Published in final edited form as:

J Community Health. 2012 February ; 37(1): 202–207. doi:10.1007/s10900-011-9437-8.

Who Is Couseled to Lose Weight? Survey Results and Anthropometric Data from 3149 Lower Socioeconomic Women

Carmen Radecki Breitkopf, Ph.D.¹, Jason S. Egginton, M.P.H.¹, James M. Naessens, Sc.D.¹, Victor M. Montori, M.D.², and Aminah Jatoi, M.D.³

¹Division of Health Care Policy & Research, Department of Health Sciences Research, Mayo Clinic, Rochester, Minnesota USA

²Division of Endocrinology and Metabolism, Department of Medicine, Mayo Clinic, Rochester, Minnesota USA

³Division of Medical Oncology, Department of Oncology, Mayo Clinic, Rochester, Minnesota USA

Abstract

Objective—Because obesity is a grave public health concern, this study examined the percentage of disadvantaged women who recalled ever receiving weight loss advice from a healthcare provider and factors associated with such advice.

Design—This study was part of 5-clinic, cervical cancer prevention trial. Patients not immediately post-partum completed a Spanish/English survey; height and weight were also obtained.

Results—Of the 3149 respondents (response rate 83%), 2138 (68%) were overweight or obese (body mass index (BMI) ≥ 25); 94% reported a household income of $< \$35,000/\text{year}$; 69% were Hispanic; 10% non-Hispanic black; and 40% completed the survey in Spanish. Only one-third reported ever having been told to lose weight. Based on BMI, these rates were 15% in the 25–29.9 range (overweight); 34% within 30–34.9; 57% within 35–39.9; and 73% ≥ 40 . In univariate analyses, among overweight women, diabetes or English-speaking was associated with weight loss advice. In multivariate analyses, being older, more educated, and diabetic were associated with such advice. 48% of non-Hispanic whites, 31% of non-Hispanic blacks, and 29% of Hispanic had a home scale.

Conclusions—Among disadvantaged women, obesity alone does not determine who recalls weight loss advice. Language barriers and lack of a home scale merit further study to address obesity.

Keywords

overweight; obesity; disadvantaged; weight loss advice; women; counseling; disadvantaged women

INTRODUCTION

Obesity is rising in the United States. Defining obesity as a body mass index (BMI) of greater than or equal to 30 kg/m^2 , Ogden and others observed that obesity rates have

Address correspondence to: Aminah Jatoi, M.D., 200 First Street SW, Rochester, Minnesota 55905 USA, Phone: 507-284-3902, FAX: 507-284-1803.

The authors report no conflicts of interest.

doubled over the past 50 years among women in the United States [1]. Currently, over one-third of adult women can be classified as obese [2]. Including overweight women, or those with a BMI ≥ 25 , this percentage exceeds 60% [2]. Such rising rates of obesity have important health implications. Obesity is associated with higher rates of hypertension, diabetes, heart disease, certain malignancies, and joint problems, all of which in turn give rise to morbidity and increased mortality [1,2,3].

Despite the fact that obesity has reached epidemic proportions and despite its negative impact on public health, few healthcare providers advise overweight patients to lose weight [4,5]. For example, Stafford and others examined national patterns of weight loss counseling among 55,858 adult physician office visits [6]. Only 52% of obese patients were advised to lose weight. Similarly, Sciamanna and others undertook a multi-state survey and reported that only 5.6% of patients with no comorbidities and only 13.6% with comorbidities received advice on weight loss [7]. Importantly, these investigators, as well as others, observed that healthcare providers' advising patients to lose weight was associated with patients' attempting to do so [8,9]. This latter observation is an important one because it suggests that the act of advising patients to lose weight can result in behavior change in some patients and ultimately, have positive health implications for those patients who succeed in their efforts.

To our knowledge, few studies have focused on poorer, more ethnically diverse populations to understand how frequently these disadvantaged patients report having received weight loss advice. Such information would be especially important because recent data suggest that individuals who have lower household incomes and are less educated have much higher rates of obesity [10,11,12]. Thus, it is important to explore whether these patients' healthcare providers appear to be advising them to lose weight when such advice is indicated.

