

Treatment seeking and barriers to weight loss treatments of different intensity levels among obese and overweight individuals*

A.C. Ciao, J.D. Latner, and L.E. Durso

University of Hawai'i at Manoa, Honolulu, HI, USA

ABSTRACT. Obesity is a major health concern for a large proportion of the population, yet many obese individuals do not receive weight loss treatment. The present study investigated weight-loss treatment seeking and barriers that may prevent treatment seeking. A community sample of overweight or obese participants (N=154; Mean BMI=33.3 kg/m²) completed an Internet survey assessing treatment seeking behaviors across three categories: Treatments Sought, Treatments Desired, and Treatments Planned. Seven treatments of different intensity levels and five barriers to treatment seeking were evaluated. The weight-loss treatment most frequently sought, desired, and planned was treatment "on own." Higher BMI was correlated with greater number of treatments sought. However, 10% of respondents reported zero treatments sought, and over 25% reported zero treatments desired or planned. Perceived barriers may explain reluctance to seek treatment. The top two barriers for all treatments were lack of money and time. Higher BMI was correlated with more total perceived barriers, and specifically with the barriers "I feel/think I am too heavy" and "I am afraid people will treat me unfairly or badly." More barriers were reported for more intensive treatments such as treatments from a doctor, another professional, or a commercial program. A majority of participants reported zero barriers to less-intensive treatments. These results suggest that many obese individuals who might benefit from weight loss treatment nevertheless do not plan or desire to seek treatment and perceive multiple barriers to treatments. However, these individuals could be encouraged to consider the less intensive treatments that are seen as more barrier-free.

(Eat. Weight Disord. 17: e9-e16, 2012). ©2012, Editrice Kurtis

INTRODUCTION

Obesity is a major public health concern, with associated complications such as diabetes, hypertension, cardiovascular disease, and other health problems (1). A large proportion of American adults are classified as weighing too much, with 65% of adults 20 years and older currently overweight or obese (2). The message that it is unhealthy to weigh too much is widespread, and a recent review of self-guided approaches to weight loss reported that at any given time, 20-40% of American adults are trying to lose weight by dieting (3).

Although many people are attempting to lose weight, those who do seek weight loss treatments are often not successful in the long term. For example, a review of large-scale lifestyle modification programs for weight loss reported that within one year

following the weight loss treatment, individuals regained an average of 30-35% of their lost weight. Though weight regain slowed after that, after five years over half of participants had regained all their lost weight (4). A recent meta-analysis demonstrated that weight loss programs using group counseling, individual counseling, or both, led participants to lose 6% of their initial weight after one year (5). Across the studies included, however, participants regained half of their lost weight after three years and all of their lost weight after five and a half years. Despite weight regain after treatment, the health benefits of treatment may still remain even once individuals regain weight (4).

Considering the lasting health benefits of weight loss treatment (4), it is important to better understand individuals' decisions to seek treatment in order to help direct those

*Portions of this manuscript were presented at the 2008 Academy of Eating Disorders International Conference, Seattle, WA.

Key words:

Overweight, obesity, treatment seeking, treatment barriers, stigma.

Correspondence to:

Anna C. Ciao, University of Hawai'i at Manoa, 2430 Campus Road, Honolulu, HI 96822, USA.
E-mail: ciao@hawaii.edu

Received: June 6, 2010

Accepted: May 3, 2011

in need to the services that may be best able to help them. Though available research indicates that high numbers of individuals are currently trying to lose weight, little is known about overweight and obese individuals' patterns of treatment seeking and the barriers that may prevent them from seeking treatment. Studies on the effect of repeated weight loss attempts on treatment outcomes suggest that many individuals make additional attempts following prior failures. For example, overweight and obese patients currently in behavioral weight management programs reported a mean of 1.2 previous dieting attempts in the past year alone (6), with even more attempts reported by treatment non-completers (7). Almost all (89.5%) treatment-seeking obese participants reported some previous weight-loss efforts (8). Among extremely obese individuals seeking bariatric surgery, the mean number of previous dieting attempts that resulted in a loss of at least 10 lbs each was 4.7 (9). Even non-obese women (mean body mass index (BMI)= 26.9 kg/m²) had intentionally lost at least 5 lbs an average of 5.3 times; 30.7% were currently dieting (10). However, research that includes only treatment-seeking populations may overlook overweight or obese individuals who may not even try to lose weight in the first place. More research is needed to systematically document the treatment-seeking histories and future plans among overweight and obese individuals from community samples.

