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Family Physicians' Practices and Attitudes Regarding Care of Extremely Obese Patients

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Abstract

Despite the growing epidemic of extreme obesity in the United States, weight management is not adequately addressed in primary care. This study assessed family physicians' practices and attitudes regarding care of extremely obese patients and factors associated with them. A cross-sectional, self-administered survey was mailed to 500 family physicians in New Jersey (NJ) during March–May 2008. Measures included knowledge, weight management approaches, attitudes toward managing obesity, challenges with examinations, availability of supplies, and strategies to improve care. Response rate was 53% ($N = 255$). Bariatric surgery and weight loss medications were infrequently recommended, particularly in physicians with higher volume of extremely obese patients (odds ratio (OR) 0.38; 95% confidence interval (CI) 0.23, 0.62 and OR 0.51; 95% CI 0.31, 0.85 for surgery and medications, respectively). Higher knowledge was associated with increased frequency of recommendations of weight loss medications ($P < 0.0001$) and bariatric surgery ($P < 0.0001$). There was a high prevalence of negative attitudes, particularly in younger physicians and those with lower patient volume. Increased knowledge of weight-loss diets was associated with less dislike in discussing weight loss ($P < 0.0001$), less frustration ($P = 0.0001$), less belief that treatment is often ineffective ($P < 0.0001$), and less pessimism about patient success ($P = 0.0002$). Many providers encountered challenges performing examinations on extremely obese patients. More education of primary care physicians, particularly on bariatric surgery, specific examination techniques, and availability of community resources for obese persons is needed. Further research is needed to determine if interventions to increase knowledge of physicians will lead to less negative attitudes toward weight loss and extremely obese patients.

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INTRODUCTION

Over the past decade, there has been a dramatic increase in the prevalence of extreme obesity (BMI ≥ 40 kg/m^2), formerly called "morbid obesity," in the United States, increasing from 1 in 35 adults during 1988–1994 to 1 in 20 during 2003–2004 (refs. 1,2). Obesity increases the risk of many chronic illnesses, including heart disease, hypertension, cancer, diabetes, and stroke (3). Primary care physicians are at the forefront of providing care to extremely obese patients. Yet, only 42% of obese individuals are advised to lose weight by their physician (4).

There has been limited research about physicians' practices and attitudes regarding care of extremely obese patients. Previous studies have identified barriers to the management of obesity in primary care practices. Some physicians have negative attitudes toward obese individuals, characterizing them as lacking willpower, self-control or motivation, lazy, unattractive, and noncompliant (5-9). Inadequate time for counseling, lack of resources for referral, limited formal training and competence, concerns about reimbursement, beliefs about futility of treatment, and lack of patient motivation and compliance have also been cited as barriers in addressing obesity (5-7,10-22). Limitations to these studies include small sample size of physicians ($N < 50$) (refs. 5,11-13,20), respondents being mostly residents in training (12,20), from only one or two clinical sites (5,12,20), from Veteran's Health Administration (5,12), or international settings (6,8,16,17,21), and poor survey response rates of 13–41% (7, 9,18). No studies assessed physicians' challenges in examining extremely obese patients. Additionally, there has been only one study measuring availability of supplies to accommodate obese patients in primary care, but this study included only 25 physicians, and 70% of respondents were in obstetrics/gynecology practices (13). Furthermore, few studies assessed relationships between physician characteristics and management or attitudes regarding obesity, and none adjusted for potential confounders (7-9,12-14).

To better understand barriers in caring for extremely obese patients including performing physical examinations, we assessed primary care physicians' practices and attitudes regarding care of extremely obese patients. In addition, we examined factors influencing practices and attitudes, including physician self-reported knowledge and demographic characteristics.

METHODS AND PROCEDURES

This was a cross-sectional survey study of family physicians in New Jersey (NJ). The sample consisted of all physician members ($N = 364$) of the NJ Family Medicine Research Network (NJFMRN). To increase the sample size, we also randomly selected 136 additional family physicians from a Blue Cross Blue Shield provider directory from NJ counties, not well represented in the network. The study was approved by the Institutional Review Board of the University of Medicine and Dentistry of NJ (UMDNJ).

