 (.4, .8)	HS or GED	.5 (.3, .6)		
Overweight with correct perception					
Race		Race		Race	
NHB	1.1 (.8, 1.4)	NHB	1.0 (.8, 1.2)	NHB	.5 (.3, 1.0)‡
MA	1.1 (.6, 1.4)	MA	.9 (.6, 1.1)	MA	1.1 (.5, 2.7)
Sex		Sex		Sex	
Male	.5 (.4, .5)	Male	.7 (.6, 1.1)	Male	.3 (.2, .5)
Insurance		Insurance		Insurance	
Present	1.3 (1.0, 1.7)	Present	1.6 (1.2, 2.2)	Present	1.2 (.7, 2.1)
Education		Education		Education	
Less than HS	.5 (.4, .7)	Less than HS	.5 (.4, .7)	Less than HS	.4 (.2, .8)
HS or GED	.7 (.6, .9)	HS or GED	.7 (.6, .9)	HS or GED	.6 (.4, 1.2)
Obese with misperception					
Race		Race		Race	
NHB	.8 (.4, 1.3)	NHB	.8 (.5, 1.4)	NHB	.5 (.3, .9)
MA	.9 (.4, 1.9)	MA	.7 (.3, 1.5)	MA	.5 (.2, 1.1)
sex		Sex		Sex	
Male	1.2 (.6, 2.2)	Male	1.1 (.6, 2.0)	Male	.9 (.5, 1.8)
Insurance		Insurance		Insurance	
Present	1.2 (.7, 2.3)	Present	1.9 (1.0, 3.8) ‡	Present	1.3 (.7, 2.6)
Education		Education		Education	
Less than HS	.8 (.4, 1.6)	Less than HS	.7 (.4, 1.3)	Less than HS	.5 (.2, 1.0)
HS or GED	.9 (.5, 1.7)	HS or GED	.8 (.4, 1.5)	HS or GED	.9 (.5, 1.9)
Obese with correct perception					
Race		Race		Race	
NHB	1.1 (.9, 1.3)	NHB	1.0 (.8, 1.1)	NHB	.7 (.4, 1.5)
MA	1.1 (.9, 1.3)	MA	1.0 (.8, 1.3)	MA	1.3 (.6, 2.9)
Sex		Sex		Sex	
Male	.6 (.5, .7)	Male	.8 (.7, .9)	Male	.3 (.2, .6)
Insurance		Insurance		Insurance	
Present	1.4 (1.1, 1.7)	Present	1.5 (1.2, 1.9)	Present	2.3 (1.2, 4.5)
Education		Education		Education	
Less than HS	.6 (.5, .8)	Less than HS	.5 (.4, .6)	Less than HS	.5 (.2, 1.2)
HS or GED	.6 (.5, .7)	HS or GED	.6 (.5, .7)	HS or GED	.8 (.3, 1.9)

* All models include age.
† For race/ethnicity, non-Hispanic White is referent.
‡ Confidence limit rounded to 1; actual confidence interval does not include 1.
§ Race/ethnicity by gender interaction significant in model, gender stratified models presented in manuscript text.
Note: OR= odds ratio, CI= confidence interval, NHB= non-Hispanic Black, MA=Mexican American.

en were more likely to have the desire to maintain their current weight than White women.[23] Reports have also shown racial/ethnic differences in barriers and facilitators and strategies for weight loss among the overweight and obese.[15,24,25] These earlier findings, coupled with the data from the present study, suggest that racial/ethnic differences in weight goals among the overweight and obese exist and that weight perception may play a role.

Weight perception may be a mediator for weight management behavior. Misperception of weight may be a

barrier to weight loss efforts, while correct weight perception may be a facilitator. Among those with a weight misperception, non-Hispanic Blacks were less likely than non-Hispanic Whites to engage in some weight management behaviors. This suggests that perhaps weight misperception is more of a barrier for weight management behavior among non-Hispanic Blacks than non-Hispanic Whites. Racial/ethnic differences in other mediators for weight management behavior have also been noted. For instance, in one study of obese women, non-Hispanic Whites cited lack of commitment and depression as strong barriers to weight loss, while non-Hispanic Blacks cited culture and ethnicity and family as strong barriers to weight loss.[24]

Racial/ethnic differences in the relationship between weight perception and weight management behavior may influence the observed racial/ethnic differences in overweight and obesity. Previous reports have shown racial/ethnic differences in both weight perception and body image; with overweight and obese non-Hispanic Blacks and Mexican Americans more likely to under-assess their weight and for non-Hispanic Blacks to be more satisfied with a larger body image than non-Hispanic Whites.[12,22,26–29] Studies have also linked satisfaction with body image with diminished weight loss behavior among overweight women.[22,23] Prior research, however, has not documented racial/ethnic differences in weight management behavior stratified by weight perceptions status. The present study has found an association between weight perception and weight management behavior, and has also shown racial/ethnic differences in certain weight management behaviors among overweight and obese adults, primarily among those with a weight misperception.

