

# A Psychiatric Perspective on Bariatric Surgery and Obesity: What Do Psychiatrists Think and Do? A Cross-Sectional Survey Study

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## ABSTRACT

**Objective:** This study aimed to evaluate the knowledge levels, attitudes, and referral practices of psychiatrists regarding obesity and bariatric surgery.

**Method:** In this descriptive, cross-sectional study, a questionnaire was administered to 169 psychiatrists and 75 psychiatry residents across Türkiye. The questionnaire included sections on demographic characteristics, clinical approaches to obesity, sources of information about bariatric surgery, referral tendencies, psychiatric contraindications, and knowledge regarding the postoperative period. Data were collected through a structured questionnaire created by the researchers and administered online via Google Forms.

**Results:** Most participants were able to define obesity (82.8%) correctly, but a large proportion reported that they do not routinely record patients' height and weight in clinical practice (71.3%). It was reported by 78.7% of the participants that they had conducted at least one psychiatric evaluation prior to bariatric surgery, and 69.7% stated that they would refer patients for surgery when appropriate indications were present. Psychotic disorders, substance use disorders, and eating disorders were most frequently considered as contraindications, while anxiety and personality disorders were generally not regarded as contraindications. The level of knowledge regarding the conditions that need to be considered after surgery varied, with predominant lack of knowledge regarding nutritional management. Approximately one-third of the participants reported that they do not have sufficient knowledge about obesity treatment.

**Conclusion:** Although the general attitudes towards bariatric surgery are positive, there were differences in levels of knowledge and some barriers affecting referral to surgery were evident. These findings highlight the need to develop educational programs aimed at enhancing psychiatrists' knowledge and skills related to bariatric surgery.

**Keywords:** attitudes, bariatric surgery, obesity, psychiatrist

## INTRODUCTION

Obesity is a global public health problem, which is accepted as a significant risk factor for cardiovascular diseases, diabetes, osteoarthritis, dementia, depression, and some malignancies (Özgüç et al. 2021, Rajeev et al. 2023). Obesity management requires personalisation because of its chronic nature, and there is a need for more comprehensive approaches to be able to deal with the increasing global spread (Chooi et al. 2019, Lopes et al. 2020). International guidelines recommend screening for comorbidities at the time of diagnosis, sharing treatment

options with the patient, and adopting multidisciplinary approaches (Dietz et al. 2019, Durrer Schutz et al. 2019, Yunus et al. 2023). According to current guidelines, obesity treatment is conducted with a multidirectional approach consisting of lifestyle changes, pharmacological treatment, bariatric surgery (BS) and long-term monitoring. The first stage is based on nutritional regulation, an increase in physical activity, and behavioural interventions, with drugs and surgery options evaluated in suitable patients. Bariatric surgery is recommended for patients with body mass index (BMI)  $>40$  kg/m<sup>2</sup> or BMI  $\geq 35$  kg/m<sup>2</sup> + severe comorbidity

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(type 2 diabetes, hypertension, sleep apnea, osteoarthritis), and when sufficient weight loss cannot be achieved with lifestyle changes/pharmacotherapy (Mechanick et al. 2019, TEMD 2024).

Surgical methods are summarised as having a malabsorptive or combined effect. Sleeve gastrectomy has a restrictive effect, a Roux-en-Y gastric bypass has a restrictive+malabsorptive effect, and duodenal switch and mini gastric bypass offer a significant combined effect. Selection of the method should be personalised according to the metabolic profile of the patient and comorbidities (TEMD 2024). In this comprehensive treatment approach, there is increasing emphasis on the importance of psychiatric evaluation in the periods before and after BS, and the clinical flow requires the early and effective participation of psychiatrists.

Psychiatrists in Türkiye participate in the process in centres where BS is performed in obesity treatment with preoperative consultations requested for evaluation of suitability for surgery, and as permanent consultants within the multidisciplinary team in obesity centres to which they are assigned and when following the “Regulations for the Implementation of Practices and Procedures in Obesity Surgery and Obesity Centres”.

Psychiatric evaluation is a critical component of the processes before and after BS. Preoperatively, the psychiatrist systematically evaluates the patient in respect of psychiatric status, decision-making capacity, potential treatment adherence, and potential contra-indications (Sevinçer 2016). This evaluation is not limited to determining the presence of mental health disorders, but encompasses subjective factors such as body perception related to the obesity process, self-confidence, eating attitudes, and childhood trauma. From this perspective, BS is a multifaceted treatment option which requires the treatment of psychosocial dimensions just as much as physical factors (Berberoğlu and Hocaoğlu 2024).

Psychiatrists are expected to meet obese patients at an early stage as primary-level clinicians and to undertake an important role in the long-term postoperative follow up (Troisi 2022). Maintaining psychiatric monitoring postoperatively is of critical importance in respect of the management of eating disorders, psychological adjustment, and the follow-up of psychiatric illnesses (Mechanick et al. 2019, Sevinçer 2016, TEMD 2024). However, there is a limited number of studies in the literature that have examined the psychiatric evaluation processes related to obesity and the attitudes of psychiatrists in this field (Lichwala-Zyla et al. 2009). Inconsistencies in the attitudes and perceptions of healthcare providers create barriers in the treatment process (Leiter et al. 2015, Kaplan et al. 2018, Carrasco et al. 2022). These can limit approaches to lifestyle

changes and behavioural consultations, thereby directly affecting BS evaluation and decision-making (Turner et al. 2018, Funk et al. 2016, Memarian et al. 2021). It has been reported in the literature that although BS is an effective treatment option, the recommendation of this method can be limited by safety concerns, lack of information, and lack of information related to complications (Rajeev et al. 2023, Yunus et al. 2023), and despite all the efficacy and advantages, only 0.1–2% of patients worldwide who are suitable for BS undergo surgery (Rubino et al. 2020). This low rate of the use of surgery has been associated with factors such as incorrect beliefs about safety and efficacy, and stigmatisation with cultural and social prejudices (Özgüç et al. 2021, Garcia et al. 2022). These prejudices have led to many patients who could benefit from surgery being deprived of this treatment option.