Survey design

To inform the development of the confidential self-administered survey, we conducted in-depth interviews with 15 family physicians affiliated with the Department of Family Medicine at UMDNJ-NJ Medical School and the NJFMRN regarding their experiences with care of extremely obese patients. Themes emerging from interviews, along with information from previous literature, were used to create our 7-page 30-item survey. Main areas addressed in the survey included: (i) self-reported knowledge regarding care of extremely obese patients, (ii) weight management approaches, (iii) attitudes toward managing obesity, (iv) challenges while performing examinations on obese patients, (v) availability of equipment to accommodate extremely obese patients, and (vi) strategies that would be helpful to improve care of extremely obese patients. Most items used 5-point Likert scales such as 1 = almost never to 5 = almost always. The survey also collected demographic information and practice characteristics.

Physicians were asked their BMI or weight and height, if they ever intentionally tried to lose weight and if so, whether they were successful. The survey was pretested with five family physicians for face and content validity, clarity of instructions and questions, comprehensiveness, and appropriateness of items and response categories. Modifications were made as appropriate. The survey required approximate 15 min to complete.

Survey administration

The self-administered paper questionnaire was mailed in March 2008 to 500 family physicians in NJ using a modified Dillman method, which included an initial mailing consisting of a cover letter describing the survey purpose, the 7-page survey, a $10 bookstore gift card, and a postage paid return envelope (23). The cover letter instructed physicians to think of their extremely obese patients (BMI $\geq$ 40 or those weighing over 250–300 lb) when answering questions. Approximately 1 week after this mailing, all physicians were sent a thank you/reminder postcard. After an additional 2 weeks, a second survey and postage paid return envelope was mailed to nonrespondents. Physicians who did not respond within 2 weeks of the second mailing received a third mailing. Each survey was assigned a unique identification number to track respondents and nonrespondents. No identifying information was used in data analysis or reporting of data.

Data entry and statistical analysis

All returned surveys were optically scanned and digitally processed using Teleform 9.1 software (Cardiff, Vista, CA). Data were analyzed with SAS 9.1 software (SAS Institute, Cary, NC). Each survey item was analyzed using descriptive statistics. We examined bivariate association of physician characteristics with responses to each item using χ^2-tests of independence for categorical data or Mantel–Haenszel χ^2-test for ordinal data. Fisher's exact test or exact Mantel–Haenszel χ^2-test were used if any cell had fewer than five responses. For questions that were significantly associated with physician characteristics in bivariate analysis, we used multivariate analysis to control for potential confounders (age, gender, patient volume, and percent of extremely obese patients in practice). Due to nonnormal distribution of scores and ordinality of responses, ordinal logistic regression using the proportional odds models were performed (24). We also tested whether including the variable "network membership" (in NJFMRN) changed results. Because it did not, it was not included in final models. Bonferroni corrections were made for multiple comparisons. All reported odds ratios (ORs) and 95% confidence intervals (CIs) are adjusted for physician age, gender, patient volume, and percent of patients that are extremely obese. All reported *P* values are two-tailed.

Associations between self-reported knowledge and responses to questions regarding weight management approaches and attitudes were compared using exact Mantel–Haenszel χ^2-test, as described earlier. For these associations, α was set at 0.01.

RESULTS

Surveys were mailed to 500 physicians. Eight were returned due to address unknown or unforwardable, and nine were not practicing family medicine (eight pediatricians, one psychiatrist). Of the remaining 483 subjects, 255 completed the survey (response rate 53%). Comparison of responders vs. nonresponders showed no significant differences in gender ($P = 0.21$) or practice setting ($P = 0.96$). A greater percentage of NJFMRN members responded (57%) than nonmembers (40%).