It is possible that, after failed weight loss attempts, some individuals may go on to pursue another weight loss treatment (or the same treatment another time), whereas others may give up and stop seeking treatment. Reluctance to seek treatment may result from perceived barriers to successfully utilizing weight loss treatment options. For example, embarrassment and perceived stigmatization in health-care settings may lead overweight individuals to delay or avoid appointments with physicians. A proportion of overweight and obese women have cancelled or delayed their medical appointments due to their weight concerns (11).

Given these gaps in the current research literature, the present study examined four research questions: 1) what are the past and future treatment-seeking behaviors of overweight and obese individuals? 2) Are certain barriers to seeking treatment particularly salient in preventing or delaying treatment seeking? 3) Are treatment seeking behaviors and barriers to treatment seeking related to BMI? 4) How do treatment seeking behaviors and barriers to treatment vary across different

types of treatment? It was expected that a large proportion of individuals would report past and future treatment seeking behaviors, yet at the same time many would also report barriers to seeking treatments. It was also hypothesized that heavier individuals would perceive a greater number of barriers to treatment seeking, and that treatments of greater intensity levels would be less often sought and associated with a greater number of barriers.

MATERIALS AND METHODS

Participants

A general community sample of participants were recruited online through targeted recruitment to colleagues of the researchers asking them to forward it to their classes and/or social networks and through posts to obesity-related discussion groups on Yahoo.com and Google.com. Information about the survey was also posted to one of the most popular websites for Internet-based psychological research (according to Google.com and Yahoo.com), the Hanover College Department of Psychology's "Psychological Research on the Net". The ability of the Internet to provide adequate random samples has been justified in previous research (12). Discussion groups were selected for size (>100 members) and, to reduce potential biases in sample characteristics, could not be a political or advocacy group for weight-related issues. Data were collected using an anonymous online survey (www.surveymonkey.com).

A total of 483 individuals responded to the survey from 38 US states and the District of Columbia. Participants with a self-reported BMI of at least 25 kg/m² who responded to at least one question on the current questionnaire and to the two demographic questions on height and weight were included in the final sample (N=154). Demographic variables collected included age, gender, ethnicity, geographic location, and self-reported height and weight. Participants in the final sample had a mean (SD) age of 30.4 (10.9) years and a mean BMI of 33.3 (8.8) kg/m². Eighty-six percent of the sample was female, and 76% reported their ethnicity as Caucasian. Other ethnicities reported were Black (16%), Hispanic (2%), Mixed (1%), and "Other" (5%). Fifty-nine percent of the sample was classified as obese (BMI≥30), and the remainder as overweight (30>BMI≥25).

Procedures

The online survey assessed treatment seeking behaviors at different intensity levels and perceived barriers to seeking treatment. All ques-

tions were asked in a “yes/no” format where individuals indicated whether or not they had sought specific treatments and perceived specific barriers.

Treatment seeking. Treatment seeking at different intensity levels was examined by asking participants whether or not they had experiences with each of seven types of treatment. Treatments included, with definitions provided to participants, the following: 1) *On Own*: “On your own not following a specific diet (such as just counting calories)”; 2) *Self-help Book*: “Self-help using a specific diet book or plan (such as South Beach or Atkins diet)”; 3) *Self-help Online*: “Self-help using an online program (such as WebMD or Weight Watchers online)”; 4) *Commercial Program*: “Commercial weight loss program (such as Jenny Craig or Weight Watchers)”; 5) *Other Professional*: “Other professional help (such as psychotherapy or counseling from a nutritionist)”; 6) *Medical Doctor*: “Professional help/advice from a doctor”; and 7) *Surgery*: “Weight loss surgery (such as stomach stapling)”. These treatments were conceptualized as progressing from least to most intensive in terms of professional involvement (though this was not told to participants).

Stages of Treatment Seeking. Each of the seven treatments was assessed at three different stages of treatment seeking: 1) *Treatment Sought*: “I have sought/received this treatment”; 2) *Treatment Desired*: “I would like to seek this treatment (but have no plans)”; and 3) *Treatment Planned*: “I plan to seek this treatment in the near future”. Participants were able to respond yes/no to each stage of treatment for each treatment type; this allowed responses to reflect that treatment seeking stages were not mutually exclusive (e.g., someone may desire to try a treatment that they had also sought in the past).