METHODS

Overview

This study was embedded within a larger, ongoing clinical trial (NCT00575510) with a focus on cervical cancer prevention. The trial was approved by the Institutional Review Boards of both the University of Texas Medical Branch (UTMB) and the Texas Department of State Health Services.

Eligibility

Women who had sought care in one of 5 UTMB clinics located in southeast Texas were screened for trial participation. Exclusion criteria included the following: 1) under age 18 or over age 55; 2) unable to understand English or Spanish; 3) currently pregnant; 4) currently diagnosed with cervical cancer; and 5) unwilling or unable to provide written informed consent. Participants received reimbursement in the amount of \$5 in cash.

Survey Instrument

A paper-and-pencil survey was administered to patients in the language of their choice, either English or Spanish. Patients completed the survey immediately before their appointment and, if needed, were provided help in doing so.

This survey was 10 pages in length, including information on patient demographics, a variety of psychological constructs, and health attitudes and behaviors. It also asked patients about diabetes. This instrument relied on standard wording and validated measures when available.

Women were queried: “Have you ever been told by a doctor or healthcare provider that you should lose weight?” The answer to this question served as the primary endpoint of the current study. Another relevant question read as follows: “Have you ever been told by a doctor or healthcare provider that you have diabetes?” Finally, women were asked, “Do you have a scale in your home to weigh yourself?” with the response options “yes” and “no.” For those answering affirmatively, a follow-up question included, “About how often do you weigh yourself at home?” Responses to this last question included 6 discrete options ranging from “never” to “everyday.”

The survey also included the Socially Desirable Response Set (SDRS-5) to evaluate patients’ tendency to respond to survey items in a favorably-biased way [13]. This instrument is comprised of a summed response of 5 items, which are scored “0” or “1;” higher scores suggest a patient’s tendency to convey more socially desirable responses.

In addition to the survey data, trained study personnel acquired other patient-related information. The underlying reason for each clinic appointment was obtained from each healthcare provider’s patient list. Patients’ height and weight on the day of the clinic visit was obtained to calculate BMI.

Analyses

Descriptive data are presented as frequencies (n) and proportions (%) or as means (M) with standard deviations ($\pm$ SD). Relationships between weight loss advice and patient characteristics (preferred language, race/ethnicity, age, socioeconomic indicators, scale ownership), behavioral factors (smoking, weighing frequency), and a comorbid condition (diabetes) were evaluated. Bivariate analyses included Pearson chi-squared tests with the continuity-correction applied [14], independent group t-tests, and one-way analysis of variance, as appropriate. Multivariate logistic regression was performed to examine predictors of patients’ recollection of being advised to lose weight among patients who were classified as overweight or obese. Based on published literature and significant results in bivariate analyses at $P < 0.05$, variables included in the model were: education level, age group, and diagnosis of diabetes. Also included were other less well-characterized factors, such as preferred language (English versus Spanish) and ethnicity.

Finally, analyses were conducted to examine the possible influence of socially desirable response on patients’ reports of receiving a weight loss recommendation. Odds ratios (OR) and 95% confidence intervals (CI) are reported as appropriate. All analyses were conducted using SPSS Inc. (Version 16.0, Chicago, Illinois). A P value of < 0.05 was considered statistically significant.

RESULTS

Patient Selection and Characteristics

From June 1, 2006 through July 2, 2009, 4614 women were approached for study participation. Of these, 3850 women chose to participate (83% response rate). Women who declined were similar to participants in ethnicity but were older and English-speaking. Refusal rates varied across clinic sites. Furthermore, 701 women within this original group were within 6-weeks post-partum and were therefore excluded due to pregnancy-related weight fluctuations. Thus, the final sample size was 3149. Patient characteristics appear in Table 1. Family planning (87%, $n=2752$) and maintenance healthcare, (13%, $n=397$) were the reasons for a medical appointment.

