Letters

RESEARCH LETTER

Change in Percentages of Adults With Overweight or Obesity Trying to Lose Weight, 1988-2014

Socially acceptable body weight is increasing.[1] If more individuals who are overweight or obese are satisfied with their weight, fewer might be motivated to lose unhealthy weight. This study assessed the trend in the percentage of adults who were overweight or obese and trying to lose weight during 3 periods from 1988 through 2014.

Methods | We used data from the National Health and Nutrition Examination Survey (NHANES), an ongoing, stratified, multistage probability sample of the US noninstitutionalized population designed to represent the health and nutritional status of the general population. A strength of NHANES is that the sampling approaches, interviews, and physical examination methods are standardized across surveys and have been published extensively elsewhere.[2] NHANES protocol was approved by the National Center for Health Statistics institutional review board, and written informed consent was obtained.[2] The current analysis was categorized as exempt by the Georgia Southern University institutional review board.

Periods examined in the current report were 1988-1994, 1999-2004, and 2009-2014. Response rates were approximately 80% with consistent nonresponse patterns across the 3 periods.[3] Participants aged 20 to 59 years who were overweight (a body mass index [BMI; calculated as weight in

Table. Trend in the Percentage of US Adults Aged 20 to 59 Years Who Were Overweight or Obese and Trying to Lose Weight in the Past Year by Sex and Race/Ethnicity, 1988-2014[a]

	1988-1994		1999-2004		2009-2014		
	Unweighted, No.[b]	Weighted, % (95% CI)[c]	Unweighted, No.[b]	Weighted, % (95% CI)[c]	Unweighted, No.[b]	Weighted, % (95% CI)[c]	*P* Value for Trend
Total							
Overweight and obese	6038	52.72 (50.76-54.68)	4802	61.84 (60.32-63.35)	5962	65.58 (63.53-67.63)	<.001
Obese	2701	21.71 (20.23-23.19)	2311	29.18 (27.48-30.88)	3188	33.77 (32.17-35.38)	<.001
Trying to lose weight[d]	3251	55.65 (53.61-57.69)	2128	47.09 (44.90-49.28)	2842	49.17 (47.49-50.85)	.11
Adjusted ratio[e]		1 [Reference]		0.88 (0.83-0.94)		0.83 (0.75-0.91)	<.001
Men							
White							
Overweight and obese	952	58.81 (56.06-61.56)	1051	66.27 (63.36-69.17)	1254	70.46 (67.58-73.34)	<.001
Obese	325	19.43 (17.72-21.14)	424	26.85 (24.29-29.41)	583	32.08 (29.20-34.97)	<.001
Trying to lose weight[d]	445	45.98 (42.65-49.31)	394	38.00 (34.67-41.33)	472	39.39 (36.38-42.39)	<.001
Adjusted ratio[e]		1 [Reference]		0.85 (0.73-0.99)		0.79 (0.63-0.98)	.04
Black							
Overweight and obese	809	56.40 (53.55-59.26)	435	59.51 (55.75-63.26)	590	65.35 (62.60-68.10)	<.001
Obese	311	20.68 (18.61-22.75)	200	27.47 (24.10-30.84)	315	35.09 (31.89-38.29)	<.001
Trying to lose weight[d]	314	37.97 (33.78-42.16)	135	30.08 (25.42-34.75)	239	40.66 (36.14-45.17)	.02
Adjusted ratio[e]		1 [Reference]		0.85 (0.69-1.04)		0.78 (0.58-1.06)	.12
Mexican American							
Overweight and obese	965	63.90 (60.24-67.56)	591	69.29 (64.19-74.38)	528	79.56 (75.50-83.62)	<.001
Obese	328	19.94 (16.87-23.01)	226	27.41 (22.96-31.86)	241	37.59 (33.46-41.72)	<.001
Trying to lose weight[d]	362	36.09 (32.93-39.25)	182	32.02 (27.06-36.97)	171	34.04 (29.80-38.29)	.15
Adjusted ratio[e]		1 [Reference]		0.88 (0.74-1.05)		0.82 (0.63-1.08)	.17