A lack of information about obesity and treatment together with negative attitudes and prejudices make the effective management of obesity and selection of the appropriate treatment more difficult. Although there are many studies about attitudes to obesity and BS of branch physicians such as primary-level clinicians, surgeons, and endocrinologists (Glauser et al. 2015, Rajeev et al. 2023), there is extremely limited literature related to psychiatrists who are important members of the multidisciplinary team (Lychwaya 2007).

The aim of this study was to evaluate the knowledge levels, attitudes and behaviours of psychiatrists about obesity and BS. The limited evidence related to these approaches in Türkiye makes it necessary to identify the problems and shortcomings to be able to establish a basis for the development of training programs.

## METHOD

### Sample

Power analysis was performed with G\*Power 3.1.9.7 program to determine the sample size. For a 5 x 5 chi-square test with 0.05 error rate in a 95% confidence interval, it was found to be necessary to have a total sample size of 215 subjects when test power was 80% with 0.20 error rate at a moderate effect size ( $d=0.30$ ). For the 5\*5 Chi-square test to be used in the study, Chi-square ( $\chi^2$ ) tests – Goodness of fit tests: Contingency tables were selected, and 16 was determined as the degree of freedom (df). As there was no similar study in the literature that could be used as reference, the effect size could not be calculated based on sample study findings. It was assumed that the expected differences would be of moderate size, so the value of  $w=0.30$  was selected as the effect size. With the aim of revealing a statistical probability of at least 80% when there was a real effect, the power level of 0.80 was used.

The study included a total of 244 psychiatry specialists in the age range of 24–71 years (mean age: 35.50±8.63 years). Due to the relative difficulty of reaching the study sample, the participants were enrolled through the snowball sampling method. Links to the questionnaire were sent through social media to groups that were thought to be able to be reached as participants (Turkish Psychiatry Association e-mail groups, WhatsApp physician groups, relevant Facebook professional groups).

### Data Collection Tools

**Sociodemographic Information Form:** This form was created by the researchers to collect the participant information of age, gender, professional status (specialist student, specialist doctor, faculty member), history of working in the field of psychiatry, and the type of institutions in which they worked.

### Measurement of the Levels of Knowledge and Attitudes of the Psychiatrists related to Obesity and Bariatric Surgery:

The basic aim of the study was to learn the opinions of the psychiatrists when evaluating obesity and potential patients for BS, their thoughts related to surgical indications, psychiatric contra-indications, surgical complications, and points to be aware of postoperatively, how BS was evaluated as a treatment option, and reasons for or barriers to referral for BS as an independent physician not directly making the decision for surgery but with a critical role to play in the evaluation of suitability for BS.

To this end, a questionnaire was created by a surgeon experienced on the subject of BS together with two psychiatry specialists with at least six years of experience of working with obese patients. The relevant literature, including standard guidelines, was scanned (e.g.; Özgüç et al. 2021, Rajeev et al. 2023) and from a review of scale items that have been shown to be valid in literature, items were selected and additional items were created for the current study.

The questionnaire was prepared online using Google Forms. First, a pilot study was conducted on a sample of 10 subjects, comprising psychiatry specialist students, psychiatry specialists, and teaching staff in the psychiatry department. Feedback was obtained and the final form of the questionnaire was produced. All the items were multiple choice and were scored with Likert-type responses.

To be able to make a comprehensive evaluation of the subject, the questionnaire was structured in a framework of thematic areas. Accordingly, the question of “When diagnosing obesity, what criteria do you take into consideration?” was included to measure the approach to obesity, “Do you think that a psychotic disorder is an absolute contra-indication for BS?” to determine attitudes to surgical indications and contra-indications, “What area do you think requires the most

attention by psychiatrists after BS?” to evaluate opinions about the postoperative monitoring process, “What is the most frequently seen psychiatric complication of BS?” to determine knowledge of surgical complications, and “If indications are appropriate, do you refer an obese patient for BS?” to reveal the tendencies for referral.

### Procedure

Approval for the study was granted by the Scientific Research Evaluation Ethics Committee of Ankara Etlik City Hospital (decision no: AEŞH-BADEK-2024-740, dated: 25.09.2024). With the necessary permission obtained, the online link to the questionnaire was sent to the study participants. Informed consent was obtained from the participants before the data were collected. During the data collection, in the period September-October 2024, no personal identifying information was requested from the participants. To prevent multiple completions of the questionnaire, it was ensured that data could not be sent more than once from the same IP address. The time for completion of the questionnaire was an average of 10 minutes.

