Primary Care Physician Attitudes and Practice Patterns in the Management of Obese Adults: Results From a National Survey

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Abstract

Purpose: Obesity remains a serious public health problem. The purpose of this study was to identify the current attitudes and practices of primary care physicians (PCPs) with respect to obesity. **Methods:** A survey was systematically developed and administered electronically to PCPs, who received a small honorarium for their time. Results were analyzed to identify specific attitudes and practices and their associations with each other and with demographic and other variables. **Results:** Physicians expressed little confidence in their ability to manage obesity. In general, however, they believed that obesity could be successfully managed. Lifestyle changes were perceived to be the most effective available method for patients to lose weight, and respondents were more likely to recommend this approach over pharmacotherapy or bariatric surgery. Respondents perceive the greatest barrier to managing obese patients to be a lack of patient motivation. Physicians were significantly more likely to initiate discussions with obese patients about their weight if they believed they had positive attitudes about and knowledge of weight management, and adequate resources to manage the problem. **Conclusions:** Physicians report a lack of confidence in managing obesity. Lack of patient motivation is perceived to be the greatest barrier. Physicians with greater knowledge, more positive attitudes toward obesity management, and access to more resources are more likely to provide weight management in primary care settings.

Keywords: obesity; attitudes; case vignette; bariatric surgery

Introduction

Obesity remains a serious public health problem in the United States and is associated with a host of illnesses, including cardiovascular disease, diabetes, and several different cancers.[1–3] The annual cost attributed to obesity is estimated at $147 billion.[4] The US Preventive Services Task Force has recommended that physicians screen adults for obesity and provide supportive counseling on lifestyle changes.[5] Furthermore, measurement of adult body mass index (BMI) was incorporated in the National Committee for Quality Assurance Healthcare Effectiveness Data and Information Set in 2009.[6] Despite this, rates of physician screening for and management of obesity are low,[7–11] potentially due to physicians' negative attitudes toward obese patients, inadequate training in obesity management during medical school and residency, and unfamiliarity with guidelines for obesity management and for bariatric surgery referral.[12–16]

The purpose of this study was to: 1) describe the attitudes of primary care physicians (PCPs) about obesity and available treatment options; 2) describe the practice patterns of PCPs in the management of adult obese patients; and 3) identify barriers that prevent

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PCPs from optimally managing adult obese patients. Furthermore, unlike previous studies that have examined each of these 3 areas individually, we aimed to identify relationships between attitudes, barriers, and current practice patterns to inform educational programming for PCPs.

Methods

Survey Development

The major component of the survey was clinical case vignettes describing patients with obesity. Assessment questions were designed to explore how respondents approach evaluation and management of the patients described. Prior research has demonstrated that case vignettes, compared with other methods of measuring processes of care (such as chart review and standardized patients), provide a valid, cost-effective, and noninvasive method to measure clinicians' processes of care.[17] In addition to the case vignettes, the survey included questions about attitudes toward obesity, confidence in management, barriers to optimal care, and respondent demographics. Questions about barriers were developed with input from focus groups composed of community internal medicine and family physicians. We conducted 4 focus groups using the structured approach of nominal group technique (NGT)[18,19] to gain insight into the daily challenges of obesity management. Prior to distribution, the final survey was reviewed by 2 community-based physicians and edited to improve clarity and relevance to primary care practice.

Survey Distribution and Data Collection

A random sample of family physicians and general internists was selected using a proprietary national database of "opted-in" physicians matched to the American Medical Association (AMA) Physician Masterfile (2009). Based on previous studies, a sample size of 300 PCPs was determined to provide adequate power for the study (margin of error ± 5%). One thousand physicians were sent an email invitation to participate in the online survey, and the first 300 respondents to reply were used for analysis. An honorarium of $50 was offered for completing the survey.

Statistical Analysis

All statistical analyses were completed with PASW Statistics 18 (SPSS, Inc., Chicago, IL). Descriptive statistics were used to summarize demographic characteristics of participants and responses. Chi-square and t tests were used to compare responses according to several variables (including internists vs family physicians). Pearson's correlation coefficients were used to determine relationships between attitudes, barriers, and physician practice. Statistical significance was set at $P < 0.05$.