The sample reflects women of lower socioeconomic status. Specifically, 94% ($n=2546$) reported an annual household income $< \$35,000$, and 44% ($n=1392$) indicated that their

income was insufficient to pay their bills; approximately 8% (n=258) lived in public housing. Nearly 40% (n=1245) did not graduate high school or complete the General Education Development (GED) examination.

BMI Classification, Diabetes, and Scale Availability

Among the study patients, 2138 (68%) were overweight or obese (BMI ≥ 25), as per the World Health Organization (WHO) classification system [11]. Specifically, 2% (n=58) were underweight with a BMI of < 18.5 ; 30% (n=953) were normal weight with a BMI of 18.5 to 24.99; 31% (n=960) were overweight/pre-obese with a BMI of 25.00 to 29.99; 20% (n=622) were obese (class I) with a BMI of 30.00 to 34.99; 10% (n=315) were obese (class II) with a BMI of 35.00 to 39.99; and 8% (n=241) were obese (class III), with a BMI of 40.0 or greater.

Seven percent (n=220) of patients reported a diagnosis of diabetes from a healthcare provider. Nearly two-thirds (66%, n=2073) did not have a scale in their home, with a higher proportion of non-Hispanic white women (48%) having a scale relative to non-Hispanic black (31%) and Hispanic (29%) women ($P<0.0001$). Half the women owning a scale reported weighing themselves once a month or less.

Analysis of Overweight and Obese Patients (n=2138)

Overall, one-third (34%, n=702) of patients with a BMI ≥ 25 reported having been ever advised to lose weight by a healthcare provider. Forty women (2%) did not respond to the question. By BMI classification, 15% (n=142) of overweight, 34% (n=209) of obese class I, 57% (n=176) of obese class II, and 73% (n=175) of obese class III reported ever being advised to lose weight ($P<0.0001$). Bivariate analyses appear in Table 2.

As seen in Table 3, in multivariate analyses that controlled for socially desirable response tendencies, overweight and obese patients who were older, more educated, and diabetic had an increased likelihood of recalling ever being advised to lose weight. Importantly, as BMI classification increased, the chances of a patient's having received weight loss advice increased, with patients in the highest category (BMI ≥ 40) being over 14 times more likely to have received such advice than patients in the lower, overweight category (BMI 25.0–29.99). In the multivariate context, ethnicity, language, and type of patient visit were no longer significantly associated with weight loss advice.

DISCUSSION

This investigation observed that many economically disadvantaged, overweight or obese women -- who need counseling on weight loss -- do not recall ever having received it. Sixty-eight percent of the women in this study were overweight or obese, a percentage that is roughly double that seen in the general population [2]. However, only one-third reported ever having been told to lose weight by a healthcare provider. This percentage is much lower than that reported nationally [4]. Surprisingly, one quarter of women in the most extreme obesity category (BMI of 40 or greater) in our study reported an absence of counseling on weight loss. Almost two-thirds of women did not have a scale in their home, an important resource that enables patients to weigh themselves daily and thereby better control their weight [15,16]; and Hispanic women, who suffer obesity at rates higher than other ethnic groups, were least likely to own one. Taken together, these findings create an unsettling situation: overweight/obese patients, who are at risk for health problems from their weight, may not receive counseling to lose weight and have limited resources (such as an inexpensive home scale) to help them do so; and, as a result, weight-related morbidity and mortality can occur unchecked [1,2,3]. This situation is especially disconcerting for

disadvantaged women, among whom rates of obesity are particularly high, as seen in the study reported here.

Interestingly, based on our findings, obesity alone does not determine whether a woman receives weight loss advice or not. Among overweight/obese patients, this study observed in bivariate analyses that diabetes, older age, education beyond high school, speaking English (versus Spanish), and being of non-Hispanic white ethnicity were associated with patients' reporting that they had received prior weight loss advice. In multivariate analyses, the effects of ethnicity and language preference proved not to be robust and became statistically non-significant. Nonetheless, such observations suggest that healthcare providers might be introducing their own personal biases, based on non-anthropometric characteristics, in deciding whether to offer such advice to an overweight or obese patient. Because previous studies suggest that patients do attempt to lose weight as a result of such advice [5], such biases, if they exist, may be leading to lost opportunities to help patients.