### Statistical Analysis

Data obtained in the study were analyzed statistically using IBM Statistical Package for Social Sciences (SPSS) program version 25 software. The data inputs were checked before analyses were performed, and no items had been left unanswered as the questionnaires were completed online. In addition to the general descriptive statistics, Chi-square analysis was performed to determine differences between groups. The level of statistical significance was accepted as  $\alpha=0.05$  in all the analyses.

## RESULTS

### Descriptive Statistics of the Study Participants

The questionnaire responses of 244 psychiatrists were analyzed, comprising 158 (64.8%) females, 85 (34.8%) males, and 1 (0.4%) non-binary individual. More than half the participants (69.3%) were psychiatry specialists. The demographic information of the participants is presented in Table 1.

### Knowledge of the Psychiatrists about Obesity and Bariatric Surgery

When the source of knowledge about obesity and BS was questioned, 78.8% of the physicians stated that they had acquired information on this subject during medical education. Information was also said to have been acquired from books and journals by 35.1% of the participants, from

**Table 1.** Demographic information of the study participants

Variable	Category	n (%)
<b>Gender</b>	Female	158 (64.8)
	Male	85 (34.8)
	Non-binary	1 (0.4)
<b>Professional status</b>	Specialist student	75 (30.7)
	Teaching staff/faculty member	57 (23.4)
	Specialist doctor	112 (45.9)
<b>Years of working</b>	0–3 years	63 (25.8)
	4–10 years	110 (45)
	11–20 years	48 (19.7)
	21–30 years	16 (6.6)
	30+ years	7 (2.9)
<b>Institution where working</b>	State hospital	41 (16.8)
	Training & research hospital	33 (13.5)
	Private practice	10 (4.1)
	Private hospital	22 (9)
	Private clinic	4 (1.6)
	Mental health hospital	2 (0.8)
	City hospital	65 (26.6)
	University hospital	68 (27.5)
<b>Approximate number of patients seen per week</b>	0–10	17 (6.97)
	11–50	70 (28.69)
	51–100	79 (32.38)
	101–200	26 (10.66)
	200+	52 (21.30)

n: number of participants; %: percentage.

congresses and conferences by 29.8%, from the Internet, social media, and the press by 24.9%, from patients by 23.3%, and 4.1% of the physicians stated that they had no information about obesity and BS.

The level of knowledge of the physicians about the definition of obesity was evaluated and it was determined that the vast majority (82.8%) had correct knowledge. It was seen that 71.3% of the participants seldom or never recorded height and weight measurements of patients. It was stated by 61.9% of the physicians that less than 20% of the patients they examined were obese.

Evaluations of knowledge and practices related to BS throughout training periods and professional experience showed that BS was performed in the healthcare centres where 90.6% of the physicians had previously or currently worked. It was stated by 78.7% of the participants that they had conducted a psychiatric evaluation before BS at least once in their professional life, and the rate of not

performing psychiatric evaluation before BS in their current clinical practice was determined to be 63.5%. The timing of evaluation before BS was reported to be less than one year by 11.5% of the physicians, between one and five years by 16.8%, and longer than five years by 10.7%. Long-term follow-up of patients undergoing BS was seen to have been conducted by only 12.3% of the physicians. The majority (69.7%) of the study participants stated that they would refer a patient for BS when they had appropriate indications for surgical intervention.

When evaluating BS indications of obese patients who presented on the basis of BMI and comorbidities, with the exception of physicians with 30 years or more of professional experience, there was seen to be a consensus in respect of surgical indications in the majority of the study participants on the subject of referral for surgery of patients with BMI >40 kg/m<sup>2</sup>. No statistically significant difference was determined as a result of the chi-square analysis applied in terms of status of being a psychiatry specialism student or psychiatry specialist ( $\chi^2(1)=0.50, p>0.05$ ) or in terms of specialist experience (<10 years vs. >10 years ( $\chi^2(1)=1.27, p>0.05$ )). It was also determined that most of the physicians agreed on the subject of referral for surgery of patients with BMI of 35–40 kg/m<sup>2</sup> and comorbidities. In respect of referral for surgery of patients with BMI of 35–40 kg/m<sup>2</sup> and uncontrolled diabetes, there was seen to be a lower tendency for referral, and the physicians experienced more indecision than for other indications. No statistically significant difference was determined as a result of the chi-square analysis applied in terms of being a psychiatry specialism student or psychiatry specialist ( $\chi^2(1)=0.328, p>0.05$ ) or in terms of specialist experience ( $\chi^2(1)=1.77, p>0.05$ ). In respect of the statement “In a patient with Type 2 diabetes and BMI 33 kg/m<sup>2</sup>, if hyperglycemia cannot be sufficiently controlled despite optimal medical treatment (drugs and insulin), obesity and metabolic surgery should be considered as an alternative”, it was seen that with the exception of physicians with 21–30 years of experience, most considered this statement to be true. No statistically significant difference was determined in respect of this statement according to status of student or specialist ( $\chi^2(1)=0.05, p>0.05$ ) or of years of professional experience ( $\chi^2(1)=2.11, p>0.05$ ). Similarly, it was seen that with the exception of the specialists with 21–30 years of experience, most of the physicians considered that of the known and used methods, BS provided the most weight loss long-term in morbidly obese patients. No statistically significant difference was determined in respect of agreement on this view according to status of student or specialist ( $\chi^2(1)=0.154, p>0.05$ ) or years of experience ( $\chi^2(1)=1.31, p>0.05$ ). These findings are presented in Table 2.

