

Gastric Bypass Surgery: A Survey of Primary Care Physicians

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Gastric bypass surgery has become an increasingly recognized treatment option for individuals suffering from morbid obesity. However, no previous empirical studies have examined the beliefs and attitudes of primary care physicians with regard to this type of intervention. Using a cross-sectional survey approach, we queried 99 primary care physicians about their beliefs and attitudes. With the exception of queries about insurance coverage, the response patterns evidenced a clear majority for most items. For several items, there were some interesting inconsistencies, which may suggest physician ambivalence. In the final analysis, 84% of respondents supported the recommendation of gastric bypass surgery for qualifying patients. However, there was a significant gender difference, with female physicians being less supportive than male physicians. We discuss the implications of these results.

Bariatric surgery is evolving as the standard of care for the treatment of adults with severe obesity (Wulkan & Durham, 2005). At present, this surgical

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option is generally restricted to individuals with body mass indices (BMIs) greater than 40, or those with a BMI greater than 35 with concomitant medical comorbidities such as diabetes and hypertension (Pannala, Kidd, & Modlin, 2006). There are two basic surgical approaches: (a) restrictive procedures, which through banding create a smaller gastric reservoir and/or (b) malabsorptive procedures, which typically consist of re-configuring the gastrointestinal anatomy to result in the inefficient absorption of nutrients (Pannala et al., 2006).

Bariatric surgery for obesity is increasingly recognized because of its efficacy, broader availability, coverage by insurance, and the recent use of laparoscopic entry (Nguyen et al., 2005). According to the Wisconsin state inpatient discharge data from 1990 to 2003 (Mehrotra et al., 2005), bariatric surgeries increased from 269 in 1990 to 1,884 in 2000. In addition, according to the findings of the Nationwide Inpatient Sample (Santry, Gillen, & Lauderdale, 2005), the number of bariatric surgeries increased from 13,365 in 1998 to 72,177 in 2002. More than 80% of these surgeries were gastric bypass. Additional data from the Nationwide Inpatient Sample from 1996 to 2002 indicated a 7-fold increase in bariatric surgeries during this time period, with annual charges exceeding \$2 billion in 2002 (Davis, Sligh, Chao, & Cabana, 2006).

With the dramatic increase in the number of bariatric surgeries over recent years, there has been a corresponding increase in the cost of the procedure. Likewise, the higher utilization of bariatric surgery has been paralleled by more frequent use of laparoscopic procedures, a 144% increase in the number of bariatric surgeons, and a 146% increase in the number of bariatric centers (Nguyen et al., 2005).

In addition to the medical benefits of weight loss, outcome studies of bariatric surgery indicate improved quality of life (Poves, Cabrera, Maristany, Coma, & Ballesta-Lopez, 2006), a decrease in depressive and binge-eating symptoms (Buddeberg-Fischer et al., 2006), and significant positive changes with regard to patients' energy levels, pain, physical mobility, employment, and social functioning (Dziurowicz-Kozłowska, Lisik, Wierzbicki, & Kosieradzki, 2005). Likewise, according to data from the Louisiana managed medical insurance program (Martin, Lundberg, Juneau, Raum, & Hartman, 2005), there may be potential long-term reductions in healthcare costs. Specifically, compared to their non-obese counterparts, members applying for bariatric surgery were costing insurers 1.4 to 2.8 times the yearly amount in medical expenses.

Despite the benefits, bariatric surgery entails inherent risks. Potential medical complications include wound infections, leaks, strictures, and the development of anemia (Taylor, Leitman, Hon, Horowitz, & Panagopoulos, 2006) as well as thromboembolism (Benotti, Wood, Rodriguez, Carnevale, & Liriano, 2006) and nutritional and metabolic complications (e.g., severe protein-calorie malnutrition; fat malabsorption; deficiencies in B12, iron,

calcium, vitamin D, thiamine, folate, and fat-soluble vitamins; Malinowski, 2006). Overall complication rates for bariatric surgery range from 16% to 31.8%, with major complications ranging between 6.6% and 12.4%, and minor complications ranging between 13% and 19.4% (Benotti et al., 2006; Nguyen et al., 2006; O'Rourke et al., 2006; Rosenthal, Szomstein, Kennedy, Soto, & Zundel, 2006). However, mortality rates are relatively low, between 0% and 0.9% (Benotti et al., 2006; Nguyen et al., 2006; O'Rourke et al., 2006; Rosenthal et al., 2006).

Given the ever evolving equation of benefits and risks with bariatric surgery, we wanted to explore the current opinions of primary care physicians with regard to obesity and gastric bypass surgery.