(continued)

Table. Trend in the Percentage of US Adults Aged 20 to 59 Years Who Were Overweight or Obese and Trying to Lose Weight in the Past Year by Sex and Race/Ethnicity, 1988-2014[a] (continued)

	1988-1994		1999-2004		2009-2014		
	Unweighted, No.[b]	Weighted, % (95% CI)[c]	Unweighted, No.[b]	Weighted, % (95% CI)[c]	Unweighted, No.[b]	Weighted, % (95% CI)[c]	*P* Value for Trend
Women							
White							
Overweight and obese	905	43.57 (40.24-46.90)	1027	53.50 (50.23-56.76)	1123	58.68 (55.54-61.83)	<.001
Obese	454	21.46 (18.59-24.34)	546	28.99 (26.34-31.65)	652	31.84 (29.35-34.34)	<.001
Trying to lose weight[d]	662	72.86 (69.26-76.45)	581	60.64 (57.37-63.90)	660	62.47 (58.69-66.25)	<.001
Adjusted ratio[e]		1 [Reference]		0.81 (0.70-0.93)		0.73 (0.59-0.89)	.003
Black							
Overweight and obese	1193	63.67 (60.48-66.86)	614	75.94 (73.54-78.35)	797	78.68 (75.69-81.66)	<.001
Obese	683	35.07 (32.23-37.91)	396	49.07 (46.19-51.96)	554	55.32 (51.21-59.43)	<.001
Trying to lose weight[d]	785	65.50 (62.73-68.26)	303	51.37 (47.09-55.65)	436	54.88 (52.55-57.20)	<.001
Adjusted ratio[e]		1 [Reference]		0.78 (0.67-0.92)		0.69 (0.55-0.88)	.002
Mexican American							
Overweight and obese	984	63.86 (60.61-67.12)	673	70.97 (67.10-74.85)	515	76.62 (72.66-80.57)	<.001
Obese	499	32.76 (29.28-36.25)	354	37.20 (32.36-42.04)	319	47.93 (43.01-52.86)	<.001
Trying to lose weight[d]	567	58.88 (54.99-62.77)	340	54.27 (48.36-60.18)	284	57.01 (52.38-61.64)	.47
Adjusted ratio[e]		1 [Reference]		0.89 (0.76-1.04)		0.84 (0.66-1.07)	.15

Abbreviations: BMI, body mass index (calculated as weight in kilograms divided by height in meters squared); NHANES, National Health and Nutrition Examination Survey.

[a] Race/ethnicity was self-identified. Individuals of other race/ethnicities were not included due to small numbers.

[b] The denominators for calculating prevalence of overweight and obesity were subpopulations for each race/ethnicity group, including underweight, normal weight individuals, and adults who were overweight or obese. The body weight category was based on directly measured body height and weight. A BMI less than 18.5 was defined as underweight, 18.5 to <25 was normal weight, 25 to <30 was overweight, and ≥30 was obese.

[c] The No. was an unweighted sample size. For the row of overweight and obesity prevalence, the n was the number of adults who were overweight and obese; for the row of obesity prevalence, the n was the number of adults with obesity; for the row of percentage of adults who were overweight and obese and trying to lose weight, the No. was the number of adults who were overweight and obese and also tried to lose weight.

[d] The denominators for calculating the percentage of adults who were overweight and obese and also tried to lose weight in the past 12 months were adults who were overweight or obese for each race/ethnicity group.

[e] The NHANES, 1988-1994, served as the reference survey period. Modified Poisson regression was used to adjust for age, family income, and body weight (as a continuous variable). Race/ethnicity and sex were also included in the regression models for total population.

kilograms divided by height in meters squared] of ≥25-<30) or obese (BMI ≥30) were included. Because overweight and obesity vary by race/ethnicity,[4] results are presented by race/ethnicity. The question of interest was "During the past 12 months, have you tried to lose weight?" Because the percentage of adults trying to lose weight was substantially higher than 10, modified Poisson regression[5] was used to estimate percentage ratios and compare the percentage of adults who were overweight or obese and trying to lose weight over the 3 periods. With family income, age, and body weight as covariates, regressions were run for each sex and race/ethnicity.