**Table 2.** Opinions of the study participants about BS indications and efficacy

Years in the profession	I definitely disagree n (%)	I disagree n (%)	I am undecided n (%)	I agree n (%)	I definitely agree n (%)
A patient with BMI of 40 kg/m <sup>2</sup> who cannot lose weight with diet, exercise, and lifestyle changes should be referred for obesity and metabolic surgery ( $\chi^2$ (4)=1.612, p=0.807*)					
0–3 years	2 (3.2)	1 (1.6)	4 (6.3)	33 (52.4)	23 (36.5)
4–10 years	3 (2.7)	10 (9.1)	12 (10.9)	49 (44.5)	36 (32.7)
11–20 years	2 (4.2)	3 (6.3)	3 (6.3)	25 (58.3)	12 (25)
21–30 years	1 (6.3)	0 (0)	4 (25)	7 (43.8)	4 (25)
30+ years	1 (14.3)	0 (0)	3 (42.9)	1 (14.3)	2 (28.6)
I refer my patients with BMI of 36 kg/m <sup>2</sup> and obesity-related comorbidities (type 2 diabetes, hypertension, dyslipidemia, sleep apnea) who cannot lose weight with diet, exercise, and lifestyle changes for obesity and metabolic surgery ( $\chi^2$ (4)=2.825, p=0.588*)					
0–3 years	1 (1.6)	2 (3.2)	6 (9.5)	35 (54)	20 (31.7)
4–10 years	4 (3.6)	9 (8.2)	18 (16.4)	44 (40)	35 (31.8)
11–20 years	2 (4.2)	4 (8.3)	6 (12.5)	25 (52.1)	11 (22.9)
21–30 years	1 (6.3)	2 (12.5)	1 (6.3)	10 (62.5)	2 (12.5)
30+ years	1 (14.3)	1 (14.3)	1 (14.3)	2 (28.6)	2 (28.6)
For a patient with Type 2 diabetes and BMI of 33 kg/m <sup>2</sup> , if hyperglycemia cannot be sufficiently controlled despite optimal medical treatment (drugs and insulin), obesity and metabolic surgery should be considered as an alternative ( $\chi^2$ (1)=7.359, p=0.118*)					
0–3 years	1 (1.6)	3 (4.8)	21 (33.3)	24 (38.1)	14 (22.2)
4–10 years	4 (3.6)	23 (20.9)	23 (20.9)	40 (36.4)	20 (18.2)
11–20 years	1 (2.1)	4 (8.3)	17 (35.4)	20 (41.7)	6 (12.5)
21–30 years	1 (6.3)	3 (18.8)	6 (37.5)	4 (25)	2 (12.5)
30+ years	2 (28.6)	0 (0)	1 (14.3)	3 (42.9)	1 (14.3)
Among the known and used methods, bariatric surgery is the method that provides the most long-term weight loss in morbidly obese patients ( $\chi^2$ (4)=3.179, p=0.528*)					
0–3 years	4 (6.3)	10 (15.9)	14 (22.2)	24 (38.1)	11 (17.5)
4–10 years	3 (2.7)	20 (18.2)	33 (30)	33 (30)	21 (19.1)
11–20 years	3 (6.3)	4 (8.3)	13 (27.1)	16 (33.3)	12 (25)
21–30 years	1 (6.3)	2 (12.5)	8 (50)	3 (18.8)	2 (12.5)
30+ years	2 (28.6)	1 (14.3)	1 (14.3)	2 (28.6)	1 (14.3)

n: number of participants; %: percentage; \*: chi-square test.

### Perceptions of the Psychiatrists about Contraindications for BS

When the perceptions of the psychiatrists about contraindications for BS were examined, the psychiatric conditions most frequently evaluated as a contra-indication were determined to be psychotic disorders (63.9%), substance abuse (57.8%), eating disorders (69.3%), and impulse control disorders (49.1%). In addition, anxiety disorders (81.1%), personality disorders (56.9%), life stressors (76.6%), and lack of social support (56.9%) were evaluated as absolute contra-indications for BS (Table 3).

When the BS contra-indication evaluations were compared between the specialist students and psychiatry specialists, it

was determined that specialist students evaluated psychotic disorders ( $\chi^2$  (2)=9.66,  $p < 0.01$ ), substance abuse ( $\chi^2$  (2)=7.67,  $p < 0.05$ ), personality disorders ( $\chi^2$  (2)=10.68,  $p < 0.01$ ), and life stressors ( $\chi^2$  (2)=6.29,  $p < 0.05$ ) as contra-indications at a higher rate than the psychiatry specialists. The chi-square analysis showed that no statistically significant difference was determined between the students and specialists in respect of mood disorders ( $\chi^2$  (2)=1.26,  $p > 0.05$ ), anxiety disorders ( $\chi^2$  (2)=0.88,  $p > 0.05$ ), impulse control disorders ( $\chi^2$  (2)=0.94,  $p > 0.05$ ), and eating disorders ( $\chi^2$  (2)=0.15,  $p > 0.05$ ). No statistically significant difference was determined for any contra-indication according to years of experience (>10 years vs. <10 years) (Table 3).