Perceived Barriers. Barriers to treatment seeking were assessed by asking whether or not participants perceived each of five barriers for each type of treatment: 1) *Money*: “I do not have enough money to pay for this treatment”; 2) *Time*: “I do not have the time to prioritize this treatment”; 3) *Stigma*: “I am afraid people will treat me unfairly or badly”; 4) *Shame*: “I am ashamed of my weight”; 5) *Too Heavy*: “I think/feel I am too heavy for this treatment”. Participants were able to select barriers for each treatment, whether or not they indicated treatment seeking in that type of treatment. This was to capture the possibility that the barriers endorsed by participants had prevented the treatment from being sought, or desired, or planned in the first place. All research procedures were approved by the Institutional Review Board at the University of Hawai‘i at Manoa.

Statistical Analysis

Frequencies were calculated to obtain the percentage of participants who reported seeking each of the seven types of treatment (e.g., On Own, Self-help Book) at each treatment stage (i.e., Treatments Sought, Treatments Desired, and Treatments Planned). Frequencies were also calculated of the percentage who reported barriers for each of the seven types of treatment. For computations of frequencies, missing data was handled by omitting participants who did not provide answers to particular variables of interest. This was done to allow comparisons of frequencies across questions; percentages therefore reflect the number of “yes” or “no” responses among participants who responded to each item. The number of participants who responded to each particular item varied from item to item (ranging from 75 to 154 participants). Given this variation, potential differences in participants who responded to items vs those who did not respond were examined. Treatment non-responders were classified as individuals who responded to zero treatment seeking items. Barrier non-responders were classified as individuals who responded to zero barrier items. Independent-sample t-tests revealed no significant differences in age or BMI between treatment responders and non-responders or barrier responders and non-responders. Chi-square analyses revealed no significant differences in gender between the groups.

In order to compute correlations and for multiple regression analysis, continuous variables were constructed from combinations of questions. The variables Treatments Sought, Treatments Desired, and Treatments Planned were constructed by summing the “yes” responses to each of the seven types of treatment within each treatment stage, with a maximum score of seven for each variable. The variable Total Treatments was constructed by summing the “yes” responses across Treatments Sought, Treatments Desired, and Treatments Planned, with a maximum score of 21. Five individual barrier variables were constructed by summing the number of times a barrier was reported across each of the seven treatments (each with a maximum score of 7). The variable Total Barriers was constructed by summing the responses to all possible barrier questions (with a maximum score of 35). For the construction of continuous variables, missing data was replaced with the sample mean. This was considered to be a more conservative approach to handling missing data because it brings more scores towards the mean than when missing data is omitted; therefore, the strength of correlations

TABLE 1
Number of respondents and proportion of participants seeking each type of treatment.

Treatment type	Stage of Treatment Seeking					
	Treatment Sought		Treatment Desired		Treatment Planned	
	N	%	N	%	N	%
On Own	143	76.9	106	35.8	105	51.4
Self-help Book	140	47.1	111	18.9	106	17.9
Self-help Online	138	29.0	113	19.5	105	15.2
Commercial Program	140	39.3	110	29.1	106	27.4
Other Professional	134	23.9	117	35.0	111	19.8
Medical Doctor	138	42.0	113	31.9	113	23.9
Surgery	133	8.3	114	17.5	107	7.5

is weakened. Pearson product-moment correlations were calculated between BMI and these continuous variables. To reduce the chance of a Type I error, the alpha level for significance was set at 0.01. Multiple regression analyses were used to examine the amount of variance in treatment seeking accounted for by BMI and specific barriers and the amount of variance in perceived barriers accounted for by BMI and treatments sought.

RESULTS

Treatment Seeking Frequencies

As shown in Table 1, across the three stages of treatment, the most commonly sought, desired, and planned treatment was treatment

On Own, with 76.9% of participants reporting this Treatment Sought, 35.8% reporting this Treatment Desired, and 51.4% reporting this Treatment Planned. The other most common Treatments Sought were treatment from a Self-help Book (47.1%), Commercial Program (39.3%), and Medical Doctor (42.0%). The other most common Treatments Desired were from an Other Professional (35.0%), Commercial Program (29.1%), and Medical Doctor (31.9%). The other most common Treatments Planned were from a Commercial Program (27.4%) and Medical Doctor (23.9%).

