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Mood disorders in the evaluation of patients after bariatric treatment

Zaburzenia nastroju w ocenie pacjentów po leczeniu bariatrycznym

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Keywords

bariatric operations, patient, mood disorders

Słowa kluczowe

operacje bariatryczne, pacjent, zaburzenia nastroju

Conflict of interest
Konflikt interesów

None
Brak konfliktu interesów

Summary

Introduction. Currently, overweight and obesity are a health issues for people of all races regardless of age. Several studies draw attention in obese patients to extremely important psychiatric problems (low self-esteem, depression, social isolation, anxiety behaviors).

Aim. The aim of the study was to analyze the occurrence of mood disorders in patients treated bariatrically.

Material and methods. The study have been conducted among 75 patients with morbid obesity who underwent bariatric procedures. Patients were examined 6 months after the procedure, during the follow-up visit at the Surgical Outpatient Clinic. The Self-Assessment of Depression and Anxiety allowed the assessment of the severity of mood disorders (depression, anxiety) among the examined group after surgery. In the statistical examination of correlation, the chi-square and the Cramer's coefficient have been use.

The study was approved by the Bioethics Committee of the Medical University of Bialystok (RI-002/260/2011).

Results. The most frequently performed bariatric procedure in the group of patients was (SG) sleeve gastrectomy – 53%. The group of patients with > 40 BMI decreased from 40 to 16%. The loss of excess body mass had a significant statistical effect on the increase of pleasure, the increase of the interest in life and the improvement of mood.

Conclusions. The efficacy of bariatric surgery in reducing excess body weight in patients with morbid obesity has been demonstrated. There was a reduction in the severity of mood disorders (depression, anxiety). In patients after bariatric treatment, long-term monitoring of psychological problems is indicated.

Streszczenie

Wstęp. Obecnie nadwaga i otyłość to problemy zdrowotne ludzi wszystkich ras bez względu na wiek. Nieliczne badania zwracają uwagę na niezwykle ważne problemy psychiczne u pacjentów z otyłością (niska samoocena, depresja, izolacja społeczna, zachowania lękowe).

Cel pracy. Celem pracy była analiza występowania zaburzeń nastroju u pacjentów leczonych bariatrycznie.

Materiał i metody. Badania zostały przeprowadzone wśród 75 pacjentów z otyłością olbrzymią, u których wykonano zabiegi bariatryczne. Chorych badano po 6 miesiącach od wykonania zabiegu podczas wizyty kontrolnej w Poradni Chirurgicznej. Skala Samooceny Depresji i Lęku pozwoliła na ocenę nasilenia zaburzeń nastroju (depresji, lęku) wśród badanej grupy po zabiegu. W badaniach statystycznych do oceny korelacji wykorzystano test chi-kwadrat oraz współczynnik Cramera.

Badanie zostało zatwierdzone przez Komisję Bioetyczną Uniwersytetu Medycznego w Białymstoku (RI-002/260/2011).

Wyniki. Najczęściej wykonywanym zabiegiem bariatrycznym w grupie badanych pacjentów była rękawowa resekcja żołądka (SG) – 53%. Grupa pacjentów > 40 BMI zmniejszyła się z 40 do 16%. Utrata nadmiaru masy ciała miała istotnie statystyczny wpływ na zwiększenie przeżywania przyjemności, zainteresowań oraz poprawę nastroju.

Wnioski. Wykazano skuteczność chirurgii bariatrycznej w redukcji nadmiaru masy ciała u pacjentów z otyłością olbrzymią. Stwierdzono obniżenie nasilenia zaburzeń nastroju (depresji, lęku). U pacjentów po leczeniu bariatrycznym wskazane jest długoterminowe monitorowanie problemów psychologicznych.

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INTRODUCTION

Obesity is one of the most visible and at the same time the most disregarded health problems. In 1997, the World Health Organization (WHO) recognized that the problem of obesity affects all countries in the world in varying degrees (1). Currently overweight and obesity is a health problem for people of all races regardless of age. The incidence rate in Europe is about 10-20% in men and 15-25% in women. Epidemiological data inform that obesity in Poland occurs in every third man and every fifth woman. The main determinants of obesity are genetic. Unfortunately, more than half of the patients develop obesity due to environmental factors and excessive size of meals (2).

Currently, patients with obesity are more frequently deciding to undergo surgery, which is the most effective treatment method. However, it should be remembered that permanent reduction of body weight and a significant improvement in the quality of life may only be achieved if the patient adheres to dietary recommendations, both, in the early and late postoperative period (3). Few studies draw attention in extremely important psychiatric problems of obese patients (low self-esteem, depression, social isolation, anxiety behaviors). It has been proved that a large loss of body mass after bariatric surgery relieves/eliminates depressive states and comorbidities of obesity, and Hus, significantly improves the quality of life of patients (4, 5).

