

ORIGINAL ARTICLE

Current practices of obesity pharmacotherapy, bariatric surgery referral and coding for counselling by healthcare professionals

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Summary

Introduction

Rates of obesity pharmacotherapy use, bariatric surgery and intensive behavioural counselling have been extremely low.

Objectives

The primary objective of this study was to survey healthcare provider beliefs, practice and knowledge regarding obesity management.

Methods

Primary care physicians (PCPs), OB-GYN physicians and nurse practitioners (NPs) responded to a web-based survey related to drug therapy practice, bariatric surgery referral and reimbursement coding practice.

Results

Rates of reported use of obesity pharmacotherapy appear to be increasing among PCPs, which is likely related to the approval of four new obesity pharmacotherapy agents since 2012. Rates of pharmacotherapy use among OB-GYNs and NPs appear much lower. Similarly, few PCPs are averse to recommending bariatric surgery, but aversion among OB-GYNs and NPs is significantly higher.

Conclusion

Together, these observations suggest that OB-GYN and NP populations are important targets for education about obesity management. Very few PCPs, OB-GYNs or NPs use behavioural counselling coding for obesity. Better understanding of why this benefit is not being fully used could inform outreach to improve counselling rates.

Keywords: Bariatric surgery referral, CPT coding, obesity counselling, obesity pharmacotherapy.

Introduction

Obesity medicine specialists typically use a stepped care approach of increasing therapeutic intensity, aligned with severity, including intensive behavioural therapy (IBT), pharmacotherapy and bariatric surgery (1). IBT is the first recommended treatment option, typically modelled after the United States Preventive Services Task Force (USPSTF) guidelines. USPSTF recommends intensive, multicomponent behavioural interventions for patients with body mass index (BMI) over 30 kg m² (2).

High intensity behavioural interventions include nutrition and behaviour modification education, goal setting, addressing barriers to change, self-monitoring and weight maintenance strategies, delivered by individual and/or group counselling over a 12-month period. Because the prevalence of obesity in the Medicare population was 36% between 2011 and 2014, there is clearly a need for these services (3). Despite coverage by Medicare, utilization of the IBT benefit is extremely low. Approximately 0.5% of eligible Medicare beneficiaries used the IBT service in 2013. Among those patients

utilizing the benefit, most attended fewer sessions than recommended by USPSTF (4).

In addition to the IBT recommendations from USPSTF, the 2013 AHA/ACC/TOS Guideline for the Management of Overweight and Obesity in Adults guides providers to intensify treatment with pharmacotherapy and bariatric surgery if needed. Pharmacotherapy for obesity is indicated for individuals with a BMI greater than 30 kg m^2 or BMI greater than 27 kg m^2 with at least one obesity-associated comorbid condition (5). In 2012, 35% of US adults had a BMI that met these criteria (6). Most medications work by diminishing appetite. Combining pharmacotherapy and IBT results in greater weight loss than either alone.(7) Six Food and Drug Administration-approved pharmacotherapy options account for nearly all obesity medication prescriptions written in the USA: phentermine, orlistate, lorcaserin, phentermine/topiramate ER, naltrexone/bupropion SR and liraglutide 3.0 mg. Despite the efficacy of and need for this treatment, only 0.7–2% of eligible patients receives a prescription for an obesity medication (8,9).

Bariatric surgery is a third option recommended by the 2013 guidelines for adults with a BMI greater than 40 kg m^2 , or a BMI greater than 35 kg m^2 with at least one comorbid condition, and who have not responded to behavioural treatment (with or without pharmacotherapy) (10). The prevalence of severe obesity reached 6.4% in 2011–2012 (6). Bariatric surgery generally achieves weight loss while improving or resolving a variety of comorbid conditions. The rate of bariatric surgery per 100,000 population has plateaued since 2009, with 179,000 operations performed in 2013 (11). Similar to IBT and pharmacotherapy utilization, the plateau in bariatric procedures seems paradoxical in the face of the prevalence of severe obesity.

Previous research has focused on provider utilization of counselling, with relatively little research on the frequency with which providers recommend pharmacotherapy or refer for bariatric surgery. However, the available research suggests that while providers may have positive impressions of the effectiveness of bariatric surgery, few are willing to refer patients for surgery (12). Many of these studies focus only on primary care physicians, but not other types of healthcare providers (HCP) like nurse practitioners (NPs) and OB-GYNs, many of whom provide primary services in their practices. We have included these provider types because primary care NPs deliver similar services and spend their time in nearly identical ways to primary care physicians, and the association of obesity with complications in pregnancy and infertility treatment point to the role of OB-GYNs in addressing the obesity epidemic (13,14).