Relevant to this last point, many of the women in this study had had many children. Because the effects of pregnancy on weight gain may be cumulative, there may be a role for counseling patients about weight-related issues after child birth. Particularly among high-parity women, such as Hispanic women, healthcare providers might consider voicing early concerns about progressive weight gain, thus providing a red flag to patients in an effort to prevent further weight gain [15].

We point out several limitations within the current study. First, this study assessed patients based on their current BMI, but the questionnaire asked about lifetime weight loss counseling. Admittedly, some of these patients may not have been overweight/obese all their lives, and so healthcare providers who had seen them when they were not overweight are not culpable for lack of such counseling. Exclusion of women in the immediate post-partum period attempted to account for at least some women for whom a higher BMI may reflect a more recent state. Nevertheless, most of these overweight/obese patients likely did have a long history of weight-related problems, and opportunities to counsel them with regard to weight loss likely existed.. Second, although many patients try to lose weight, few succeed [17]. Thus, this study does not intend to imply that an absence of weight loss counseling clearly translates into greater morbidity and mortality. It should be noted, however, that some patients do succeed in losing weight when advised to do so and that patients who have been advised to lose weight might in the future take advantage of newer approaches and achieve greater success over time. Thus, weight loss counseling may not help all patients, but it should not be viewed as futile. Third, although higher morbidity and a greater need for counseling are apparent in obese patients, we did also include overweight patients in our analyses. We justify this inclusion based on the possibility that it may be advantageous to counsel patients who are overweight as opposed to obese. Because of our decision to report on women who were overweight, we reported data based on WHO-designated BMI groups.

Finally, this study relied exclusively on patients' recollection of weight loss advice. There is a very real possibility that patients were truly provided such advice but did not recall it. Importantly, however, an inability to remember such advice might suggest a need for healthcare providers to communicate such advice in a more effective and enduring manner, as advice that is not remembered will not be acted upon. Opportunities exist for research that explores better ways to communicate with patients about weight loss, including studies that address information processing barriers patients might experience (e.g., selective attention) and memory constraints.

In conclusion, this study found that many disadvantaged overweight or obese women who need counseling on weight loss do not recall ever having received it. These patients are at

risk for serious weight-related health problems and are given limited opportunities in the setting of limited resources (such as an inexpensive home scale) to help them circumvent the morbidity and mortality associated with obesity.

Acknowledgments

This work was funded by R01CA107015 to Dr. Radecki Breitkopf.