AIM

The aim of the study was to analyze the occurrence of mood disorders in patients treated bariatrically.

MATERIAL AND METHODS

The study was conducted among 75 patients with giant obesity who underwent bariatric procedures at the 1st Department of General and Endocrinological Surgery in Bialystok. Patients have been examined 6 months after the procedure, during a follow-up visit at the Surgical Outpatient Clinic. Self-assessment of Depression and Anxiety (6) allowed to assess the severity of mood disorders (depression, anxiety) among the examined group after the procedure. Respondents rated on a 10-point Likert scale among different states: mood, sense of energy, strength of interest, experiencing pleasure, pace of thinking and action, anxiety, psychological tension, nervousness, fear of a specific threat, fear of what might happen, feeling of physical tension, avoidance of anxiety situations. Their current mood has been compared with the previous one. The 10 reflected the highest intensity of the assessed feature, which the respondent could imagine. Information regarding demographic data, BMI of the patient from the pre- and post-operative period as well as motivation to make the decision about the procedure has been obtained using the questionnaire of own design. The analysis of medical records of patients consisted of obtaining data on the occurrence of postoperative complications and compensating of comorbidities. Prior to the beginning of the study, every patient received information about the study in printed form and signed conscious and voluntary consent to participate in the study.

Computer software STATISTICA PL v.10 has been used to analyze the results. Statistical analyzes have been developed on the basis of: tabular and graphical methods of data grouping, chi-square test and Cramer's coefficient have been used to test the correlation.

The study was approved by the Bioethics Committee of the Medical University of Bialystok (RI-002/260/2011).

RESULTS

The study involved 75 patients, slightly more women (53%) than men (47%) (tab. 1).

Tab. 1. Proportion of men and women in examined group

Gender	Number of examined patients (n)	Percent (%)
Woman	40	53
Man	35	47
Total	75	100

Among patients qualified for bariatric surgery, those of 31-40 years old were 41%; group (35%) were people up to 50 years of age, while the fewest treatments were performed between 21-30 years (11%). Patients qualified for bariatric surgery most often had higher and secondary education (37%). Health problems in the vast majority (71%) were the reason for making a decision about surgical treatment.

One of the main qualifying conditions for the surgical treatment of obesity was the BMI index. The vast majority of patients (71%) achieved the 3rd degree of morbid obesity of BMI > 40 (fig. 1).

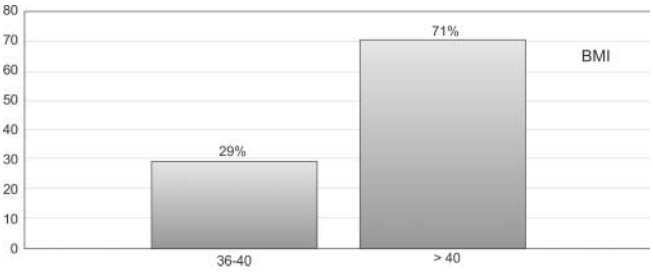

Fig. 1. The assessment of BMI in patients qualified for bariatric treatment

The most frequently performed bariatric procedure in the group of patients examined was sleeve gastrectomy (SG) – 53%. A slightly less frequent adjustment was made to the stomach (36%) (tab. 2).

Tab. 2. Types of bariatric procedures in examined group

Type of procedure	Number of examined patients (n)	Percent (%)
Sleeve gastrectomy (SG)	39	52
Adjustable gastric banding (AGB)	27	36
Roux-en-Y gastric bypass (RYGB)	9	12

After the bariatric procedure during the follow-up visit at the Surgical Outpatient Clinic, the patients' health status and the level of weight loss have been assessed. It was found that the group of patients with BMI > 40 decreased from 40 to 16% and a new group of patients has created with BMI between 25 and 30 (11%) (fig. 2).