Results

Respondent Demographics

Of the 300 respondents, 7 indicated that they did not see any patients with obesity and were excluded from the final analysis. Of the remaining 293, 148 specialized in family medicine and 145 in internal medicine. Respondent demographics are shown in Table 1. Respondents were predominantly male, mostly involved in suburban group practice, and see, on average, > 35 patients per week who are obese.

Attitudes and Confidence in Managing Obesity

Respondents were asked to report their attitudes about managing obesity using a 5-point Likert scale (1: disagree; 2: somewhat disagree; 3: neutral; 4: somewhat agree; 5: agree) (Table 2). Fifty percent agreed (rating agreement as a 5) that physicians can help obese patients achieve a healthier weight and that lifestyle changes are effective in helping obese patients lose weight. Thirty-six percent of respondents agreed with the statement that losing weight is primarily a patient's responsibility. Thirty-one percent were confident in assisting patients with weight management. When asked specifically about types of weight loss, 1 in 3 respondents agreed that

Table 1. Demographics of Sample

	Family Practice (n = 148)	Internal Medicine (n = 145)	Overall (N = 293)
MD/DO, %	100	100	100
Mean years since medical school graduation (SD)	21.2 (8.8)	22.4 (8.7)	21.8 (8.8)
Male, %	75.5	82.1	78.8
Practice location, %			
Urban	16.9	38.6	27.6
Suburban	54.1	55.2	54.6
Rural	29.1	6.2	17.7
Practice setting, %			
Solo	20.3	35.2	27.6
Group	68.9	59.3	64.2
Medical school	1.4	2.1	1.7
HMO	2.7	0.0	1.4
Non-government hospital	1.4	1.4	1.4
Government	1.4	2.1	1.7
Other	4.1	0.0	2.0
Mean obese patients seen per week (SD)	35.2 (23.8)	38.5 (30.4)	36.8 (27.3)

Abbreviations: HMO, health maintenance organization; SD, standard deviation.

Roux-en-Y gastric bypass surgery and laparoscopic surgery are effective in helping obese patients lose weight. By contrast, only 1 in 10 respondents agreed that medication-based weight loss is effective. Few respondents agreed that any pharmacologic or surgical methods are safe.

Respondents rated their confidence in discussing various treatments with their obese patients on a 10-point scale (1: not confident at all; 10: extremely confident). Eighty-six percent of physicians were very confident in discussing lifestyle recommendations with their patients, rating their confidence as 8 to 10 (Table 2). However, physicians were far less confident in discussing the other forms of obesity treatment. Fewer than 1 in 5 physicians agreed that they were confident in managing patients after Roux-en-Y (10%) or laparoscopic surgeries (14%).

Barriers to Discussion and Management of Obesity

Respondents were asked to rate a list of barriers on a 10-point scale from "not at all significant" (1) to "extremely significant" (10) in the discussion of weight between physicians and obese patients (Table 3). The most significant reported barrier was the lack of motivation among patients. The second most important barrier was lack of time during patient encounters. Lack of physician training in effective communication and lack of knowledge in weight management were not seen as major barriers by the physician respondents.

Discussion and Management of Obesity

To assess how typical patients would be managed in their practice, survey participants were presented with 2 case vignettes. The first case presented a woman with a BMI of 36.8 kg/m^2. Just two-thirds of respondents reported that they would be very likely (rating 8–10 on 10-point scale) to discuss weight with this patient (Table 4, case 1). Physicians were more likely to discuss weight with this patient if they did not indicate the following as significant barriers: sensitivity of patients to weight issues ($r = -0.213$; $P < 0.001$), lack of resources ($r = -0.132$; $P = 0.025$), lack of knowledge and skill with weight management ($r = -0.161$; $P = 0.006$), and lack of training in effective communication ($r = -0.200$; $P = 0.001$). Furthermore, physicians were more likely to initiate a discussion if they believed that physicians can help obese patients achieve a healthier weight ($r = 0.355$; $P < 0.001$) and did not consider weight loss primarily a patient's responsibility ($r = -0.131$; $P = 0.025$). Physicians with greater confidence in assisting patients with weight management ($r = 0.314$; $P < 0.001$) and managing patients after Roux-en-Y gastric