Despite the large percentages of treatments endorsed, a substantial number of participants reported seeking, desiring to seek, and planning to seek no treatment at all. In this sample, 10.7% of participants reported zero Treatments Sought, 28.1% reported zero Treatments Desired, and 25.3% of participants reported zero Treatments Planned.

Perceived Barrier Frequencies

As shown in Table 2, the most frequently endorsed perceived barriers were Money and Time. Money was identified as a barrier most frequently for treatment from a Commercial Program (57.8%), Other Professional (58.0%), and Medical Doctor (59.6%). Time was also frequently identified as a barrier for treatment from a Commercial Program (34.1%), Self-help Online (37.9%), and Medical Doctor (45.7%). In general, Time and Money were most commonly identified as barriers for higher-intensity treatments, such as a Commercial Program, Other Professional, and Medical Doctor.

Despite the endorsement of specific barriers, several treatments were associated with zero barriers by the majority of participants. Specifi-

TABLE 2
Number of respondents and proportion of participants reporting each type of perceived barrier.

Treatment type	Perceived Barrier Type										Total barriers
	Money		Time		Stigma		Shame		Too Heavy		
	N	%	N	%	N	%	N	%	N	%	
On Own	82	37.0	92	23.2	75	16.0	76	19.7	81	18.5	0.83 ^a
Self-help Book	87	35.9	92	29.9	76	7.9	78	12.8	80	8.8	0.67 ^{ac}
Self-help Online	88	38.6	95	37.9	75	8.0	76	10.5	79	6.3	0.73 ^{ac}
Commercial Program	102	57.8	82	34.1	77	18.2	77	20.8	79	10.1	1.1 ^b
Other Professional	100	58.0	85	38.8	81	14.8	81	21.0	84	15.5	1.1 ^b
Medical Doctor	94	59.6	94	45.7	81	22.2	84	31.0	84	13.1	1.3 ^b
Surgery	99	35.4	80	20.0	76	9.2	75	8.0	81	9.9	0.51 ^c

Means in the same column that do not share superscripts differ at $p < 0.05$ in the paired-sample t-test comparison.

cally, the majority of participants reported zero barriers for three of the least intensive treatments: On Own (with 67.1% reporting zero barriers), treatment from Self-help Online (61.6% reporting zero barriers), and Self-help Book (69.9% reporting zero barriers). Looking more specifically into the average barriers reported for each treatment, the mean number of perceived barriers generally increased with increasing treatment intensity. The mean number of total barriers reported across treatment intensities ranged from a mean of 0.67 barriers endorsed for treatment Self-help Online to 1.3 barriers endorsed for treatment from a Medical Doctor. Surgery, though conceptualized in this study as the most intensive treatment, did not follow this pattern, with fewer barriers endorsed (0.51). A series of paired-sample *t*-tests were conducted according to the *a-priori* hypothesis that mean reported barriers would differ at pre-determined treatment intensity levels. Results supported the hypothesis that barriers differed between treatments conceptualized as less intensive vs more intensive. Specifically, there were no significant differences between reported mean barriers for treatments On Own, Self-help Book, and Self-help Online, but reported mean barriers for each of these less-intensive treatments were significantly lower than higher intensity treatments (Commercial Program, Other Professional, and Medical Doctor; all $p < 0.05$). Surgical treatment did not follow the expected pattern, and mean barriers for this treatment were significantly lower than a low-intensity treatment (On Own, $p < 0.05$) and several high-intensity treatments (Commercial Program, Other Professional, and Medical Doctor, all $p < 0.001$). Results are reported in Table 2.

Relationships to BMI

As shown in Table 3, Pearson product-moment correlations revealed significant positive relationships between BMI and total Treatments Sought ($r(154)=0.26$, $p < 0.001$), suggesting that heavier participants sought a greater number of treatments. There was no significant relationship, however, between BMI and the total Treatments Desired ($r(154)=0.07$, $p=0.37$) or Treatments Planned ($r(154)=0.04$, $p=0.63$), suggesting no association between heavier weight and the desire or plan to seek additional treatment. BMI was also significantly correlated with Total Barriers across all seven treatments ($r(154)=0.20$, $p=0.01$), suggesting that heavier individuals perceived a greater number of barriers to treatment. In addition, higher BMI was significantly related to the specific barriers Stigma ($r(154)=0.21$, $p=0.01$) and Too Heavy ($r(154)=0.22$, $p=0.01$) but none of the other specific barriers.