**Table 3.** Evaluations of the study participants related to the contra-indications to BS

Contra-indication	I definitely disagree n (%)	I disagree n (%)	I am undecided n (%)	I agree n (%)	I definitely agree n (%)
Psychotic disorders	12 (4.9)	36 (14.8)	40 (16.4)	84 (34.4)	72 (29.5)
Mood disorders	25 (10.2)	77 (31.6)	60 (24.6)	58 (23.8)	24 (9.8)
Substance abuse disorders	18 (7.4)	39 (16.0)	46 (18.9)	85 (34.8)	56 (23)
Anxiety disorders	73 (29.9)	125 (51.2)	33 (13.5)	11 (4.5)	2 (0.8)
Personality disorders	43 (17.6)	96 (39.3)	61 (25)	31 (12.7)	13 (5.3)
Eating disorders	10 (4.1)	23 (9.4)	42 (17.2)	99 (40.6)	70 (28.7)
Impulse control disorders	21 (8.6)	31 (12.7)	72 (29.5)	95 (38.9)	25 (10.2)
Life stressors	86 (35.2)	101 (41.4)	38 (15.6)	15 (6.1)	4 (1.6)
Poor social support	44 (18)	95 (38.9)	50 (20.5)	42 (17.2)	13 (5.3)

n: number of participants; %: percentage.

### Knowledge Levels of Psychiatrists about Complications that Can Develop after Bariatric Surgery

It was seen that the vast majority of the physicians could correctly identify the complications that could develop after BS (Table 4). The complications of internal hernia ( $\chi^2$  (1)=6.72,  $p < 0.05$ ), chronic abdominal pain ( $\chi^2$  (1)=8.68,  $p < 0.05$ ) and gallbladder stones ( $\chi^2$  (1)=6.37,  $p < 0.05$ ) were determined to be known correctly at a higher rate by the students than by the specialists. When examined in respect of the years of experience of the specialists, the chi-square analysis results only for mortality showed that 91.9% of those with <10 years of experience knew this correctly and this rate fell to 75.7% for the specialists with 11+ years of experience ( $\chi^2$  (1)=8.54,  $p=0.003$ ).

A large proportion of the physicians were seen to be knowledgeable about points of clinical and nutritional management requiring care after BS (Table 5). In the evaluation of the statement, "The protein requirement in the postoperative period is approximately 60–120 g/day, and this requirement can change according to surgical procedures.", it was determined that approximately half of the physicians did not know this correctly or were undecided on this subject.

### The Opinions of the Psychiatrists about Basic Subjects that Should be Known about Bariatric Surgery

When the opinions of the psychiatrists were evaluated in respect of basic subjects that should be known about BS, it was determined that the vast majority of the study participants thought it was necessary to have knowledge about long-term follow-up protocols, the efficacy of the surgical procedure, potential complications, and surgical indications (Fig. 1). When examined according to student or specialist status and years of experience, no statistically significant difference was determined between the groups in respect of the need

**Table 4.** Knowledge of the study participants about the complications of BS

Complication	Correctly known n (%)	Incorrectly known/ undecided n (%)
Anastomosis leakage	229 (93.9)	15 (6.1)
Infection	223 (91.4)	21 (8.6)
Bleeding	220 (90.2)	24 (9.8)
Marginal ulceration	181 (74.2)	63 (25.8)
Internal hernia	181 (74.2)	63 (25.8)
Gallbladder stones	136 (55.7)	108 (44.3)
Chronic abdominal pain	163 (66.8)	81 (33.2)
Dumping syndrome	211 (86.5)	33 (13.5)
Mortality	213 (87.3)	31 (12.7)

n: number of participants; %: percentage.

**Table 5.** Conditions requiring attention after BS

Condition requiring attention	Correctly known n (%)	Incorrectly known/ undecided n (%)
1) Patients must be taught to eat slowly and chew more in the postoperative period.	229 (93.9)	15 (6.1)
2) The protein requirement in the postoperative period is approximately 60–120 g/day, and this requirement can change according to surgical procedures.	129 (52.9)	115 (47.1)
3) It is not recommended to consume food and drink at the same time in the postoperative period, and an interval of at least 30 minutes is recommended.	159 (65.2)	85 (34.8)
4) While there may be no need for nutrient and vitamin supplements after all surgical procedures, malabsorptive procedures require lifetime supplementation.	171 (70.1)	73 (29.9)

n: number of participants; %: percentage.

to know about these topics (Indications: ( $\chi^2$  (4)=1.095,  $p=0.934$ ), complications ( $\chi^2$  (4)=0.809,  $p=0.955$ ), efficacy of the procedure ( $\chi^2$  (4)=3.139,  $p=0.547$ ), postoperative long-term follow-up protocols ( $\chi^2$  (4)=3.378,  $p=0.498$ ).

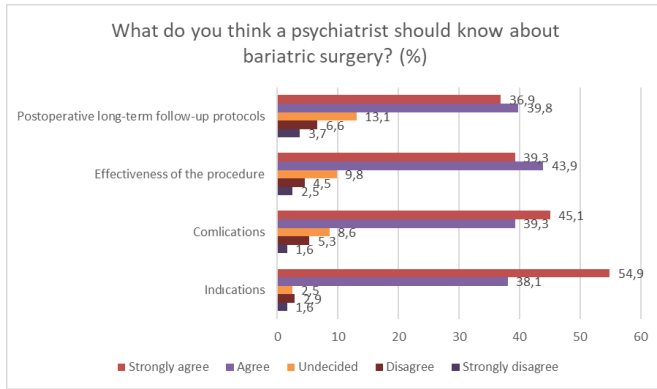


Figure 1. What psychiatrists need to know about bariatric surgery.