Table 2. Physician Attitudes About Obesity

	FP, % (n = 148)	IM, % (n = 145)	Overall, % (N = 253)
Agree that:[a]			
Physicians can help obese patients achieve a healthier weight	50.7	48.3	49.5
Losing weight is primarily a patient's responsibility	39.2	33.3	36.3
Lifestyle changes are effective in helping obese patients lose weight	56.6	59.7	58.1
I feel confident in assisting patients with weight management	33.8	28.7	31.3
Medications are effective in helping obese patients lose weight	12.8	8.3	10.6
Medications for weight loss are safe	4.1	3.4	3.8
Roux-en-Y gastric bypass surgery is effective in helping obese patients lose weight	39.2	35.2	37.2
Roux-en-Y gastric bypass surgery for weight loss is safe	4.8	3.5	4.1
I feel confident in managing patients after Roux-en-Y gastric bypass surgery	9.5	11.0	10.3
LAGB is effective in helping obese patients lose weight	31.1	34.5	32.8
LAGB for weight loss is safe	10.9	11.3	11.1
I feel confident in managing patients after LAGB	13.5	15.4	14.4
Very confident in discussing the following obesity treatments with patients:[b]			
Lifestyle modifications	89.2	83.4	86.3
Medications	55.4	43.4	49.5
Commercial weight loss programs	41.5	39.6	40.5
LAGB	34.7	33.8	34.2
Roux-en-Y gastric bypass	31.3	32.9	32.1

[a]Percent of physicians that agreed with each statement (rated a 5 on a 5-point scale).
[b]Percent of physicians that rated confidence as 8–10 on 10-point scale.
Abbreviations: FP, family practice; IM, internal medicine, LAGB, laparoscopic adjustable gastric banding.

Table 3. Perceived Barriers to Discussions of Weight Between Physicians and Obese Patients[a]

	Overall (N = 293)	FP (n = 148)	IM (n = 145)	Very Significant[b], % (N = 293)
Lack of motivation among patients	7.1 (2.2)	6.9 (2.3)	7.3 (2.2)	52.2
Lack of time during encounters	7.0 (2.2)	7.0 (2.4)	7.1 (2.1)	46.8
Lack of insurance reimbursement for weight management	6.1 (2.7)	6.0 (2.7)	6.2 (2.7)	35.5
Sensitivity of patients to weight issues	6.1 (2.3)	6.1 (2.3)	6.1 (2.3)	31.5
Lack of ancillary and community resources	5.6 (2.4)	5.4 (2.4)	5.8 (2.5)	23.9
Lack of training in effective communication about obesity and weight management	5.0 (2.5)	4.8 (2.5)	5.3 (2.5)	20.1
Lack of knowledge and skills among physicians in weight management	5.0 (2.5)	4.7 (2.5)	5.3 (2.5)	17.1

[a]Numbers indicate means (SD) of response of physician classification (10-point scale).
[b]Percentages indicate physicians classifying each barrier as very significant (8–10 on 10-point scale).
Abbreviations: FP, family practice; IM, internal medicine; SD, standard deviation.

bypass surgery (r = 0.137; $P = 0.019$) were more likely to discuss weight. Confidence in managing patients after laparoscopic adjustable gastric banding (LAGB) surgery had no significant association with the likelihood of discussing weight (r = 0.085; $P = 0.149$).