We compared the utilization of IBT, pharmacotherapy and referral for bariatric surgery to current treatment recommendations for counselling, pharmacotherapy and bariatric surgery by assessing the beliefs, practices and knowledge of a range of HCPs (5).

Methods

Data were collected in June 2015 using DocStyles, an Internet panel survey. George Washington University researchers in concert with Porter Novelli, a public relations firm, designed eight survey questions. The national sample was randomly selected using SERMO'S Global Medical Panel, which includes over 330,000 medical professionals in the USA. The sample included 1,000 primary care physicians (465 family physicians and 535 internists), 250 OB-GYNs and 251 NPs. Participants were paid \$35–\$80 upon completing the survey. Participants were screened to include only those who practise in the USA, actively see patients, work in an individual, group or hospital practice and have been practising for at least 3 years.

The survey contained a total of 131 questions (eight of which are reported here) related to demographics (gender, race, age, height and weight), medical practice (income of patient population, setting, years in practice and type of practice), and practices concerning obesity treatment. Self-reported height and weight were used to calculate BMI (kg m^2) of the respondents. Participants were asked about their practices regarding drug therapy, bariatric surgery recommendation and reimbursement coding.

Drug therapy practices were assessed through the question, 'What is typically your minimum requirement for prescribing drug therapy for obesity treatment?' Participants could select one of the following: 'I do not prescribe drug therapy for obesity'; 'BMI greater than or equal to 30 kg m^2 with a comorbid condition'; 'BMI greater than or equal to 30 kg m^2 '; 'BMI greater than or equal to 35 kg m^2 with a comorbid condition'; 'BMI greater than or equal to 35 kg m^2 , BMI greater than or equal to 40 kg m^2 '.

Bariatric surgery recommendation practice was assessed through the question, 'What is typically your minimum requirement for recommending bariatric surgery?' Participants could select one of the following: 'I would not recommend bariatric surgery'; 'BMI greater than or equal to 35 kg m^2 with a comorbid condition'; 'BMI greater than or equal to 35 kg m^2 '; 'BMI greater than or equal to 40 kg m^2 with a comorbid condition'; 'BMI greater than or equal to 40 kg m^2 '; 'BMI greater than or equal to 45 kg m^2 '.

Reimbursement coding practice was assessed through the question, 'What Current Procedural Terminology (CPT) code do you use when dedicating an office visit to weight management or obesity counselling?' Participants could select one of the following: 'General office visit (99213)'; 'Preventive service visit (99391)'; 'Wellness office visit (G0439)'; 'Behavioural counselling (G0477)'; 'Medical nutrition therapy (97803)'; and 'I do not code for an obesity visit'.

Statistical analysis was performed using STATA software (StataCorp. 2015. *Stata Statistical Software: Release 14*. College Station, TX: StataCorp LP). Chi-squared tests and analysis of variance tests assessed differences in provider characteristics by specialty.

Results

The response rate for the survey was 77%, and a total of 1,501 providers participated. Eighty-nine per cent of PCPs 72% of OB-GYN, and 52% of NPs responded. Table 1 describes their demographic information. The majority of participants (62%) were White men, except among NPs (13%). The average age was 46.6 years ($M=46.4$, $SD=10.30$), although OB-GYN were slightly older ($M=49.4$, $SD=10.35$). Over two-thirds of respondents worked in a group outpatient practice (66%) and the average length of practice was 16 years ($M=16$, $SD=8.75$). The prevalence of obesity in each group was 10%, 8% and 14% among PCPs, OB-GYNs and NPs, respectively.

Provider practices by provider type

Table 2 describes provider practices concerning drug therapy, bariatric surgery and use of Current Procedural Terminology (CPT) codes. Half of NPs and almost half of OB-GYN do not prescribe drug therapy for obesity. PCPs consider BMI greater than or equal to 30 kg m^2 with a comorbid condition the minimum requirement to prescribe drug therapy for obesity treatment. In each answer choice, PCPs are consistently more likely than other specialties to prescribe medications ($P < 0.001$).

Nearly one-third of both PCPs and OB-GYN consider a BMI greater than 35 kg m^2 with a comorbidity to be the minimum requirement for recommending bariatric surgery. Almost one-third of NPs would not recommend bariatric surgery, although 23% of NPs consider a BMI greater than 35 kg m^2 with a comorbidity to be a minimum requirement for surgical recommendation. PCPs are the least likely to report never recommending bariatric surgery (5%) followed by OB-GYN (14%) ($P < 0.001$).