### Factors that can Affect the Decisions of Psychiatrists to Refer Patients with Indications for Bariatric Surgery

When the factors that can affect the decisions of psychiatrists to refer patients with BS indications were evaluated, the prohibitive factors most often reported were determined to be difficulty in postoperative adaptation (78.2%), surgery-related complications that can develop (65.6%), and rejection of the treatment by the patient (78.3%). In respect of the high cost of surgery ( $\chi^2(4)=11.901, p=0.018$ ), surgical complications ( $\chi^2(4)=14.410, p=0.006$ ) and difficulty in postoperative adaptation ( $\chi^2(4)=9.275, p=0.045$ ), the psychiatry specialists were determined to have given responses of “I disagree” or “I definitely disagree” at statistically significantly higher rates than the specialism students (Fig. 2).

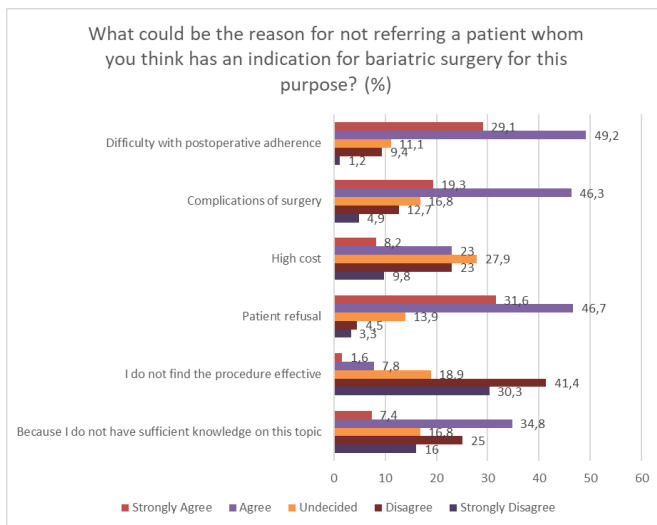


Figure 2. Physicians’ views on barriers to referring patients for bariatric surgery

### Opinions of the Psychiatrists about Bariatric Surgery

When the opinions of the psychiatrists about BS were examined, it was determined that the vast majority (87.3%) thought that obesity treatment required a multidisciplinary approach. More than half of the study participants stated that they were concerned about the complications that could

develop after BS and the potential risks related to surgical intervention (Fig. 3).

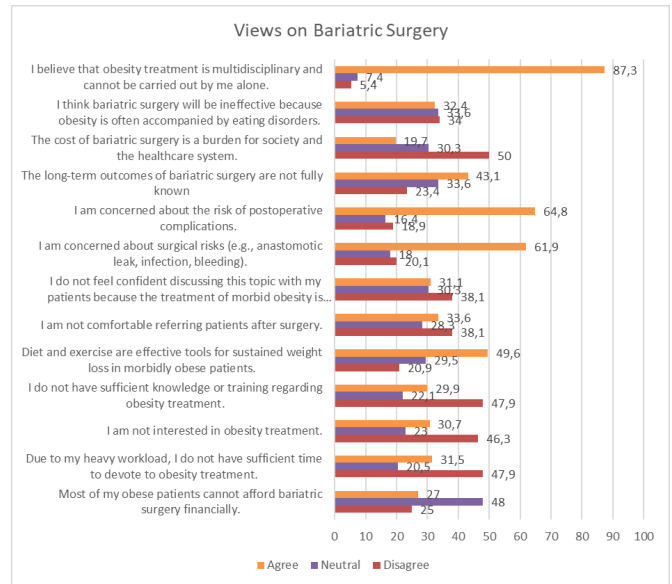


Figure 3. Physicians’ views on bariatric surgery

## DISCUSSION

The aim of this study was to evaluate the attitudes, behaviour, and levels of knowledge of psychiatrists about obesity and BS. A total of 244 psychiatrists and psychiatry specialist students participated in this questionnaire-based study.

The study findings showed that psychiatrist correctly identified obesity but did not regularly record the height and weight of patients. Although most of the participants wished to make referrals for surgery, psychotic disorders and substance abuse were determined to be seen as the most frequent contra-indications. In approximately one-third of the participants, the level of knowledge was found to be insufficient, and time restrictions and postoperative compliance problems were stated as the main barriers to the referral process.

Obesity treatment is a multi-stage process extending from presentation to postoperative monitoring, which requires inter-disciplinary coordination. However, in some countries, only 29% of obese individuals are recorded on presentation to a physician and it has been reported that physicians are hesitant on the subjects of treatment and referral (Logue et al. 2020, Özgüç et al. 2021). While the perception of insufficient education about obesity in psychiatry specialisation makes clinical practices difficult, physicians who believe they can help patients have been seen to offer more active recommendations (Lichwala-Zyla et al. 2009). Despite the guidelines, the rates of screening, diagnosis, and management of obesity are low (Glaser et al. 2015). Even though family doctors, endocrinologists, and cardiologists frequently measure height and weight, lifestyle consultations

and referral for surgery remain limited (Smith et al. 2011). The psychiatrists in the current study knew the definition of obesity but the rate of regularly recording height and weight was low (28%), whereas the intention to refer appropriate patients for surgery was determined to be high (70%). This finding suggests that the motivation of psychiatrists to refer patients for BS was generally high.