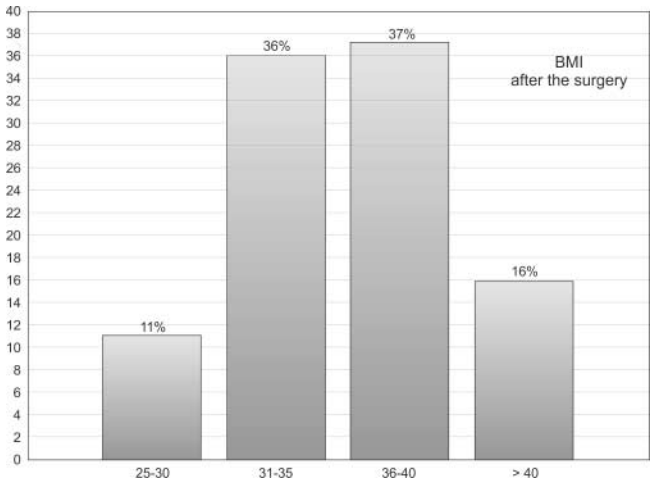

Fig. 2. The assessment of BMI in group of patients before the surgery and after 6 months

Worse mood assessment was found in the group of patients with a lower percentage of excessive body weight loss (fig. 3).

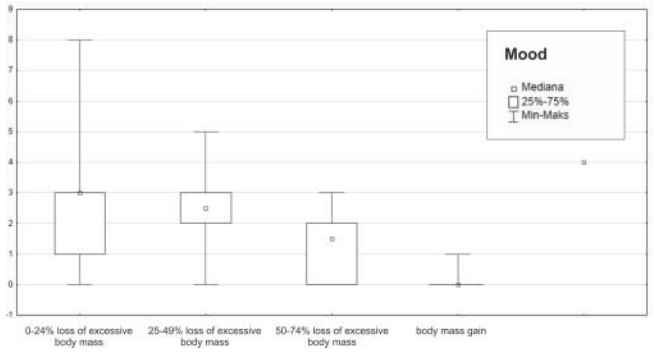

Fig. 3. The assessment of patients mood regarding the % of body mass loss

A better assessment of the sense of energy in the group of patients examined showed a strong correlation with a higher % loss of excessive body weight (fig. 4).

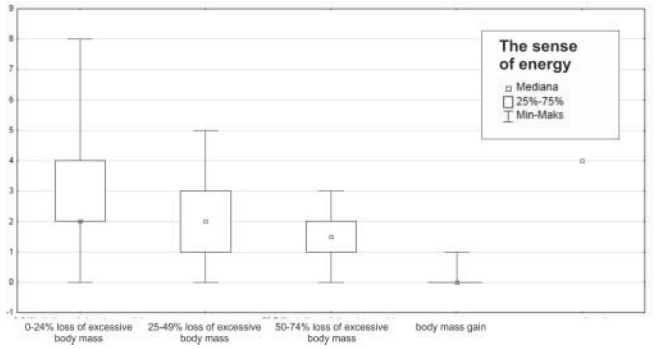

Fig. 4. The assessment of the sense of energy in patients regarding the % of body mass loss

"Strength of interest" in the group of patients examined increased proportionally to the % of decrease of excessive body weight (fig. 5).

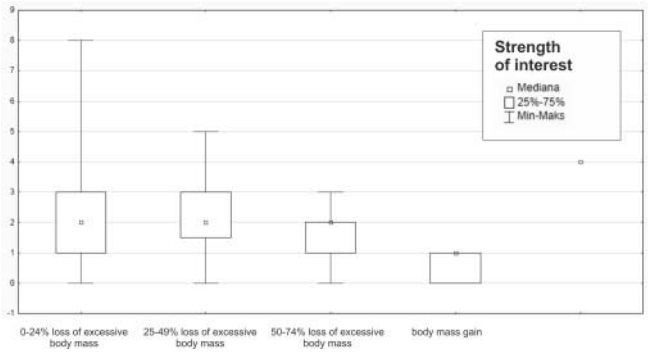

Fig. 5. The assessment of the strength of interest regarding the % of body mass loss

"Experiencing pleasure" was dependent on the degree of weight loss in the examined group of patients. A higher % of body weight loss indicated a better assessment (fig. 6).

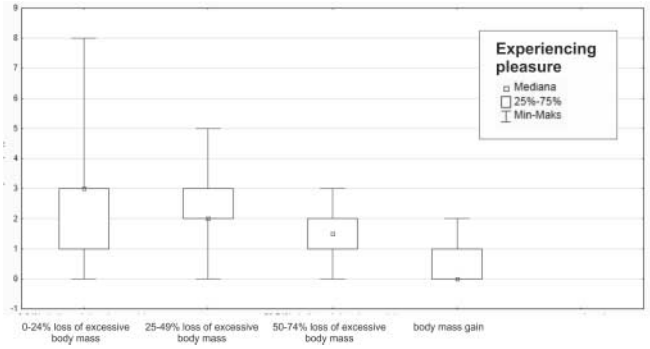

Fig. 6. The assessment of experiencing pleasure regarding the % of body mass loss

The pace of thinking and acting clearly improved among patients with the greatest loss of excessive body weight (fig. 7).