Table 1 summarizes demographic and practice characteristics of respondents, stratified by gender. The average age of physicians was 48 years (s.d. 9.43). Most physicians were white, male, from single-specialty groups, and practiced in community suburban settings. On average,

physicians estimated that 62.5% of their patients were white, 82% had commercial or Medicare insurance, 29.4% were obese (BMI ≥ 30), and 8.5% severely obese (BMI ≥ 40). Most physicians (83%) had intentionally attempted weight loss themselves, and 90% were successful. Compared to males, female physicians were younger, in practice for fewer years, spent fewer hours per week in patient care, saw fewer patients per week, were more likely to be normal weight, and to have intentionally tried to lose weight. Compared to NJFMRN member respondents, non-members who responded were older ($P = 0.0073$), in practice longer ($P = 0.0064$), saw more patients per week ($P = 0.0019$), more likely to be in solo and multispecialty groups ($P < 0.001$), and less likely to be in academic settings ($P = 0.0018$).

Self-reported knowledge regarding care of extremely obese patients

A majority of physicians reported knowing much or very much about exercise regimens to lose weight (60%) and weight-loss diets (57%). Fewer knew much or very much about weight-loss medications (49%), surgical interventions (44%), specific helpful techniques in examining severely obese patients (24%), and community resources for severely obese patients (19%). In multivariate analysis, having >7% severely obese patients in the practice was associated with lower knowledge on surgical interventions (OR 0.37, 95% CI 0.22, 0.64), helpful examination techniques (OR 0.47, 95% CI 0.29, 0.77), and community resources to refer extremely obese patients (OR 0.43, 95% CI 0.26, 0.71).

Approaches to weight management

Table 2 details specific treatment approaches to weight management. Greater knowledge of weight loss drugs and bariatric surgery were associated with more frequent recommendations of weight loss drugs ($P < 0.0001$) and bariatric surgery, respectively ($P < 0.0001$). In multivariate analysis, physicians with >100 patients per week were less likely than those with <50 patients per week to prescribe specific diets, such as South Beach (OR 0.33; 95% CI 0.183, 0.64; $P = 0.0009$), low fat diet (OR 0.32; 95% CI 0.17, 0.60; $P = 0.0004$), or Weight-Watchers/commercial weight loss programs (OR 0.36, 95% CI 0.20, 0.67; $P = 0.0012$). Physicians with >7% of extremely obese patients were less likely than those with <7% to recommend weight loss medications (OR 0.51; 95% CI 0.31, 0.85; $P = 0.009$) and bariatric surgery (OR 0.38; 95% CI 0.23, 0.62; $P = 0.0002$).

Attitudes toward managing obesity

Many physicians agreed or strongly agreed to the following: dealing with obesity and weight loss is frustrating (66%), treatment for obesity is often ineffective (51%), there is not enough reimbursement to discuss weight loss (45%), and being pessimistic that patients could be successful in losing weight (34%). Many physicians frequently or almost always encountered the following challenges when discussing weight loss with obese patients: patients lacked discipline to lose weight (78%), patients want an easy way out (71%), patients do not have time to exercise (62%), patients have psychological problems (57%), patients deny having poor eating habits (54%), patient cannot exercise due to their weight (54%), patients are not motivated to lose weight (52%).

Higher self-reported knowledge was associated with fewer negative attitudes. For example, higher knowledge on weight loss diets was associated with less dislike in discussing weight loss ($P < 0.0001$), lower frustration ($P = 0.0001$), lower belief that treatment is often ineffective ($P < 0.0001$), and less pessimism that patients will be successful in losing weight ($P = 0.0002$). Table 3 shows the effect of physician characteristics on attitudes regarding extremely obese patients and weight loss. After adjusting for physician age, gender, patient volume, and volume of severely obese patients, higher patient volume, and older age were independently associated with lower odds of having negative attitudes.