With appropriate weighting and nesting variables, analyses were conducted using SAS (SAS Institute), version 9.4. Two-sided *P* values <.05 were considered significant.

Results | Of 27 350 participants analyzed, most were white (75% in 1988-1994, 69% in 1999-2004, and 64% in 2009-2014). Overweight and obesity prevalence increased throughout the study period, from 52.72% (95% CI, 50.76%-54.68%) in 1988-1994 to 65.58% (95% CI, 63.53%-67.63%) in 2009-2014 (**Table**).

The percentages of adults who were overweight or obese and trying to lose weight declined during the same period, from 55.65% (95% CI, 53.61%-57.69%) in 1988-1994 to 49.17% (95% CI, 47.49%-50.85%) in 2009-2014. The largest decline occurred among black women (*P* for trend <.01), from 65.50% (95% CI, 62.73%-68.26%) in 1988-1994 to 54.88% (95% CI, 52.55%-57.20%) in 2009-2014. Black women also had the highest prevalence of obesity, and more than half of black women (55.32% [95% CI, 51.21%-59.43%]) were obese in the 2009-2014 survey. Adjusted prevalence rates showed a significantly declining trend of reporting efforts to lose weight among white men (*p* for trend = 0.04) and women (*P* = .003), and black women (*P* = .002). Among black women, the percentage ratios compared with 1998-1994 were 0.78 (95% CI, 0.67-0.92) in 1999-2004 and 0.69 (95% CI, 0.55-0.88) in 2009-2014.

Discussion | Weight gain has continued among US adults,[4] yet in this study, fewer adults reported trying to lose weight. This observation may be due to body weight misperception reducing motivation to engage in weight loss efforts or primary care clinicians not discussing weight issues with patients.[6] The chronicity of obesity may also contribute. The longer adults live with obesity, the less they may be willing to attempt weight loss, in particular if they had attempted weight loss multiple times without success.

Black women bear a disproportionate burden of excess body weight and associated morbidity. They had the highest prevalence of obesity in the current study, making the decline in reports of trying to lose weight among black women especially concerning. Limitations of the study include use of self-report data with the potential for social desirability bias and the restriction to nonelderly adults.

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COMMENT & RESPONSE

Time-Interval Data in a Pediatric In-Hospital Resuscitation Study

To the Editor Dr Andersen and colleagues reported that tracheal intubation vs no intubation among children with in-hospital cardiac arrest was associated with decreased survival.[1] The data were drawn from the American Heart Association's Get With the Guidelines–Resuscitation (GWTG-R) registry. However, the time-interval data were of poor quality.

Figure 2 in the article shows that 7% of the intubations were recorded as having occurred at 0 minutes. The authors explained that 0 minutes meant within 60 seconds of the start of cardiopulmonary resuscitation, but that does not seem plausible.[2]

The 2000 Emergency Cardiac Care Guidelines stated that "Documentation of [time intervals from] in-hospital resuscitation events is often inaccurate and therefore unreliable.... Accurate time-interval data must be obtained because it is the key to future high-quality research."[3]

Although the times from code onset to intubation in the study are not credible, the intra-arrest comparisons of survival (intubation vs no intubation) still should be valid. However, reporting without qualification such flawed time-interval data obscures significant delays in treatment and impedes resuscitation research. By clearly acknowledging the limitations of currently available time-interval data in their reports, investigators can stimulate efforts to remedy the problem.

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In Reply Mr Stewart raises the concern that time-interval reporting during in-hospital cardiac arrest may not be fully accurate but says that the comparisons between intubation and no intubation "still should be valid." Although we recognize that time intervals during cardiac arrest may have some degree of inaccurate reporting,[1-3] we agree with Stewart that this