TABLE 3
Pearson product-moment correlations (*r*) between participant BMI and treatment seeking and barriers to seeking treatment.

Composite Variable	Correlation with BMI	
	N	r
Treatment Seeking		
Total Treatments	154	0.18
Treatments Sought	154	0.26*
Treatments Desired	154	0.07
Treatments Planned	154	0.04
Perceived Barriers		
Total Barriers	154	0.20*
Money	154	0.20
Time	154	0.08
Stigma	154	0.21*
Shame	154	0.16
Too Heavy	154	0.22*

*significant at $p \leq 0.01$.

Multiple regression analysis examined each of the five specific barriers and BMI as predictors of Treatments Sought. BMI and Shame emerged as significant predictors of Treatments Sought ($R^2=0.31$, $F(6, 53)=4.07$, $p < 0.01$). Greater treatment seeking was predicted among participants with higher BMI ($\beta=0.06$, $t(58)=2.33$, $p < 0.05$) and greater reporting of the barrier Shame ($\beta=0.53$, $t(53)=2.10$, $p < 0.05$). The specific barriers of Too Heavy, Money, Time, and Stigma did not contribute to the multiple regression model. A separate multiple regression analysis examined Treatments Sought and BMI as predictors of Total Barriers. Treatments Sought emerged as a significant predictor of Total Barriers, ($R^2=0.17$, $F(2, 71)=7.09$, $p < 0.01$). Greater barriers were predicted among participants with greater treatments sought ($\beta=1.26$, $t(72)=2.55$, $p < 0.05$). BMI did not contribute to the multiple regression model.

Despite the findings that BMI was not related to the desire or plan to seek future treatments, across the entire sample there was a significant positive relationship between Treatments Sought and Treatments Planned ($r(154)=0.32$, $p < 0.001$). That is, participants who had sought a greater number of treatments in the past were more likely to report a plan to seek future treatments.

DISCUSSION

Results from this study demonstrated that many of the overweight and obese individuals

surveyed in this community sample were attempting to lose weight, and the most common treatment method used was treatment on their own. This is consistent with previous research demonstrating that only a minority of people who are dieting do so using professional help, and a majority are using self-guided approaches (3). This study also highlighted that a significant proportion of overweight and obese individuals had not sought any treatment, did not desire to seek future treatment, and had no plans to seek treatment. This may be due to the perceived barriers to seeking treatment, barriers that may become more salient when making the decision to seek future treatment. However, across the entire sample, individuals who had sought a greater number of treatments in the past were more likely to report a plan to seek future treatment. This may indicate that people are not discouraged or intimidated from seeking future treatment after previous failures; their treatment-seeking experiences were positive enough to continue.

This study also revealed several findings about barriers to seeking treatment. First, the most commonly perceived barriers to seeking treatment were not having enough money and not having enough time. The salience of these two barriers has been previously reported among lower-income women (13) in similar percentages, with two-thirds of the sample reporting money and about one-third reporting time as barriers to seeking weight loss treatment. The present study highlights how these barriers may be important to a great number of individuals who desire weight loss treatment. Despite the perception of these barriers, it is promising that in the current study, the majority of people perceived zero barriers to the least intensive, self-help type of treatments. Moreover, when looking at the average number of barriers across each of the seven treatments, barriers tended to increase as treatment intensity increased. Though more research is needed on stepped-care approaches to obesity, these findings suggest that self-help and lower intensity treatments may be a good first step to providing care for individuals who are overweight or obese (e.g., 14). It is striking that the treatment conceptualized as the most intensive, surgery, did not follow this pattern and was perceived as having the fewest barriers. This may be because people might (mistakenly) view surgery as a “quick fix” (e.g., requiring little effort from patients). It may also be that having a medically and surgically operable condition may reduce the perceived stigma, shame, or self-blame for one’s body weight. Some prior research has shown that it is possible to

improve attitudes about obesity and attributions about the causes of obesity by providing a medical/biological explanation for obesity (15, 16).