Challenges doing examinations on extremely obese patients

Many physicians frequently or almost always encountered the following difficulties with examining obese patients: palpating masses in abdomen (82%) or on bimanual pelvic exam (77%), separating thighs for pelvic exam (54%), visualizing the cervix on pelvic exam (49%), extra time needed to do breast exams (46%), and palpating lumps on breast exams (42%). Higher knowledge in specific examination techniques was associated with less difficulty in palpating lumps on clinical breast exam, abdominal, and bimanual pelvic exam ($P < 0.005$).

Female physicians had less difficulty than male physicians with palpating masses on pelvic exams (OR 0.38, 95% CI 0.21, 0.68; $P = 0.0011$), while physicians with >7% of patients who were extremely obese reported greater difficulty with palpating masses in the abdomen (OR 2.23, 95% CI, 1.37, 3.8; $P = 0.0016$).

Availability of supplies and equipment to accommodate extremely obese patients

Almost all physicians had extra large blood pressure cuffs (96.8%). Fewer had large speculums for pelvic exams (77.6%), armless waiting room chairs (61.8%), and extra large gowns (53.6%). Less than half of physicians had a scale for patients over 350 lb (41.7%), large size exam tables (32.1%), and large wheelchairs (17.1%). Higher percentage of severely obese patients was independently associated with having large size exam tables (OR 2.21; 95% CI 1.22, 3.98; $P = 0.0085$) and large wheelchairs (OR 2.29; 95% CI 1.12, 4.72; $P = 0.024$).

Strategies to improve care of extremely obese patients

Table 4 details how respondents rated strategies to improve quality of care for extremely obese patients. Providing insurance coverage for obesity treatment, having readily available nutrition and exercise therapists, and having a list of community resources to refer obese patients were most highly rated. Compared with physicians having <50 patients per week, those with >100 patients per week were more likely to rate having a dietician on site (OR 3.16; 95% CI 1.64, 6.06; $P = 0.0006$) and a case manager to coordinate care (OR 2.48; 95% CI, 1.32, 4.64; $P = 0.0047$) as more helpful.

DISCUSSION

To our knowledge, this is the first survey study to focus on physicians' practices and management regarding extreme obesity, and the first study to perform multivariate analysis on associations between physician characteristics and their practices and attitudes. We found higher prevalence of negative attitudes toward obese patients than reported by others (5,7,8, 20). For example, almost 80% of our respondents reported that patients frequently or almost always lacked discipline, and 52% felt patients lacked motivation to lose weight. This compares with 35% of Ruelaz's respondents believing obese persons lacked willpower (5), and 25% of Fogelman's respondents reporting patients lacked motivation (8). Similarly, over 50% of our respondents believed treatment for obesity is often ineffective compared with 31% reported by Block *et al*. (20) and 40% reported by Foster *et al*. (7) These differences are probably due to our focus on extreme obesity and our different sample populations. The high prevalence of negative attitudes may hinder primary care physicians from discussing weight loss with extremely obese patients. It was interesting that older age and higher patient volume were independently associated with less negative attitudes. Perhaps, physicians with more experience or who are more successful develop a "tolerance" toward patients with extreme obesity.

Unlike other studies, we did not find gender differences in attitudes. Foster *et al*. found female physicians had fewer negative attitudes toward obese patients than males, although the differences were very small (7), while Power *et al*. found male physicians were more likely

than females to believe in the futility of obesity treatment (14). However, those studies did not control for potential confounders such as age or patient volume. It appears that increasing knowledge on weight loss treatments may decrease negative attitudes in physicians. In our sample, those with higher knowledge of weight loss diets had less dislike in discussing weight loss, lower frustration, and lower beliefs that weight loss treatments are futile.