References

1. Ogden CK, Yanovski SZ, Carroll MD, Flegal KM. The epidemiology of obesity. *Gastroenterology*. 2007; 132:2087–102. [PubMed: 17498505]
2. Flegal KM, Carroll MD, Ogden CL, Curtin LR. Prevalence and trends in obesity among US adults, 1999–2008. *JAMA*. 2010; 303:235–41. [PubMed: 20071471]
3. Berrington de Gonzalez A, Hartge P, Cerhan JR, et al. Body mass index and mortality among 1.46 million white adults. *N Engl J Med*. 2010; 363:221–9. [PubMed: 20647199]
4. Ko JY, Brown DR, Galuska DA, et al. Weight loss advice US obese patients receive from health care professionals. *Prev Med*. 2008; 47:587–92. [PubMed: 18851991]
5. Galuska DA, Will JC, Serdula MK, Ford ES. Are healthcare professionals advising obese patients to lose weight? *JAMA*. 1999; 282:1576–8. [PubMed: 10546698]
6. Stafford RS, Farhat JH, Misra B, Schoenfeld DA. National patterns of physician activities related to obesity management. *Arch Fam Med*. 2000; 9:631–8. [PubMed: 10910311]
7. Sciamanna CN, Tate DF, Lang W, Wing RR. Who reports receiving advice to lose weight? Results from a multistate survey. *Arch Intern Med*. 2000; 160:2334–9. [PubMed: 10927731]
8. Singh S, Lopez-Jimenez F. Medically diagnosed overweight and weight loss in a US national survey. *Prev Med*. 2010; 51:24–6. [PubMed: 20420850]
9. Mokdad A, Bowman B, Ford E, et al. The continuing epidemic of obesity and diabetes in the United States. *JAMA*. 2001; 286:1195–200. [PubMed: 11559264]
10. Wells NM, Evans GW, Beavis A, Ong AD. Early childhood poverty, cumulative risk exposure, and body mass index trajectories through young adulthood. *Am J Public Health*. 2010; 100:2507–12. [PubMed: 20966374]
11. Sobal J, Stunkard AJ. Socioeconomic status and obesity: a review of the literature. *Psychol Bull*. 1989; 105:260–275. [PubMed: 2648443]
12. Hays RD, Hayashi T, Stewart AL. A five-item measure of socially desirable response set. *Educ Psychol Measurement*. 1989; 49:629–636.
13. Fleiss, JL.; Levin, B.; Paik, MC. Statistical methods for rates and proportions. 3. Hoboken, New Jersey: John Wiley and Sons; 2003.
14. World Health Organization. Obesity: Preventing and Managing the Global Epidemic: Report of a WHO Consultation on Obesity. Geneva: World Health Organization; 1997. (WHO/NUT/NCD/98.1)
15. Linde JA, Jeffery RW, French SA, et al. Self-weighing in weight gain prevention and weight loss trials. *Ann Behav Med*. 2005; 30:210–216. [PubMed: 16336072]
16. Wing RR, Tate DF, Gorin AA, Raynor HA, Fava JL. A self-regulation program for maintenance of weight loss. *N Engl J Med*. 2006; 355:1563–71. [PubMed: 17035649]
17. Hill JO. Can a small changes approach help address the obesity epidemic? A report of the Joint Task Force of the American Society of Nutrition, Institute of Food Technologists and International Food Information Council. *Am J Clin Nutr*. 2009; 89:477–84. [PubMed: 19088151]

Table 1

Patient-reported characteristics (N=3149)

CHARACTERISTIC	N (%) [*]
Age (in years), M $\pm$ SD (range)	30 $\pm$ 9 (18–55)
Race/Ethnicity	
Hispanic/Latina	2177 (69)
White, non-Hispanic	651 (21)
Black, non-Hispanic	321 (10)
Marital Status	
Married	1165 (37)
Single, never married	1222 (39)
Divorced	327 (11)
Widowed	33 (1)
Separated	343 (11)
Gravidity	
0	504 (16)
1–3	1857 (59)
>3	665 (21)
Education (last grade completed)	
6 th grade or less	371 (12)
7 th or 8 th grade	397 (13)
Some high school (did not graduate)	477 (15)
High school diploma or “GED” (General Education Development)	885 (28)
Vocational training	188 (6)
Some college (no degree)	567 (18)
College degree (Associate’s or Bachelor’s)	205 (7)
Graduate/Professional degree	35 (1)
Annual Household Income	
<\$5,000	633 (20)
\$5,000–\$9,999	361 (16)
\$10,000–\$14,999	635 (20)
\$15,000–\$24,999	620 (20)
\$25,000–\$34,999	297 (9)
\$35,999	159 (5)
Survey Language	
Spanish	1245 (40)
English	1904 (61)
Smoking Status	

CHARACTERISTIC	N (%) [*]
Never	2014 (64)
Former	481 (15)
Current	576 (18)

^{*} Percentages that do not total 100 (frequencies that do not total 3149) reflect missing data.

Table 2

Bivariate associations between self-report of prior weight loss advice and patient and appointment characteristics among patients with BMI ≥ 25.0 kg/m² (N=2138)