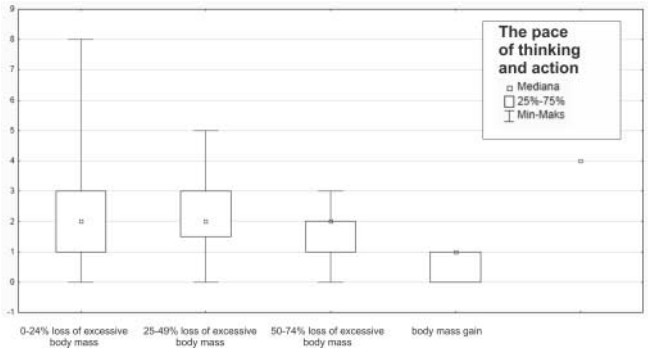

Fig. 7. The assessment of the pace of thinking and action regarding the % of body mass loss

The assessment of anxiety, psychological tension and nervousness was definitely lower in the group of patients who had the highest percentage of excessive body weight loss (fig. 8).

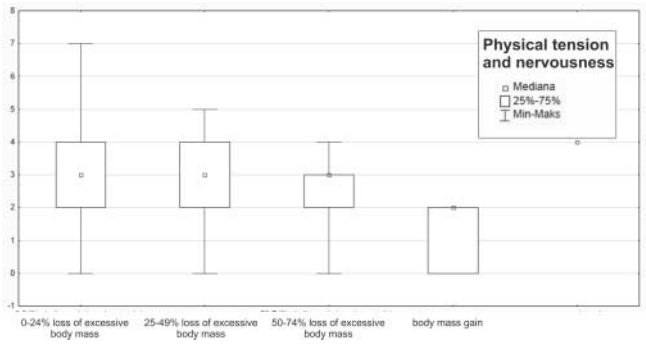

Fig. 8. The assessment of anxiety, physical tension and nervousness regarding the % of body mass loss

In the self-assessment of patients, the fear of a specific threat clearly decreased in people who had a greater loss of unnecessary body weight (fig. 9).

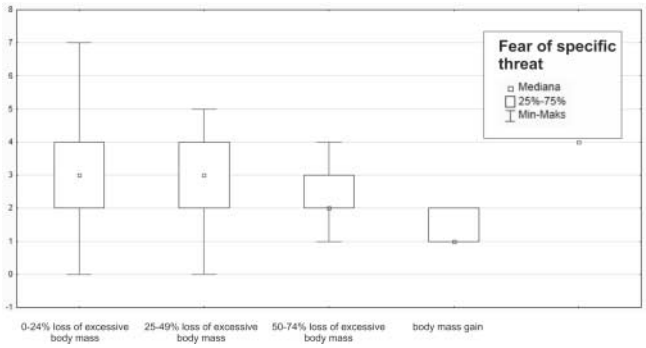

Fig. 9. The assessment of fear of specific threat regarding the % of body mass loss

Smaller fears of the future are shown in people with greater weight loss (fig. 10).

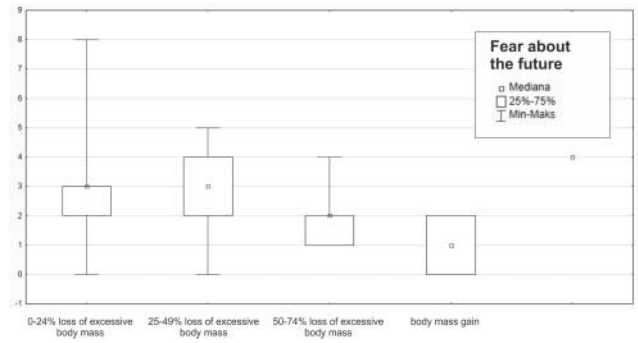

Fig. 10. The assessment of fear about the future regarding the % of body mass loss

Lack of state of physical tension reached people with the lowest and highest weight loss (fig. 11).

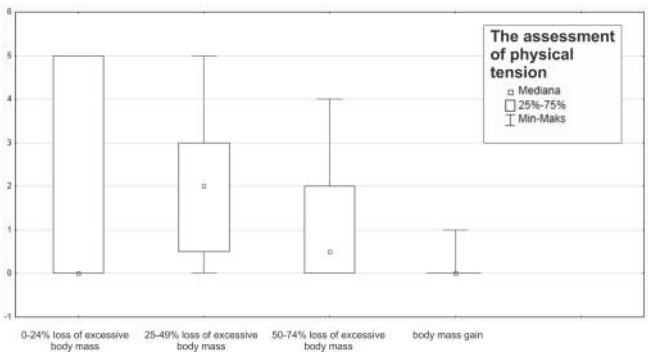

Fig. 11. The assessment of physical tension regarding the % of body mass loss

With the increase in body weight loss, the avoidance of drug situations in the group of patients is clearly visible (fig. 12).