Similar to others, we found that bariatric surgery and weight loss medications are infrequently recommended as approaches to weight loss, especially by physicians with higher volume of extremely obese patients (7,9,12). Yet, bariatric surgery is the most effective long-term treatment for weight loss, and it decreases overall mortality in extremely obese patients (25, 26). Primary care physicians in NJ may not have sufficient knowledge regarding effectiveness and safety of bariatric surgery. In fact, only 44% of physicians reported that they knew much or very much about surgical interventions, with higher volume of extremely obese patients in the practice being independent predictors of lower knowledge. The low recommended use of weight loss medications may be due to pessimism about its effectiveness, previous history of risks associated with some medications (e.g., fenfluramine-phentermine) (27), and the lack of coverage by insurance companies. In fact, inadequate reimbursement was endorsed as a barrier to discussing weight loss by 45% of physicians, and providing insurance coverage for obesity treatment was the highest rated strategy for improving the quality of care of extremely obese patients. Another surprising finding was that low carbohydrate diets (Atkins) was the least recommended approach for weight loss, despite low carbohydrate diets being very popular and producing more weight loss and more favorable metabolic effects than low fat diets (28,29). Increasing knowledge may help to increase physicians' recommendations of more effective treatments. For example, higher knowledge of weight loss drugs and bariatric surgery was associated with increased frequency of recommendations of weight loss drugs and bariatric surgery, respectively.

Many physicians encounter challenges in doing abdominal, breast, and pelvic exams on extremely obese patients. In addition, many offices are not equipped with scales, gowns, and tables to accommodate extremely obese patients. These challenges with examinations and lack of supplies and equipment may dissuade primary care physicians from performing physical exams on extremely obese patients. As expected, physicians with higher knowledge on specific helpful examination techniques had less difficulty with these exams.

We found few factors that were associated with physician's knowledge, practices, and attitudes. Physician's BMI or own weight loss attempts were not associated with any questions, similar to findings by Amy *et al*. (13), however, only 12% of physicians in this sample were obese and only 1% extremely obese. This lower prevalence of obesity in physicians is similar to that found by others (7,14), and it may contribute to the negative attitudes we found. Physician with higher BMI has been associated with more positive attitudes toward use of weight loss medications (7).

This study has several limitations. First, while our 53% response rate is generally acceptable for physician surveys and higher than other studies, the results cannot be generalized to other physicians outside of NJ. Responders may have had more interest in obesity than nonresponders, so positive attitudes and utilization of effective treatments may be even lower than our findings. In addition, knowledge and attitudes were self-reported and not objectively measured, so true knowledge and attitudes may be lower than suggested. Furthermore, we could not precisely determine the physicians' patient population demographics. Because all data were based on physician report, there may be some bias in our associations. For example, the reporting of the number of obese patients may be overestimated by physicians with more negative attitudes toward obese patients. However, in our bivariate and multivariate analyses,

we did not find any correlation between percent of obese patients in the practice and negative physician attitudes.

To impact the current obesity epidemic and provide better care for extremely obese patients, education of primary care physicians, particularly on bariatric surgery, specific examination techniques, and availability of community resources for extremely obese persons are needed. In addition, providing insurance coverage for obesity treatment is crucial. Furthermore, many practices will need to obtain equipment and supplies to accommodate the growing population of extremely obese patients. Further research is needed to determine if interventions to increase knowledge of physicians will lead to less negative attitudes toward management of obesity and extremely obese patients.