There are guidelines for the diagnosis, treatment, and surgical contra-indications of obesity (Glauser et al. 2015), but the familiarity of clinicians with the guidelines and the level of evidence-based knowledge are mostly insufficient (Durrer Schutz et al. 2019). Some studies have shown that the criteria of suitability for BS and contra-indications are poorly understood by physicians (Stolberg et al. 2017, Conaty et al. 2020), and this can lead to the exclusion of some patients who would benefit the most from surgical treatment (Zawadzka et al. 2022). When evaluating suitability for BS as a treatment option, there should be careful evaluation not only of indications but also of potential contra-indications.

Psychotic disorders, substance abuse, eating disorders, and impulse control disorders were reported as the most common contra-indications by the psychiatrists in the current study, and this finding is consistent with the literature stating that these conditions increase the risk of postoperative complications (Sockalingam et al. 2017a). In contrast, anxiety disorders, personality disorders, and insufficient social support have been evaluated more as “manageable risk”. These findings show that mental health status is determinant in the decision process and that heterogeneity continues in the evaluation. Therefore, it is recommended that there is standardisation of the psychiatric evaluation before BS and that psychiatrists take a more effective role in the decision-making processes. The focus of evaluation in BS has evolved from historically “contra-indication screening” to a holistic psychosocial examination (Troisi 2022). However, there is no international consensus. While the European Inter-Disciplinary guidelines consider unstable psychotic disorders, severe depression, personality/eating disorders, and alcohol-substance abuse as absolute contra-indications (Fried et al. 2013), the American Psychiatry Association states active psychotic symptoms, untreated depression, and eating disorders as reasons to postpone surgery (Sockalingam et al. 2017b). The TEMD (2024) recommends psychiatric treatment first in cases with active substance dependence, uncontrolled severe psychiatric disorders, and active eating disorders.

Opinions of psychiatric contra-indications can be separated because of differences in definitions of active disease and those which can be controlled or treated, variability in the capacity of centres for monitoring and psychosocial support, and differences in the risk-benefit calculation from one institution to another (Sogg et al. 2016). To be able to minimise these differences, structured interviews and confirmation of the

preoperative evaluation, and standardisation of scales are recommended together with attention given to decisions in the absolute-relative-manageable risk axis, patient motivation and social support (Sogg et al. 2016, Troisi 2022). This approach could reduce unnecessary exclusions, limit predictable complications, and increase the efficacy of postoperative psychosocial monitoring. To be able to strengthen consistency between centres and patient safety, a short but standardised nucleus training program for the whole team (psychiatric pre-evaluation steps, clearly communicating the risks to the patient, role-sharing within the team) is recommended together with the integration of case-based simulations and follow-up checklists into healthcare centres. This structure would improve supervision-feedback cycles and short rotations in BS clinics, facilitate the same manner of practice in the field, improve the quality of long-term monitoring, and help to reduce the barriers to referral because of differences in knowledge seen in healthcare personnel (Sogg et al. 2016).

Publications in this field have emphasized that the postoperative follow-up of individuals who have undergone obesity surgery is critical in respect of maintaining the surgical success (Mechanick et al. 2013, Courcoulas et al. 2018). The effective management of this process is directly related to the levels of knowledge of healthcare professionals about psychosocial and organisational problems (Sogg et al. 2016, Kalarchian and Marcus 2019). The majority of psychiatrists in the current study were knowledgeable about surgical complications and follow-up processes, and were seen to consider long-term follow-up protocols to be just as important as surgical indications. In previous studies that have examined attitudes to BS, it was determined that surgeons had more realistic expectations about the efficacy of the procedure, and other branches had lower expectations (Campos et al. 2011). This low expectation may be the reason for physicians to make fewer referrals of patients to surgery. It has also been reported that when the expected success is not obtained from pharmacotherapy, physicians can take a more positive approach to BS (Glauser et al. 2015).

In different studies, healthcare personnel have estimated the failure rate of BS to be between 16% and 27.5%, and it has been seen that approximately half think there is a need to update the existing guidelines (Fogelman et al. 2002, Özgüç 2021, Khamseh et al. 2023). The most frequent reasons for not recommending surgery include concerns about complications (Conaty et al. 2019). The 30-day mortality rate in BS is <1%, while morbidity rates vary between 3% and 12% (Simon et al. 2018). Lack of information about postoperative care, concerns about complications, and feeling powerless to intervene in the patient have been reported as factors affecting referral behaviour (Tork et al. 2015, Rajeev et al. 2023). The vast majority of the current study participants stated that obesity treatment required a multidisciplinary approach and this process could

not be managed alone. However, they also cited concerns about the potential risks of BS and postoperative complications. These findings suggest that despite the increased awareness of psychiatrists about the surgical process, lack of knowledge could cause professional hesitation. In a similar study in Malaysia, it was reported that healthcare professionals felt inadequate on the subject of obesity consultation and felt that they needed further training (Yunus et al. 2023).