The Strategic Plan for Obesity Research of the NIH Obesity Task Force includes health disparities as an obesity-related research priority and recommends that research and outreach programs place special emphasis upon racial/ethnic minorities and other populations disproportionately affected by obesity.[30] The results from our study reinforce the NIH Task Force conclusion of the continued importance of research and intervention programs aimed at reducing obesity-related health disparities. The current findings draw attention to the importance of personal awareness of excess weight for weight management behavior for different racial/ethnic groups, which may be useful to support culturally tailored programs and community-based initiatives. Our finding that non-Hispanic Blacks with a weight perception were less likely to report weight management behaviors compared to non-Hispanic Whites is generalizable to the US population, which indicates that this issue may not just be a local or regional health matter. Thus addressing weight perception in weight loss interventions targeted for this group may be particularly useful in many settings throughout the United States.

This study has some limitations. Weight management behavior variables were all self-reported, thus recall bias is possible. Body mass index was used to classify the measured weight status of persons involved in the study and it does not distinguish between weight that is adipose or muscle mass, consequently the cut point of 25 can lead to misclassification of muscular individuals as overweight. Moreover, some research suggests that the relationship between weight and health may differ between race/ethnicity groups for individuals at the same BMI.[31,32] It is therefore possible that some individuals classified as overweight based upon BMI may actually be considered to have a healthy weight based upon their specific body composition; which may result in misclassification of a weight misperception. Despite these limitations, BMI is still highly accepted as a tool to measure overweight and obesity, and is recommended by both the World Health Organization and U.S. dietary guidelines.[3,19] Finally, NHANES is limited to civilian, non-institutionalized adults and does not include individuals living in nursing homes or other institutions.

Weight perception was associated with reported weight management behaviors among overweight and obese non-Hispanic White, non-Hispanic Black, and Mexican American adults. The current findings suggest that after stratifying by weight perception, some weight management behaviors differ between non-Hispanic Blacks and non-Hispanic Whites. Increasing awareness of healthy weight levels may have implications for designing both individual and population level interventions that promote appropriate weight management behaviors, particularly among non-Hispanic Blacks.

ACKNOWLEDGMENTS

The findings and conclusions in this report are those of the authors and not necessarily of the US Department of Health and Human Services or the US Centers for Disease Control and Prevention.

REFERENCES

1. Ogden CL, Carroll MD, Curtin LR, et al. Prevalence of overweight and obesity in the United States, 1999–2004. *JAMA*. 2006; 295(13):1549–1555.
2. Ogden CL, Carroll MD, McDowell MA, Flegal KM. *Obesity among adults in the United States- No change since 2003–2004* NCHS data brief no.1, National Center for Health Statistics: Hyattsville, MD. 2007(1).
3. Racette SB, Deusinger SS, Deusinger RH. Obesity: overview of prevalence, etiology, and treatment. *Phys Ther*. 2003;83(3):276–288.
4. Ogden CL, Yanovski SZ, Carroll MD, Flegal KM. The epidemiology of obesity. *Gastroenterology*. 2007;132(6):2087–2102.
5. Willett WC, Dietz WH, Colditz GA. Guidelines for healthy weight. *N Engl J Med*. 1999;341(6):427–434.
6. Ross R, Dagnone D, Jones PJ, et al. Reduction in obesity and related comorbid conditions after diet-induced weight loss or exercise-induced weight loss in men. A randomized, controlled trial. *Ann Intern Med*. 2000;133(2): 92–103.