The present study also found that heavier participants and those with higher reports of the barrier Shame had sought a greater number of treatments. Because this study used a correlational design and cannot determine causality, more than one interpretation of this finding is possible. First, heavier people may have sought more treatments because of their higher baseline weight. Obese individuals often have unrealistic expectations of treatment and typically lose far less weight than they hope to lose (17). Therefore, it is possible that heavier individuals experience disappointment and increased shame after each attempted treatment and then move on to attempt another form of treatment. Alternatively, the accumulation of more failed treatment experiences may have contributed to their higher BMI and greater shame about weight; recent findings suggest that, in the long-term, many individuals who have lost weight through calorie-restricting diets may actually end up heavier than when they started (18). Despite their history of seeking more past treatments, the heaviest individuals were not more likely to desire or plan to seek more future treatment, suggesting that they might be discouraged by their past unsuccessful attempts.

Heavier individuals also perceived a greater number of barriers to seeking treatments. In particular, the barriers Too Heavy and Stigma were endorsed more often by the heaviest individuals. This is consistent with past findings that physicians were among the most common sources of weight-related stigma and that higher BMI was related to greater exposure to weight stigma (19). The barrier of feeling “Too Heavy” could reflect an anticipated failure or lack of adequate weight loss, due to these individuals’ probable firsthand experience of disappointment with small weight losses following treatment (17). Further, greater treatments sought was predictive of greater number of barriers, which may reflect the accumulative nature of different types of barriers with each treatment failure.

This study raises several important clinical implications. First, because participants in this study viewed self-help treatments as being associated with fewer barriers, it may be important to make higher-quality, lower-cost, self-help treatments more widely available to overweight and obese individuals (20). This finding is consistent with literature suggesting that consumers find self-care to be a particular-

ly acceptable form of treatment (21). It may be that self-help strategies circumvent some of the more common barriers to more intensive weight-loss treatments by being less costly, time-consuming, or stigmatizing. A second clinical implication of this study is the need to reduce the perception of barriers and to motivate individuals to seek treatment. This is especially important for the heaviest individuals. It may be helpful to target and educate potential consumers about what to expect from treatment, including the time commitment and the cost of treatment, in order to create more realistic expectations. Finally, it is crucial to find ways to prevent obese individuals from being treated unfairly in treatment settings, so that stigmatization will not prevent consumers from seeking the treatment they need.

This study has several limitations. First, correlational research such as this is limited because the direction of causality cannot be determined; for example, it is unknown whether having a higher BMI causes individuals to perceive more barriers to treatments or whether the reverse is true. The use of self-reported weight status is another limitation in the current study. This may have resulted in an underestimation of BMI in the current sample, although evidence suggests a close correspondence between self-reported and measured weights (22). The present study is also limited by a relatively small sample size; further research should include larger numbers in order to increase statistical power. In addition, the recruitment methods used in the present study did not allow tracking of the particular websites participants were recruited from and whether the final study sample was representative of the general community population of overweight individuals.

Another limitation of the current study is that these findings represent the presence and absence of treatment seeking only within the types of treatment and barriers assessed here. It is possible that participants were pursuing other types of treatment or perceive additional barriers that were not included here. Another possibility is that there may be different conceptualizations of treatment intensity. Our classification was based on level of professional involvement, but consumers may have different definitions of intensity, such as the extent of personal effort required. For example, surgery, conceptualized in this study as the most intensive treatment, did not follow the general pattern where the number of barriers increased as treatment intensity increased, possibly because surgery was viewed as less effortful by respondents. In addition, although treatments sought

in the past and present were captured in the questions about treatments that have been sought, we did not ask separately about past and current treatments.

Future research in this area should continue to explore treatment seeking patterns and barriers to accessing treatment for those who need it. Longitudinal research that assesses individuals' patterns of treatment seeking, weight loss, and weight gain over time would be helpful to track the typical sequence of treatment seeking among individuals. Additional barriers to treatment seeking should be explored beyond those reported in the current study. Research that examines reasons and motives for weight loss (23, 24) may provide insight into potential barriers for achieving weight loss success; factors such as self-reported weight status, self-esteem, body image, health concerns, and past dieting success may be important (23, 24).

In future studies, factors such as socioeconomic status, health status, and employment benefits would be useful variables to examine in relation to treatment seeking and barriers. Finally, studies are needed to identify ways to educate and prevent weight gain among those individuals who report no desire or plans to seek future treatment.