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Table 1

Characteristics of respondents

	All	Females	Males	
Characteristics	***N* (%)**	***N* (%)**	***N* (%)**	***P* value**
N (%)	255 (100)	103 (41.0)	148 (59.0)	
Age (years)				**0.012**
≤40	62 (24.9)	31 (30.1)	31 (21.4)	
41–50	104 (41.8)	56 (54.4)	48 (33.1)	
51–60	61 (24.5)	13 (12.6)	47 (32.4)	
>60	22 (8.8)	3 (2.9)	19 (13.1)	
Years in practice				**<0.0001**
0–10	65 (25.6)	34 (33.0)	30 (20.3)	
11–20	97 (38.2)	51 (49.5)	45 (31.4)	
21–30	64 (25.2)	14 (14.6)	49 (33.1)	
>30	28 (11.0)	4 (3.9)	24 (16.2)	
Race/ethnicity				0.9722
White	204 (80.3)	83 (80.6)	119 (80.4)	
Nonwhite	50 (19.7)	20 (19.4)	29 (19.6)	
BMI				**<0.0001**
Normal (18.5–24.9)	110 (47.4)	61 (62.2)	48 (36.4)	
Overweight (25–29.9)	94 (40.5)	25 (25.5)	68 (51.5)	
Obese (≥30)	28 (12.1)	12 (12.2)	16 (12.1)	
Hours per week in patient care				**<0.0001**
0–20	57 (22.4)	30 (29.1)	25 (16.9)	
21–30	50 (19.7)	28 (27.2)	22 (14.9)	
31–40	84 (33.1)	33 (32.0)	50 (33.8)	
>40	63 (24.8)	12 (11.7)	51 (34.5)	
Number of patients seen per week				**<0.0001**
0–50	64 (22.5)	32 (31.1)	32 (22.1)	
51–100	84 (33.5)	45 (43.7)	37 (25.5)	
>100	103 (41.0)	26 (25.3)	76 (52.4)	
Practice type				0.419
Solo	42 (16.6)	13 (12.8)	27 (18.2)	
Single-specialty group	174 (68.8)	75 (73.5)	98 (66.2)	
Multispecialty group	37 (14.6)	14 (13.7)	23 (15.5)	
Practice setting				0.408
Academic Urban	19 (7.5)	10 (9.7)	9 (6.1)	
Academic suburban	21 (8.3)	8 (7.8)	13 (8.8)	
Community urban	22 (8.7)	6 (5.8)	16 (10.8)	
Community suburban	192 (75.6)	79 (76.7)	110 (74.3)	

Numbers may not add up to total due to missing data.

Boldface values are statistically significant at $P < 0.05$.

Table 2

Frequency of recommendations of weight loss approaches (N = 255)

Item	Mean ± s.d.	1 (Almost never)	2 (Infrequent)	3 (Sometimes)	4 (Frequent)	5 (Almost always)
Basic good nutrition/adding fruits and vegetables	4.8 ± 0.5	0	0.8	2.0	15.9	81.4
Regular exercise	4.7 ± 0.8	0	0.4	1.6	17.2	79.2
Low fat diet	4.1 ± 1.1	4.8	4.8	13.7	30.5	46.2
Weight watchers or other commercial program	3.8 ± 1.0	4.4	3.6	27.5	37.5	27.1
Referral to nutritionist	3.6 ± 1.0	3.2	7.2	37.5	31.5	20.3
No specific diet—just calorie reduction	3.5 ± 1.2	6.5	14.2	24.4	32.1	22.4
I focus on improving health, not weight loss	2.8 ± 1.4	17.8	14.4	30.0	21.5	12.2
Bariatric surgery	2.5 ± 0.9	13.9	36.5	40.1	9.1	0.4
South Beach diet	2.1 ± 1.2	45.8	17.3	23.7	10.0	3.2
Weight loss drugs	1.9 ± 0.9	46.4	29.0	18.2	6.5	0
Atkins diet	1.7 ± 0.9	55.6	28.4	12.0	3.2	0.8

Items are listed in order of mean rating, not the order displayed in the questionnaire. Values other than the mean are the percent of respondents who answered each category (1–5).

Table 3

Effect of physician characteristics on attitudes toward management of obesity and extremely obese patients