METHOD

Participants

Participants were physicians who were on the medical staff at a suburban, community hospital in a mid-sized city in the mid-West. All were solicited from the Departments of Internal Medicine, Family Medicine, and Obstetrics/Gynecology. There were no exclusions with regard to sex, age, or current practice status (i.e., active or retired).

Of the 246 members contacted, 99 returned usable surveys for a response rate of 40%. Respondents consisted of 62 males and 37 females ($N=99$), ranging in age from 29 to 80 years ($M=47.21$, $SD=10.68$). With the exception of one respondent, all reported being in active medical practice. The number of years in medical practice since residency ranged from 1 to 48 years with a mean of 16.73 years ($SD=10.39$). With regard to type of practice, 48 respondents indicated "Family Medicine," 46 respondents indicated "Internal Medicine," 3 respondents indicated "Obstetrics/Gynecology," and the remaining 2 respondents did not indicate a practice type.

Procedure

All members of the medical staff in the Departments of Internal Medicine, Family Medicine, and Obstetrics/Gynecology were mailed a two-page author-developed survey. The items in the survey were rationally developed from clinical experience. The cover page of the survey contained the elements of informed consent, and completion and return of the survey was assumed to be implied consent. As for the survey, we initially queried respondents about demographic data including sex, age, practice type, years in practice, and family histories of eating disorders. Afterwards, using a Likert-style response scale, we queried participants about their perceptions of obesity, attitudes towards gastric bypass surgery, and beliefs about the post-surgical needs and functioning of these patients. We enclosed a

metered addressed return envelope with each mailing, collected data for three months, and then initiated a second mailing to enhance the response rate. At no time were participants identified on mailed materials. The project was approved by the Institutional Review Boards of both the local hospital and the university.

RESULTS

Participants' responses to the individual survey items pertaining to attitudes toward gastric bypass surgery are presented in Table 1. In presenting these data in the table, we elected two approaches. First, we collapsed the individual Likert items into global categories of "agree" or "disagree." Specifically, responses of "strongly, moderately," or, "somewhat" agree were coalesced into "agree," whereas "strongly, moderately," or "somewhat" disagree were coalesced into "disagree." As a second approach, we provided the actual means and standard deviations for scores on each item.

As expected, the respondents evidenced differences of opinions among the various items. Interestingly, while the majority of respondents (78%) believed that there were other "effective means of treating obesity," a majority (84%) indicated that they would recommend gastric bypass surgery for their patients. In addition, with regard to insurance, respondents were more favorable towards coverage for the procedure itself compared with coverage for post-operative plastic surgery. With the exception of insurance coverage, most items were strongly endorsed by a majority, either "agree" or "disagree."

In an attempt to understand potential differences between those who would versus would not recommend gastric bypass surgery to patients, we undertook a series of analyses of demographic variables. Age, mean years in practice, Internal Medicine versus Family Medicine, history of personal or family obesity, personal history of dieting, and endorsement of exercise did not differentiate the subsamples. However, gender evidenced a significant difference. When comparing mean scores (men: $M = 2.39$, $SD = 1.09$; women: $M = 3.03$, $SD = 1.32$), there was a significant difference, $F(1,97) = 6.78$, $p < .01$. In comparing the percentages of men (90.3%) versus women (73.0%) who would recommend the surgery, there was a significant difference as well, $X^2 = 5.15$, $p < .03$.

Discussion

To our knowledge, in the empirical literature, there are no existing studies of the opinions of primary care physicians with regard to bariatric surgery. Therefore, these findings provide novel insight into the beliefs and attitudes of primary care physicians toward obesity and gastric bypass surgery.

TABLE 1 Participant Responses Regarding Morbid Obesity and Gastric Bypass Surgery ($N = 99$)