The second case presented a 25-year-old man with a BMI of 42.5 kg/m^2 who was asking for help losing weight. He had a history of asthma and hypertension and his daily medications were hydrochlorothiazide and amlodipine. His skin examination revealed prominent acanthosis nigricans around his neck and in both axillae. When asked what they would do next to manage this patient's obesity, 90% of respondents would recommend lifestyle modifications and a sleep study (Table 4, case 2). Significantly more family physicians than internists would recommend lifestyle modifications. If the patient's BMI was lowered to 35 kg/m^2, the recommendations change very little with slight decreases in those that would refer for surgery. To evaluate an obese patient's suitability

Table 4. Physician Management of Patients with Obesity[a]

	FP, % (n = 148)	IM, % (n = 145)	Overall, % (N = 253)
Case 1: A 44-year-old woman with BMI of 36.8 kg/m^2 presents for routine examination. She does not smoke or drink. She has had migraines and seasonal allergies in the past year.			
Likelihood of discussing weight with this patient: (10-point scale)			
Unlikely (1–3)	4.7	2.8	3.8
Somewhat likely (4–7)	31.1	35.9	33.4
Very likely (8–10)	64.2	61.4	62.8
Case 2: A 25-year-old man with a BMI of 42.5 kg/m^2 presents for help in losing weight. He has a long history of mild-to-moderate intermittent asthma and a 2-year history of hypertension. He is currently taking hydrochlorothiazide 25 mg po daily and amlodipine 10 mg po daily. Pulmonary, cardiovascular, and abdominal examinations are normal. Examination of skin reveals prominent acanthosis nigricans around his neck and in both axillae.			
Next steps in managing obesity: (select all that apply)			
Refer for bariatric surgery	15.5	19.3	17.4
Recommend lifestyle modifications	92.6	82.8	87.7
Treat with medication	31.1	26.2	28.7
Recommend participation in a sleep study	91.2	89.0	90.1
Next steps if the patient had a BMI of 35 kg/m^2: (select all that apply)			
Refer for bariatric surgery	6.1	9.7	7.8
Recommend lifestyle modifications	93.9	90.3	92.2
Treat with medication	31.8	29.7	30.7
Recommend participation in a sleep study	85.1	83.4	84.3
Tests conducted when considering bariatric surgery for an obese patient: (select all that apply)			
Fasting lipid profile	89.9	87.6	88.7
Sleep study	73.0	79.3	76.1
Fasting glucose or oral glucose tolerance test	94.6	91.0	92.8

[a]Significant differences between FP and IM responses ($P < 0.05$) are bolded.
Abbreviations: BMI, body mass index; FP family practice; IM, internal medicine.

for bariatric surgery, almost all physicians would perform a fasting blood glucose or oral glucose tolerance test, followed by a fasting lipid profile and then a sleep study.

Physicians were significantly more likely to refer this patient (BMI, 42.5 kg/m^2) for bariatric surgery if they believed that lifestyle changes are not effective ($r = -0.140$; $P = 0.017$) and LAGB surgery is safe ($r = 0.198$; $P = 0.001$). They are more likely to treat with medication if they believe physicians can help patients achieve a lower weight ($r = 0.134$; $P = 0.022$), medications are effective ($r = 0.227$; $P < 0.001$), and medications are safe ($r = 0.138$; $P = 0.018$). Lifestyle modification and sleep study recommendations were not significantly correlated with any of the assessed attitudes.

When respondents were asked to consider the same patient but with a BMI of 35 kg/m^2, correlations between attitudes and referral for surgery became stronger. In this case, physicians are more likely to refer for bariatric surgery if they believe Roux-en-Y gastric bypass surgery is safe ($r = 0.199$; $P = 0.001$), Roux-en-Y surgery is effective ($r = 0.137$; $P < 0.019$), LAGB surgery is safe ($r = 0.209$; $P < 0.001$), and LAGB surgery is effective ($r = 0.164$; $P = 0.005$). They are also more likely to refer if they feel confident in managing patients after Roux-en-Y ($r = 0.210$; $P < 0.001$) or LAGB surgery ($r = 0.187$; $P = 0.001$).