Question	Dealing with obesity and weight loss is frustrating	Treatment of obesity is often ineffective	I am pessimistic that patients will be successful in losing weight	Patients lack discipline to lose weight	Patients want an easy way out	Patients do not have time to exercise
Characteristic	**OR (95% CI)**	**OR (95% CI)**	**OR (95% CI)**	**OR (95% CI)**	**OR (95% CI)**	**OR (95% CI)**
Age (years)						
≤40	1	1	1	1	1	1
41–50	0.85 (0.46, 1.56)	1.11 (0.61, 2.02)	0.88 (0.49, 1.59)	1.41 (0.76, 2.60)	0.76 (0.41, 1.38)	1.46 (0.80, 2.67)
51–60	0.60 (0.30, 1.23)	0.50 (0.25, 1.00)	0.56 (0.28, 1.11)	1.34 (0.66, 2.72)	0.64 (0.32, 1.28)	1.68 (0.83, 3.39)
>60	0.12 (0.04, 0.34)*	0.14 (0.05, 0.39)*	0.26 (0.10, 0.71)	0.86 (0.32, 2.29)	0.33 (0.12, 0.89)	1.28 (0.49, 3.36)
Gender						
Male	1	1	1	1	1	1
Female	0.75 (0.44, 1.29)	0.68 (0.41, 1.15)	1.32 (0.80, 2.20)	1.32 (0.78, 2.24)	0.74 (0.44, 1.25)	0.69 (0.41, 1.17)
Number of patients/week						
0–50	1	1	1	1	1	1
51–100	0.27 (0.14, 0.52)*	0.85 (0.46, 1.58)	0.38 (0.20, 0.71)*	0.45 (0.23, 0.85)	0.46 (0.25, 0.86)	0.39 (0.21, 0.74)**
>100	0.44 (0.24, 0.82)	1.04 (0.57, 1.90)	0.57 (0.31, 1.04)	0.35 (0.18, 0.65)**	0.26 (0.14, 0.49)**	0.36 (0.19, 0.66)**
Percent of patients severely obese						
≤7	1	1	1	1	1	1
>7	1.10 (0.66, 1.83)	1.51 (0.92, 2.49)	1.34 (0.82, 2.19)	1.07 (0.65, 1.76)	0.65 (0.40, 1.07)	0.88 (0.54, 1.45)

Adjusting for age, gender, number of patients per week, percent of patients in practice who are severely obese.

CI, confidence interval; OR, odds ratio.

*$P < 0.00625$;

**$P < 0.0038$.

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Table 4

Helpful strategies to improve quality of care for extremely obese patients (N = 255)

Item	Mean ± s.d.	1 (Not at all)	2 (A little)	3 (Somewhat)	4 (Very)	5 (Crucial)
Insurance coverage for obesity treatment	4.14 ± 0.91	2.01	2.01	16.87	37.75	40.96
Readily available nutrition and exercise therapists	4.13 ± 0.76	0.40	3.20	11.20	53.60	31.60
List of community resources to refer obese patients	4.01 ± 0.80	0.81	2.82	17.34	52.82	26.21
Office personnel who are sensitive to their needs	3.86 ± 1.01	3.21	7.23	16.87	44.58	27.31
Education on effective weight loss interventions	3.66 ± 1.01	4.42	8.84	19.68	49.4	16.87
Dietitian on site	3.60 ± 1.00	4.42	10.00	20.08	50.60	13.65
Education on motivational skills	3.57 ± 0.98	3.63	10.10	25.81	45.56	14.52
Equipment/furniture that accommodate them	3.57 ± 1.02	4.42	10.00	26.10	42.97	16.47
Better counseling tools	3.50 ± 0.95	3.21	11.20	29.72	44.18	11.65
Case manager to help coordinate health care	3.45 ± 1.00	4.00	14.00	25.60	44.40	11.20
Education on specific examination techniques	3.44 ± 1.03	4.44	14.90	24.19	44.35	11.69
Placing scale in private area	3.40 ± 1.20	10.57	11.00	22.76	39.02	16.26
Reminder system for preventive exams	3.22 ± 1.10	8.54	15.90	29.67	35.77	9.35
Scheduling more complete physicals	2.83 ± 1.17	16.73	21.20	30.20	24.49	6.53
Specialist who deals with just severely obese patients	2.70 ± 1.17	18.55	26.60	27.02	22.18	5.65

Items are listed in order of mean rating, not the order displayed in the questionnaire. Values other than the mean are the percent of respondents who answered each category (1–5).