REFERENCES

1. Leavitt MO. Physical activity and good nutrition: essential elements to prevent chronic diseases and obesity 2007. US Department of Health and Human Services, Center for Disease Control and Prevention, 2007.
2. Hedley AA, Ogden CL, Johnson CL, et al. Prevalence of overweight and obesity among US children, adolescents, and adults, 1999-2002. *JAMA* 2004; 291: 2847-50.
3. Butryn ML, Phelan S, Wing RR. Self-guided approaches to weight loss. In: Latner JL, Wilson GT (Eds) *Self-help approaches for obesity and eating disorders*. New York, Guilford Press, 2007, pp 3-20.
4. Wadden TA, Butryn ML, Byrne KJ. Efficacy of lifestyle modification for long-term weight control. *Obes Res* 2004; 12: 151S-62S.
5. Dansinger ML, Tattioni A, Wong JB, et al. Meta-analysis: The effect of dietary counseling for weight loss. *Ann Intern Med* 2007; 147: 41-50.
6. Teixeira PJ, Palmeira AL, Branco TL, et al. Who will lose weight? A reexamination of predictors of weight loss in women. *Int J Behav Nutr Phys Act* 2004; 1: 1-12.
7. Teixeira PJ, Going SB, Houtkooper LB, et al. Pretreatment predictors of attrition and successful weight management in women. *Int J Obes* 2004; 28: 1124-33.
8. Marchesini G, Cuzzolaro M, Mannucci E, et al. Weight cycling in treatment-seeking obese persons: Data from the QUOVADIS study. *Int J Obes* 2004; 28: 1456-62.
9. Gibbons LM, Sarwer DB, Crerand CE, et al. Previous weight loss experiences of bariatric surgery candidates: How much have patients dieted prior to surgery? *Obesity* 2006; 14: 70S-6S.

10. French SA, Jeffery RW. Current dieting, weight loss history, and weight suppression: Behavioral correlates of three dimensions of dieting. *Addict Behav* 1997; 22: 31-44.
11. Olson CL, Schumaker HD, Yawn BP. Overweight women delay medical care. *Arch Fam Med* 1994; 3: 888-92.
12. Gosling SD, Vazire S, Srivastava S, et al. Should we trust web-based studies? A comparative analysis of six preconceptions about internet questionnaires. *Am Psychol* 2004; 59: 93-104.
13. French SA, Jeffery RW, Story M, et al. Perceived barriers to and incentives for participation in a weight-loss program among low-income women in WIC. *J Am Diet Assoc* 1998; 98: 79-81.
14. Black DR, Threlfall WE. A stepped approach to weight control: a minimal intervention and a bibliotherapy problem solving program. *Behav Ther* 1986; 17: 144-57.
15. Crandall CS. Prejudice against fat people: ideology and self-interest. *J Pers Soc Psychol* 1994; 66: 882-94.
16. DeJong W. The stigma of obesity: The consequences of naïve assumptions concerning the causes of physical deviance. *J Health Soc Behav* 1980; 21: 75-87.
17. Foster GD, Wadden TA, Vogt RA, et al. What is a reasonable weight loss? Patients' expectations and evaluations of obesity treatment outcomes. *J Consult Clin Psychol* 1997; 65: 79-85.
18. Mann T, Tomiyama AJ, Westling E, et al. Medicare's search for effective obesity treatments: Diets are not the answer. *Am Psychol* 2007; 62: 220-33.
19. Puhl RM, Brownell KD. Confronting and coping with weight stigma: An investigation of overweight and obese individuals. *Obesity* 2006; 14: 1802-15.
20. Latner JD. Self-help in the long-term treatment of obesity. *Obes Rev* 2001; 2: 87-97.
21. Jorm AF, Griffiths KM. Population promotion of informal self-help strategies for early intervention against depression and anxiety. *Psychol Med* 2006; 36: 3-6.
22. Nieto-Garcia FJ, Bush TL, Keyl PM. Body mass definitions of obesity: sensitivity and specificity using self-reported weight and height. *Epidemiology* 1990; 1: 146-52.
23. Allegri C, Russo E, Roggi C, et al. Quality of life (QoL) and motivation for treatment: a female issue? *Eat Weight Disord* 2008; 13: e8-e13.
24. O'Brien K, Venn BJ, Perry T, et al. Reasons for wanting to lose weight: different strokes for different folks. *Eat Behav* 2007; 8: 132-5.

© 2012, Editrice Kurtis
FOR PERSONAL USE ONLY