Many providers code office visits dedicated to obesity counselling as a general office visit (42%), although approximately one-third of OB-GYN and NPs do not code for obesity visits. Rates of coding are highest for PCPs (84%) ($P < 0.01$). Medical nutrition therapy, behavioural counselling, wellness office visit and preventive service visit are all coded less than 10% of the time. These trends were seen across specialties as well, with PCPs reporting higher coding rates in all but one category ($P < 0.01$).

Table 1 Demographics

	Total	PCPs	OB-GYNs	NPs
Age				
Mean (standard deviation)	46.55 (10.30)	45.93 (10.17)	49.35 (10.35)	46.28 (10.615)
Gender				
Male	62%	74%	59%	13%
Female	38%	22%	41%	87%
Race				
White	66%	59%	73%	88%
Black or African American	3%	2%	3%	5%
Asian	23%	30%	16%	4%
Two or more races	3%	3%	4%	3%
Other race	5%	6%	3%	1%
Work setting				
Group outpatient practice	66%	66%	70%	56%
Individual outpatient practice	20%	20%	24%	19%
Inpatient practice	15%	14%	6%	25%
Years of practice				
Mean (standard deviation)	15.91 (8.76)	15.42 (8.48)	18.59 (9.00)	14.52 (9.39)

PCP, primary care physician; NP, nurse practitioner.

Table 2 Practices concerning obesity treatment: drug therapy, bariatric surgery and CPT coding

	Total	PCPs	OB-GYNs	NPs
What is typically your minimum requirement for prescribing drug therapy for obesity treatment?***				
BMI > 30	17%	19%	18%	11%
BMI > 30 with a comorbid condition	23%	26%	15%	18%
BMI > 35	7%	8%	6%	5%
BMI > 35 with a comorbid condition	16%	18%	9%	10%
BMI > 40	4%	5%	4%	3%
None of the above	2%	2%	1%	3%
I do not prescribe drug therapy for obesity	31%	22%	47%	50%
What is typically your minimum requirement for recommending bariatric surgery?***				
BMI > 35 with a comorbid condition	30%	32%	29%	23%
BMI > 40	16%	18%	14%	8%
BMI > 40 with a comorbid condition	28%	30%	25%	23%
BMI > 45	5%	4%	10%	3%
BMI > 45 with a comorbid condition	10%	10%	9%	13%
I would not recommend bariatric surgery	11%	5%	14%	30%

Difference in response between provider types:

**P* value < 0.05.

***P* value < 0.01.

****P* value < 0.001.

BMI, body mass index; CPT, Current Procedural Terminology; PCP, primary care physician; NP, nurse practitioner.

Provider practices by gender

Men were more likely to code for an obesity visit and their highest rate of coding was for general office visits (*P* < 0.001). Men are more likely than women to prescribe drugs overall (75% vs. 61%) and across each answer choice (*P* < 0.001) (Table 3). Both men and women are most likely to indicate that a BMI greater than or equal to 30 kg m² with a comorbid condition is the minimum requirement for prescription. Men are more likely than women to recommend surgery (94% vs. 82%) (*P* < 0.001). Although men were more likely to recommend surgery in each BMI category as well as overall, the most frequent response for men was BMI greater than or equal to 40 kg m² (31%) whereas the most frequent response for women was a BMI greater than or equal to 25 kg m² with a comorbid condition.

Provider practices by provider obesity

Prevalence of obesity among providers was 10%. Rates of prescribing drug therapy were lowest for providers

Table 3 Gender differences in obesity practice

	Men	Women
What is typically your minimum requirement for prescribing drug therapy for obesity treatment?***		
BMI > 30	19%	16%
BMI > 30 with a comorbid condition	25%	20%
BMI > 35	8%	6%
BMI > 35 with a comorbid condition	17%	13%
BMI > 40	4%	4%
None of the above	2%	2%
I do not prescribe drug therapy for obesity	25%	39%
What is typically your minimum requirement for recommending bariatric surgery?***		
BMI > 35 with a comorbid condition	29%	32%
BMI > 40	18%	13%
BMI > 40 with a comorbid condition	31%	23%
BMI > 45	6%	4%
BMI > 45 with a comorbid condition	10%	10%
I would not recommend bariatric surgery	6%	18%
What CPT code do you use when dedicating an office visit to weight management or obesity counselling?***		
General office visit (e.g. 99213)	45%	38%
Wellness office visit (e.g. G0439)	10%	9%
Behavioural counselling (e.g. G0447)	9%	8%
Medical nutrition therapy (e.g. 97803)	6%	5%
Preventive service visit (e.g. 99391)	12%	12%
I do not code for an obesity visit	19%	28%