7. Kim KH. Religion, weight perception, and weight control behavior. *Eating Behaviors*. 2007;8:121–131.
8. French SA, Story M, Neumark-Sztainer D, Downes B, Resnick M, Blum R. Ethnic differences in psychosocial and health behavior correlates of dieting, purging, and binge eating in a population based sample of adolescent females. *Int J Eat Disord*. 1997; 22:315–322.
9. Befort CA, Thomas JL, Daley CM, Rhodes PC, Ahluwalia JS. Perceptions and beliefs about body size, weight, and weight loss among obese African-American women: A qualitative study. *Health Educ Behavior*. 2008;35:410–426.
10. Kuchler F, Variyam JN. Mistakes were made: misperception as a barrier to reducing overweight. *Int J Obes Relat Metab Disord*. 2003;27(7):856–861.
11. Paeratakul S, White MA, Williamson DA, et al. Sex, race/ethnicity, socioeconomic status, and BMI in relation to self-perception of overweight. *Obes Res*. 2002;10(5):345–350.
12. Dorsey RR, Eberhardt MS, Ogden CM. Racial and ethnic differences in weight perception. *Obesity*. 2009;17:790–795.
13. Tsai AG, Wadden TA, Pillitteri JL, et al. Disparities by ethnicity and socioeconomic status in the use of weight loss treatments. *J Natl Med Assoc*. 2009;101:62–70.
14. Davis EM, Clark JM, Carrese JA, Gary TL, Cooper LA. Racial and socioeconomic differences in weight-loss experiences of obese women. *Am J Public Health*. September 2005;95:1539–1543.
15. Bish CL, Blanck HM, Serdula MK, Marcus M, Kohl HW, Khan L. Diet and physical activity behaviors among Americans trying to lose weight: 2000 Behavioral Risk Factor Surveillance System. *Obes Res*. 2005;13: 596–607.
16. National Center for Health Statistics. Introduction to NHANES. Available at: http://www.cdc.gov/nchs/about/major/nhanes/intro_mec.htm. Last accessed April 1, 2008.
17. National Heart Lung and Blood Institute. NHLBI Obesity Education Initiative. Available at: http://www.nhlbi.nih.gov/about/oei/oei_pd.htm. Last accessed May 20, 2010.
18. National Health and Nutrition Examination Survey. Anthropometry Procedures Manual. Available at: http://www.cdc.gov/nchs/data/nhanes/nhanes_03_04/BM.pdf. Last accessed April 1, 2008.
19. US Department of Health and Human Services and US Department of Agriculture. *Dietary guidelines for Americans.* 6th ed. US Government Printing Office: Washington, DC, 2005.
20. Yancey AK, Simon PA, McCarthy WJ, et al. Ethnic and sex variations in overweight self-perception: relationship to sedentariness. *Obesity (Silver Spring)*. 2006;14(6):980–988.
21. Anderson LA, Eyler AA, Galuska DA, et al. Relationship of satisfaction with body size and trying to lose weight in a national survey of overweight and obese women aged 40 and older, United States. *Prev Med*. 2002;35(4): 390–396.
22. Anderson LA, Janes GR, Ziemer DC, Phillips LS. Diabetes in urban African Americans. Body image, satisfaction with size, and weight change attempts. *Diabetes Educ*. 1997;23(3): 301–308.
23. Mack KA, Anderson L, Galuska D, et al. Health and sociodemographic factors associated with body weight and weight objectives for women: 2000 behavioral risk factor surveillance system. *J Womens Health (Larchmt)*. 2004;13(9):1019–1032.
24. Blixen CE, Singh A, Thacker H. Values and beliefs about obesity and weight reduction among African American and Caucasian women. *J Transcult Nurs*. 2006;17(3): 290–297.
25. Blixen CE, Singh A, Xu M, Thacker H, Mascha E. What women want: Understanding obesity and preferences for primary care weight reduction interventions among African-American and Caucasian women. *J Natl Med Assoc*. 2006;98:1160–1170.
26. Caldwell MB, Brownwell KD, Wilfley DE. Relationship of weight, body dissatisfaction, and self-esteem in African American and white female dieters. *Int J Eat Disord*. 1997;22(2): 127–130.
27. Rand CSW, Kuldau JM. The epidemiology of obesity and self-defined weight problem in the general population: gender, race, age, and social class. *Int J Eat Disord*. 1990;9(3): 329–343.
28. Rucker CE, Cash TF. Body images, body-size perceptions, and eating behaviors among African-American and White college women. *Int J Eat Disord*. 1992;12(3):291–299.
29. US Department of Health and Human Services. Healthy People 2010: Understanding and Improving Health. Available at: http://www.healthypeople.gov/. Last accessed April 1, 2008.
30. US Department of Health and Human Services, National Institutes of Health. Strategic Plan for Obesity Research: A Report of the NIH Obesity Task Force. NIH Publication No 04-5493. August 2004.
31. Fernandez JR, Heo M, Heymsfield SB, et al. Is percentage body fat differentially related to body mass index in Hispanic Americans, African Americans, and European Americans? *Am J Clin Nutr*. 2003;77(1):71–75.
32. Evans EM, Rowe DA, Racette SB, et al. Is the current BMI obesity classification appropriate for Black and White postmenopausal women? *Int J Obes (Lond)*. 2006;30(5): 837–843.