Discussion

Few prior studies have surveyed PCPs simultaneously about their attitudes on obesity and available treatment options, their practice patterns, and their thoughts on barriers to optimally managing obese adults. Five studies have described the views of clinicians on managing weight loss in obese patients, with findings similar to ours. In 2 studies, 34% to 40% of physicians did not believe that their obese patients would lose weight, and even fewer believed patients could maintain the weight loss.[14,20] Physicians surveyed in our study had similar pessimistic feelings toward effective weight loss, with just under half reporting that they believed physicians could help patients lose weight. Although a 2006 study found that a majority of PCPs believed that effective weight loss treatments are available, in 3 other studies, most PCPs felt that available treatments for obesity were not effective, an attitude that was also prevalent in our results.[16,14,21,22] In addition, respondents to our survey did not agree that medical and surgical weight loss therapies were safe.

Two previous studies have investigated PCP confidence in managing obesity. In these studies, 50% to 60% of PCPs felt competent in prescribing weight loss programs for the obese,[14,23] while 31% of our respondents were confident in assisting patients with weight management. In particular, in our study, confidence in managing obesity with medications, in the efficacy of surgical management options, and in ability to manage patients after bariatric surgery was surprisingly low.

Respondents in other surveys indicated that primary barriers to optimal weight management were lack of reimbursement,[14] lack of physician training,[16,20] lack of time to counsel patients, cynicism about effectiveness of counseling and treatments, and lack of patient interest and motivation.[16,20] Respondents to our survey did not see reimbursement to be as large a barrier as patient motivation and were less concerned that lack of knowledge or training kept them from providing optimal care.

These findings, along with an analysis of the practice patterns revealed in the case vignettes, showed that physicians with more positive attitudes and more confidence were more likely to discuss weight management with patients. Our results support the need for PCP education in several areas. A crucial issue is providing PCPs with more strategies to overcome patient motivational barriers to weight loss, including motivational interviewing.[24,25] Teaching physicians how to motivate their patients may encourage physicians to address obesity more often. Furthermore, PCPs need more information on the efficacy and safety of pharmacotherapy for the management of obesity, particularly as new agents become available. Finally, more education about the indications/contraindications of, preoperative assessment of, and postoperative care for bariatric surgery should be provided.

Limitations

This study used a case-vignette survey as a surrogate measure of PCPs' skills and knowledge, and did not attempt to verify any information with chart audits or direct observation of practice. However, the use of case vignettes (as compared with chart review and standardized patients) has been shown to provide valid and reliable data on clinicians' actual practice patterns.[17] The 2 clinical scenarios that were used in this study do not cover the full spectrum of obesity patient scenarios. Future studies should investigate other situations to be more inclusive of the practice patterns used in the United States. The correlations shown in this analysis, while significant, have small r's and only account for small variations of the predicting variable. However, many factors are involved in management decision making, and this study highlights certain relationships between attitudes and practice that have yet, to our knowledge, been studied. Finally, the use of a

convenience sample and the small honorarium to complete the study could establish a selection bias, influencing participation rates and responses. However, demographic characteristics of our sample were representative of the general population of internists and family physicians according to the AMA Physician Masterfile (2009).

Conclusion

Primary care physicians do not view themselves as being deficient in knowledge and skills regarding obesity management. However, there are certain key domains that may be necessary for physicians when planning education. First, PCPs need to learn about strategies to overcome motivational barriers among patients who need to lose weight. Second, more research is needed, perhaps through comparative studies, on the benefits of pharmacotherapy for weight loss in order to support appropriate use. Third, PCPs should receive training to become part of an integrated team coordinating and managing patients undergoing bariatric surgery.

Practice Recommendations

1. Discuss weight management with all obese patients.
2. Employ strategies to motivate obese patients to lose weight.
3. Use appropriate standard criteria for referral of patients for bariatric surgery.

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Conflict of Interest Statement

Gregory D. Salinas, PhD, Terry A. Glauser MD, MPH, James C. Williamson, MS, Goutham Rao, MD, and Maziar Abdolrasulnia, PhD disclose no conflicts of interest.

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