Difference in response between provider types:

**P* value < 0.05.

***P* value < 0.01.

****P* value < 0.001.

BMI, body mass index; CPT, Current Procedural Terminology.

who had obesity (58%) and highest for providers who were underweight (79%) (*P* < 0.001) (Table 4). Only 21% of underweight providers reported never prescribing drug therapy, compared with 42% of providers with obesity (*P* < 0.001). Sixty-nine per cent of providers with a healthy weight and 74% of overweight providers reported that they prescribed drug therapy. Providers with obesity were less likely to recommend bariatric surgery than their overweight and healthy weight peers (16% compared with 8% and 12%, respectively) (*P* < 0.001). Underweight

Table 4 Influence of provider BMI on drug prescription and bariatric surgery recommendation

	BMI category				<i>P</i> value
	Underweight	Healthy	Overweight	Obesity	
Prescribe drug therapy					
Yes	79%	69%	74%	58%	<0.01
No	21%	31%	26%	42%	

BMI, body mass index.

providers were the most likely to report recommending surgery (100%) ($P < 0.001$).

Discussion

This article adds to the literature about HCP practices related to obesity treatment by examining current HCP practices in counselling, prescription for medication and referral for surgery. In addition to assessing HCP attitudes overall, we evaluated differences between PCPs, OB-GYNs and NPs. Rates of reported use of obesity pharmacotherapy appear to be increasing among PCPs, which is likely related to the approval of four new obesity pharmacotherapy agents since 2012. NPs and OB-GYNs are less likely than PCPs to prescribe obesity medications. The low rate of utilization among NPs might be explained by widely varying scope of practice laws influencing prescriptive authority at the state level; however, it is unclear why OB-GYN rates are similarly low. A 2006 study found only 35% of OB-GYNs surveyed had ever prescribed a weight loss medication to their patients with obesity. Results suggest that prescription rates may be increasing within this specialty (15). As the BMI category of the providers increased, their likelihood to prescribe drug therapy decreased significantly. This finding aligns with research that suggests providers with a healthy BMI are more likely to engage in weight loss discussions and provide recommended obesity care to their patients (16).

Among those providers who prescribe medications for obesity, respondents most frequently indicated their minimum threshold for prescribing was a BMI greater than 30 kg m^2 or BMI greater than 30 kg m^2 with a comorbid condition. This threshold is close to the current recommendation (30 kg m^2 or 27 kg m^2 with a comorbid condition), which suggests that those who do prescribe (40% of respondents) are likely following recommendations when they do so.(5) However, 31% of respondents do not prescribe obesity drugs at all, and 29% prescribe at higher thresholds than recommended. That 60% of respondents report prescribing behaviour misaligned with the clinical guidelines provides evidence of significant gaps in knowledge or disregard for the standard of care in obesity pharmacotherapy treatment.

Few PCPs are averse to recommending bariatric surgery, but aversion among OB-GYNs and NPs is significantly greater. While both groups are less likely than PCPs to make surgical referrals, there is a wider gap between the two specialties than with pharmacotherapy; rates of non-referral are almost twice as high among NPs compared with OB-GYNs. Still, these results, and the lower prescribing practices, suggest that further

education about obesity management is warranted for OB-GYNs and NPs.

Among providers who refer for bariatric surgery, responders most frequently indicated 35 kg m^2 with a comorbid condition and 40 kg m^2 with a comorbid condition as their minimum threshold for referral. This practice is consistent to the current recommendation (40 kg m^2 or 35 kg m^2 with a comorbid condition), indicating that most of the providers discussing bariatric surgery with their patients are following recommendations when they do so.(5) Rates of referral are much higher than rates of prescribing drug therapy: 89% of providers indicated some level of referral for bariatric surgery. There were no significant differences in likelihood for referral among providers with different BMIs, although similar to pharmacotherapy, the trend suggests a decreasing rate of referral with increased BMI.

Primary care physicians tend to utilize CPT codes related to obesity more than OB-GYNs or NPs (85% compared with 68% and 60%, respectively), again indicating education on obesity counselling is needed for these two provider groups in particular. As has been previously reported, utilization of IBT is low, despite Medicare's decision to cover IBT in 2011.(17,18) Better understanding of why this benefit is not better utilized will inform outreach to improve counselling rates.