Characteristic*		Percent Ever Advised % "Yes" (n)	P
Ethnicity	Hispanic/Latina (n=1520)	31 (468)	<0.0001
	White (non-Hispanic) (n=360)	41 (148)	
	Black (non-Hispanic) (n=218)	39 (86)	
Dominant language	English (n=1230)	37 (456)	<0.0001
	Spanish (n=868)	28 (246)	
Age (in years, quartiles) ^a	18–23 (n=413)	27 (111)	<0.0001
	24–27 (n=386)	24 (91)	
	28–34 (n=576)	35 (199)	
	35–55 (n=723)	42 (301)	
Marital status	Unmarried ^b (n=1238)	35 (435)	0.093
	Married (n=820)	32 (258)	
Annual household income	<\$5,000 (n=433)	30 (131)	0.446
	\$5,000–\$9,999 (n=238)	35 (84)	
	\$10,000–\$14,999 (n=423)	36 (152)	
	\$15,000–\$24,999 (n=409)	35 (144)	
	\$25,000–\$34,999 (n=192)	38 (72)	
	\$35,999 (n=110)	35 (38)	
Gravidity	0 (n=275)	40 (109)	0.056
	1–3 (n=1253)	32 (402)	
	>3 (n=570)	34 (191)	
Education	<High school (n=896)	28 (251)	<0.0001
	High school diploma or GED (n=560)	35 (194)	
	>High school (n=627)	41 (254)	
Clinic site	Pearland (n=1227)	33 (399)	0.136
	Galveston (n=145)	36 (52)	
	Victoria (n=640)	33 (212)	
	Beaumont (n=83)	45 (37)	
	Angleton (n=3)	67 (2)	
Type of medical visit	Health maintenance (n=311)	44 (133)	<0.0001
	Family planning (n=1827)	32 (569)	
Diabetes	Yes (n=311)	54 (100)	<0.0001
	No (n=1878)	32 (591)	
Smoking	Never (n=1371)	456 (33)	0.86
	Former (n=322)	110 (34)	
	Current (n=355)	123 (35)	

* Numbers that do not sum to 2,138 reflect missing data.

^aWhen examined as a continuous variable, the mean age of those advised versus not advised was not statistically significant ($t=0.16$, $P=0.87$).

^bUnmarried combines the following categories: single, divorced, widowed, and separated.

Table 3

Selected results of logistic regression model for predictors of receipt of prior weight loss advice (ever) among female outpatients with current BMI ≥ 25.0 kg/m²

Predictor	β	SE β	P	Odds ratio (95% CI)
Visit (health maintenance)	0.16	0.16	0.31	1.18 (0.86, 1.61)
Language (English)	-0.13	0.15	0.39	0.88 (0.65, 1.18)
Diabetes (yes)	0.67	0.18	<0.0001	1.96 (1.37, 2.82)
Ethnicity			0.080	
Hispanic ^a				
White (non-Hispanic)	0.36	0.16	0.03	1.43 (1.04, 1.96)
Black (non-Hispanic)	0.02	0.19	0.91	1.02 (0.70, 1.49)
Smoking status			0.356	
Never ^a				
Formerly	-0.21	0.16	0.18	0.81 (0.60, 1.10)
Currently	-0.14	0.16	0.38	0.87 (0.64, 1.19)
Age (in years, quartiles)			<0.0001	
18–23 ^a				
24–27	-0.23	0.19	0.21	0.79 (0.55, 1.14)
28–34	0.46	0.17	0.008	1.58 (1.13, 2.21)
35–55	0.66	0.17	<0.0001	1.94 (1.39, 2.72)
Education			0.005	
<High school (HS) ^a				
HS graduate/GED	0.18	0.15	0.21	1.20 (0.90, 1.61)
Beyond HS	0.46	0.14	0.001	1.59 (1.20, 2.11)
BMI (kg/m ²)			<0.0001	
25.0–29.99 ^a				
30.0–34.99	1.11	0.13	<0.0001	3.02 (2.34, 3.91)
35.0–39.99	2.00	0.16	<0.0001	7.35 (5.41, 9.98)
40	2.67	0.19	<0.0001	14.51 (10.07, 20.91)
Social desirability	-0.03	0.03	0.357	
Constant	-2.16	0.28	0.000	

^aDenotes reference group.

Note. The model chi-square was 452.70 (df=16) $P<0.0001$, with 74% of cases correctly classified. Cox & Snell $R^2 = 0.20$ and Nagelkerke $R^2 = 0.28$, all suggesting good model fit.