The results of this study showed that 29.9% of the participants did not have sufficient knowledge or training on the subject of obesity treatment and 31.5% forced themselves to make time for this area. These findings suggest that knowledge and time limitations constitute structural barriers that restrict the effective participation of psychiatrists in obesity treatment, and this can lead to obesity being left in the background in clinical practice. Approximately 40% of healthcare professionals experience difficulty in following the current guidelines of clinical practice related to obesity, and this indicates that the obesity-focused content (nutrition and pharmacotherapy) in medical training is insufficient (Khamseh et al. 2023). Similarly, although data from the USA have shown that 88% of family doctors found diet and exercise to be effective in obesity treatment, 30% reported that they could not allocate enough time to talk to patients about these subjects, and only 42% of obese patients were referred for treatment at the first stage. These findings showed that a negative attitude to obesity, workload, and lack of knowledge and infrastructure played a role in insufficient motivation (Hirpara et al. 2016, Falvo et al. 2018, Özgüç et al. 2021). In the current study, the main difficulties in referring patients for BS were reported by the psychiatrists to be the risk of postoperative adaptation and unwillingness of the patient, while ineffectiveness of the surgery was reported at a lower rate, suggesting that there was a general belief in the efficacy of the surgery but psychosocial factors made the referral decision difficult. The fact that physicians with longer professional experience predicted a lower mortality risk after BS suggests that the perception of risk can be affected over time by experience.

Other difficulties in obesity treatment and referral for surgery are the negative perceptions of physicians towards patients who are candidates for BS, and the lack of interest and unrealistic expectations of patients (Rajeev et al. 2023). Moreover, concerns about postoperative patient management have been identified as a significant barrier in the surgery referral process (Tork et al. 2015). It has been suggested that hesitations about long-term care are due to lack of knowledge about postoperative complications, insufficient weight loss, and surgical options (Conaty et al. 2019, Alenezi et al. 2020).

There is a limited number of studies in the literature that have examined the opinions of psychiatrists who are included in the multidisciplinary team about obesity treatment (Lichwala-Zyla et al. 2009, Rajeev et al. 2023). Therefore, the current

study can be considered to make a valuable contribution to the limited data pool in the literature about the role of psychiatrists in the evaluation of patients as candidates for BS. The participation of mental health specialists in the surgical process is not only to determine contra-indications but has been shown to have the potential to increase the efficacy of the postoperative psychosocial follow-up. Although the importance of including the possibility of suicide in psychosocial follow-up has been emphasized in literature, as it is a significant problem after surgery, it has been reported that as suicidal behaviour is closely associated with emotional eating, neurotic defence mechanisms, and BMI, it would be more effective for efforts to be made on emotional eating problems rather than treatment focusing only on reducing BMI (Güzel et al. 2022). These findings clearly demonstrate the importance of psychiatrists maintaining psychosocial follow-up in the postoperative period in addition to the preoperative evaluations.

The findings presented in this study can be considered to be of guidance in both structuring specialist training and in strengthening the collaboration between disciplines in the healthcare system.

### Limitations

There were some limitations to this study which should be addressed. First is that the data collection tool used was a self-reported questionnaire and therefore the knowledge and attitudes of the participants reflect their own perceptions. This creates a risk of deviations from clinical practice and social appeasement bias. In addition, validity and reliability studies of the measurement tool were not conducted in the general sense in respect of the questionnaire items, although a pilot study of 10 subjects was performed before the main study, and revisions were made according to the feedback received. That feedback focused on points such as the comprehensibility of the questions, clarity of the response options and reducing repeated statements. This process can be evaluated as a methodological advantage which increased the comprehensibility and repeatability of the questionnaire.

The selection of interesting items when creating the questionnaire could be considered a limitation in terms of objectivity. That the form was prepared by surgery and psychiatry specialists, and other relevant disciplines such as endocrinology and nutrition-dietetics were not included, can be evaluated as a methodological limitation. Although the data of 244 psychiatrists were evaluated, it is not known to what extent this represents the total psychiatrist population in Türkiye. The questionnaire was delivered through digital channels such as WhatsApp groups and e-mail, and this may have caused the sample to be weighted towards individuals who more actively use these channels. This could have led to the possibility of insufficient representation of psychiatrists, especially those with longer experience and less access to digital tools. A further

limitation could be said to be that it could not be determined who had actually completed the form.

Therefore, it is important that the study findings are evaluated taking the sample limitations into consideration. Both psychiatric specialists and assistants still within the specialism training period were included in this study. However, the evaluation of the specialist students together with the specialists in the classification made according to years of experience may constitute a methodological limitation. The national guidelines emphasize that the psychiatric evaluation before BS should only be performed by psychiatry specialists. Therefore, evaluation of attitudes in this area of physicians who do not have sufficient clinical experience of the surgical process is open to limited interpretation, and it was aimed to evaluate the experiences of the specialism students in the training period. Another limitation which could have caused response bias in this study is that it was not fully known what proportion responded of the individuals to which the questionnaire was sent. The absence of quality control items when creating the questionnaire items can also be considered an important limitation.

Finally, as the numbers were not sufficient, comparisons could not be made between the specialists and the students. Due to the low frequencies observed in the categories of some variables, the results of the chi-square test should be interpreted with caution, taking the potential effects of low frequencies on analyses into consideration.

## CONCLUSION

The evaluations in this study of the knowledge levels and attitudes of psychiatrists to obesity and BS provide important contributions to this field. The findings demonstrate that despite the importance given to a multidisciplinary approach, referral decisions are affected by lack of knowledge, time restrictions, and patient-related psychosocial factors. Variability in the perceptions of contra-indications and differences in the preoperative and postoperative processes demonstrate the need for standardised knowledge and guidelines. At the healthcare policy level, the strengthening of training programs, increasing collaboration between disciplines, and defining and supporting the roles of psychiatrists in obesity management will contribute to obtaining more effective and sustainable results in obesity treatment, which will enable psychiatrists to take a more effective role in obesity management.

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