Female respondents were less likely to prescribe pharmacotherapy, refer for bariatric surgery or report counselling on obesity at all. There is limited research on gender differences in obesity management among providers.

While DocStyles provides a large, national sample, these data may not accurately reflect the views of HCPs in the USA. Participation in the survey is voluntary and awarded with an honorarium, likely creating self-selection bias. Quotas for specialty, race/ethnicity and age may have excluded the perspectives of other providers. DocStyles has not been tested for reliability or validity. Because all data are self-reported, the results may be skewed towards more desirable answers, rather than actual attitudes or practice in obesity counselling. Additionally, many obesity specialists are often categorized and counted as primary care physicians. These results may overestimate the true counselling, prescribing, referrals that occur in true primary care practitioners who do not practice obesity medicine full-time. The clinical guidelines used to compare provider practice with the standard of care were developed in 2013 (5). Given their relative recent introduction, it is possible these guidelines have not yet completely penetrated into the specialties surveyed here.

Conclusion

Obesity continues to have significant and devastating effects on the health of adults in the USA. HCPs are now presented with the challenge of addressing this disease with their patients. Our study provides a clearer picture of the current attitudes and practices of a range of providers, including PCPs, OB-GYNs and NPs. PCPs tend to have higher rates of prescription for pharmacotherapy, referral for bariatric surgery and utilization of CPT codes for obesity counselling. However, a sizable portion of PCPs still are not prescribing, referring or counselling patients with obesity. PCPs, OB-GYNs and NPs have significant room for improvement in these three areas. Provider training and education is needed to prepare both physicians and NPs to deliver appropriate care to their patients with obesity. Further research can help determine how providers can best utilize their own specialty to engage in obesity treatment and better address obesity overall.

Conflicts of Interest Statement

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References

1. Kushner RF. Weight loss strategies for treatment of obesity. *Prog Cardiovasc Dis* 2014; **56**: 465–472.
2. Moyer V. Screening for and management of obesity in adults: U.S. preventive services task force recommendation statement. *Ann Intern Med* 2012; **157**: 373–378.
3. Ogden CL et al. Prevalence of childhood and adult obesity in the United States, 2011–2012. *JAMA* 2014; **311**: 806–814.
4. Congressional Budget Office. Estimating the effects of federal policies targeting obesity: challenges and research needs. 2015; Accessed at: www.cbo.gov
5. Jensen MD et al. AHA/ACC/TOS guideline for the management of overweight and obesity in adults. *Circulation* 2013; **129**: S102–S138.
6. Fryar DC, Carroll MD, Ogden CL. Prevalence of overweight, obesity, and extreme obesity among adults: United States, 1960–1962 through 2011–2012. *National Center for Health Statistics Health E-Stat* 2014.
7. Wadden TA et al. Randomized trial of lifestyle modification and pharmacotherapy for obesity. *New Engl J Med* 2005; **353**: 2111–2120.
8. Zhang S et al. Characteristics of patients potentially eligible for pharmacotherapy for weight loss in primary care practice in the United States. *Obesity Science & Practice* 2016.
9. Xia Y et al. PSY83-treatment of obesity: pharmacotherapy trends in the United States from 1999 to 2010. *Value Health* 2015; **18**: A306.
10. Buchwald H et al. Bariatric surgery: a systematic review and meta-analysis. *JAMA* 2004; **292**: 1724–1737.
11. American Society of Metabolic and Bariatric Surgery. Estimated number of bariatric surgeries 2014. Accessed at: <https://asmbs.org/resource-categories/estimate-of-bariatric-surgery-numbers>
12. Sarwer DB et al. Physicians' attitudes about referring their type 2 diabetes patients for bariatric surgery. *Surg Obes Relat Dis* 2012; **8**: 381–386.
13. Buerhaus PI et al. Practice characteristics of primary care nurse practitioners and physicians. *Nurs Outlook* 2015; **63**: 144–153.
14. Legro RS. Obesity and PCOS: implications for diagnosis and treatment. *Semin Reprod Med* 2012; **30**: 496.
15. Power ML et al. Obesity prevention and treatment practices of US obstetrician–gynecologists. *Obstet Gynecol* 2006; **108**: 961–968.
16. Bleich SN et al. Impact of physician BMI on obesity care and beliefs. *Obesity* 2012; **20**: 999–1005.
17. Centers for Medicare and Medicaid Services. Decision Memo for Intensive Behavioral Therapy for Obesity (CAG-00423 N). 2011.
18. Congressional Budget Office. “Estimating the effects of federal policies targeting obesity: challenges and research needs.” 2015. Accessed at: www.cbo.gov