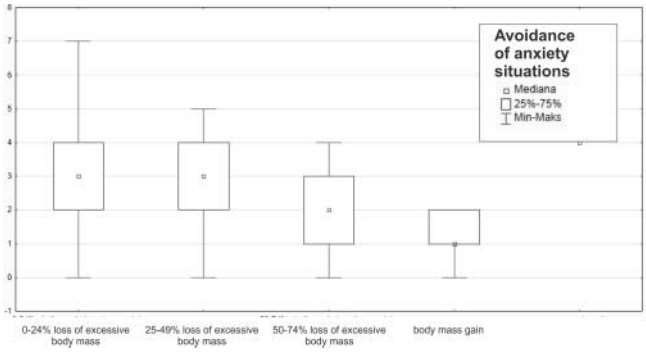

Fig. 12. The assessment of avoidance of anxiety situations regarding the % of body mass loss

It was found that the strongest correlations occur between losing excess body weight and experiencing pleasure (0.47), strength of interest (0.44) and mood (0.42) (tab. 3).

Tab. 3. The assessment of the correlation between excessive body mass loss and occurrence of depressive disorders and anxiety

State	Chi-square	p	Cramer's coefficient
Mood	53.956	0.0004	0.42
Sense of energy	45.712	0.0048	0.39
Strength of interest	59.245	0.0005	0.44
Experiencing pleasure	65.054	0.0001	0.47
Pace of thinking and acting	43.843	0.0288	0.38
Anxiety, mental tension, nervousness	27.119	0.299	–
Fear of specific threat	33.662	0.0909	–
Fear what may happen	32.870	0.1069	–
Physical tension	39.214	0.0063	0.36
Avoiding anxiety situations	36.556	0.0484	0.35

DISCUSSION

Treatment of obese patients should be focused not only on weight loss, but also on the improvement of metabolic disorders and co-morbidities such as: hypertension, diabetes, respiratory and cardiovascular disorders. The improvement of the mental state and individual limitations of patients, the advantages and disadvantages of the method should also be taken into account. The most frequently performed operations include gastric banding, sleeve gastrectomy, and gastric bypass (7). With regard to the examined patients, the most frequently performed operation was a sleeve gastrectomy (52%), the band was implemented in over 1/3 of the patients, and the gastric bypass method was used in 12% of the patients.

Psychological examination before bariatric surgery is commonly used to identify potential contraindications to surgery. However, there are controversies about the

active exclusion of candidates for bariatric treatment due to mental disorders. It is noted that patients may experience an improvement in health and well-being after surgery if adequate support is provided after bariatric surgery (8). In the current study, the change in depressive symptoms and anxiety was assessed (mood, sense of energy, strength of interest, experiencing pleasure, pace of thinking and acting, anxiety, psychological tension, nervousness, fear of a specific threat, fear of what may happen, a feeling of physical tension, avoidance of anxiety) within 6 months after the bariatric surgery depending on the loss of excessive body weight. According to previous studies, depressive symptoms significantly improved after surgery (9, 10). It is likely that post-operative mental health improvement may be attributed not only to weight loss. Participation in a lifestyle change, despite being overweight, can cause a positive assessment of mental health.

De Zwaan et al. (11) examined the course of anxiety and depression in 107 obese patients after bariatric surgery, conducting direct interviews before surgery and after 6-12 months as well as 24-36 months after surgery. The incidence of depressive disorders decreased significantly, however, among patients with depressive disorders before surgery, weight loss was lower. In our study, stronger correlations have been found between the loss of excess body mass and pleasure (0.47), strength of interest (0.44) and mood (0.42).

CONCLUSIONS

The prevalence of bariatric surgery in improving the results of treatment of obesity in comparison with other weight reduction interventions remains undisputed. It was found that the group of patients with BMI > 40 decreased from 40 to 16% and a new group of patients Has created with BMI within 25-30 (11%). The assessment of the state of anxiety, psychological tension and nervousness was definitely lower in the group of people who obtained the highest percentage of the loss of excessive body weight. However, further research is needed to establish interrelations between psychology and surgery, because weight loss and potential behavioral changes occur gradually, and therefore require long-term monitoring.

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