Survey Items	% Agree	% Disagree	$M (SD)$
Participant Beliefs			
Morbid obesity is caused by psychological problems.	73.7	26.3	3.13 (1.26)
Morbid obesity usually results in psychological problems.	94.9	5.1	1.88 (0.99)
Morbidly obese patients have poor eating habits.	93.9	6.1	2.00 (1.18)
Morbidly obese patients eat the same amounts of food as other people.	24.2	75.8	4.53 (1.30)
Morbid obesity is unrelated to mental health issues.	10.1	89.9	4.64 (1.19)
Morbidly obese people use food to cope with problems.	89.9	10.1	2.43 (0.97)
Gastric Bypass Items			
GBS candidates are adequately screened prior to surgery.	76.8	23.2	2.74 (1.29)
GBS candidates need to offer credible evidence of dieting efforts before consideration for surgery.	92.9	7.1	1.88 (1.13)
GBS undermines other weight management methods.	34.3	65.7	4.04 (1.33)
GBS is the only effective means of treating morbid obesity.	22.2	77.8	4.38 (1.46)
GBS saves society money in the long run.	63.6	36.4	3.18 (1.27)
GBS is over-utilized in today's medical community.	62.6	37.4	3.13 (1.38)
GBS should be covered by insurance.	90.8	9.2	2.49 (1.04)
GBS should be covered by Medicaid.	72.4	27.6	2.92 (1.41)
GBS patients seem to have a high frequency of post-surgical complications.	69.4	30.6	2.99 (1.26)
GBS patients seem to receive consistent follow-up.	58.2	41.8	3.28 (1.21)
GBS patients seem to require plastic surgery afterwards.	67.3	32.7	3.14 (1.05)
GBS patients seem to have a good occupational adjustment after surgery.	83.5	16.5	2.86 (0.88)
Plastic Surgery Items			
Post-surgical plastic surgery should be covered by insurance.	49.0	51.0	3.38 (1.39)
Post-surgical plastic surgery should be covered by Medicaid.	42.9	57.1	3.61 (1.48)
Surgery Endorsement			
I would recommend GBS for my morbidly obese patients.	83.8	16.2	2.63 (1.22)

GBS=gastric bypass surgery.

Response choices for each item range from 1=Strongly Agree to 6=Strongly Disagree.

With regard to the relationship between psychological problems and obesity, the majority of respondents affirmed their belief in such a relationship, with most describing it as causal in both directions (i.e., psychological problems are a causal factor in obesity and obesity results in psychological problems). This finding suggests that most primary care physicians recognize a layer of psychological issues amidst the various medical issues related to obesity. In

support of this conclusion, nearly 90% of respondents indicated their belief that obese individuals use food to cope with problems.

From participants' responses to the question, "Morbid obesity is caused by psychological problems," it could be inferred that primary care clinicians perceive psychological issues as more contributory to obesity than other causes. However, we did not ask participants to factor this variable with other contributory variables, so the perceived "loading" of "psychological problems" remains unknown.

The majority of respondents (77%) reported that patients are adequately screened prior to surgery, which suggests that physicians, in general, do not perceive that such surgery is being inappropriately undertaken. Yet, over 60% endorsed the item, "Gastric bypass surgery is over-utilized." This apparent inconsistency warrants further empirical investigation. For example, do physicians believe that alternatives to weight management are not being adequately considered or that patients are under-motivated to change eating habits (i.e., bariatric surgery is an "easy" option)?

Over two-thirds of respondents acknowledged the belief that plastic surgery is oftentimes necessary in the aftermath of the significant weight losses incurred by patients following gastric bypass surgery. However, when asked about insurance coverage for post-weight-loss procedures, over half disagreed. We do not have any further survey items that might shed any clarity on this issue, but this is an interesting second inconsistency in the data.

It is possible that the observed inconsistencies in these data relate to physician ambivalence about gastric bypass surgery. Specifically, participants may recognize the value of such surgery, yet be hesitant to support this type of dramatic intervention to the exclusion of other options.

As indicated by previous findings (Dziurowicz-Kozłowska et al., 2005; Herpertz et al., 2003), employment opportunities for post-surgical patients appear to improve. In this study, 64% of respondents in this study believed that surgery "saves society money in the long run." However, the costs of bariatric surgery and follow-up plastic surgeries versus the potential savings in healthcare costs and active employment is an equation that, to our knowledge, has not been examined. This type of analysis would facilitate a broader understanding of the impact of these variables on society.

The physician gender differences with regard to the recommendation of gastric bypass surgery is particularly intriguing, with male physicians being more likely to endorse the procedure. Given that women, in general, tend to be more weight conscious and sensitive to body issues, this finding warrants further study. Are women physicians more likely to support dieting efforts or perhaps do they perceive a surgical solution as too pat?

This study has a number of potential limitations. For example, the sample size is relatively small; because of this, we do not know how representative the study sample is with regard to all primary care physicians in the institution (e.g., years in practice, gender, age). In addition, the use of a single medical

staff may have unintentionally biased data, particularly if the experience with gastric bypass surgery at this specific institution deviates from the experiences at other institutions. Other potential limitations include the lack of standardized queries, which are not available in this area of research, and the self-report nature of the data. However, this is the first study, to our knowledge, to examine the beliefs and attitudes of primary care physicians with regard to gastric bypass surgery. Further research may tease out the possibility of underlying physician ambivalence, which is suggested by several inconsistencies in the data, gender differences in recommending gastric bypass surgery to patients, and the overall cost/benefit ratio of such surgery to society.

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