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STUDY OF EATING BEHAVIOR AND LEVELS OF ANXIETY-DEPRESSIVE DISORDERS IN OBESE PATIENTS WHO HAVE NOT UNDERGONE BARIATRIC SURGERY

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Abstract
Eating behavior is not only driven by physiological needs but is also closely intertwined with an individual's emotional and psychological state. Emotional, external, and restrained eating styles may be differently associated with mental health conditions, particularly anxiety and depression. Emotional eating, in particular, often develops as a coping mechanism to alleviate stress and psychological distress, and is frequently accompanied by symptoms of anxiety and depression. In recent years, there has been a growing number of studies aimed at identifying the relationship between eating behavior and affective disorders. As part of this research trend, the present study assessed levels of anxiety and depression in individuals with different eating behavior patterns using the Hospital Anxiety and Depression Scale (HADS), and statistical analysis was conducted to explore the differences between these groups.

Keywords: Bariatric surgery, depression, anxiety, eating disorder

Input

In recent years, the problem of obesity treatment has increasingly attracted the attention of doctors of various specialties around the world. According to WHO experts' calculations, the number of people with obesity will exceed 300 million by 2025. This trend is especially noticeable in developed countries of Europe, Japan, North America, and Australia[1]. The prevalence of obesity in Europe is 10-25% in men and 10-30% in women. Over the past decade, the level of obesity in many European countries has increased by 10-40%. In most European

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countries, more than 50% of the population is overweight or suffers from obesity[4]. In the Russian Federation, the proportion of people with excess weight (more than 5% of the ideal weight) reaches 43-57%, while obesity occurs in 22-36% of cases and there is no tendency to decrease [7, 9].

The prevalence of excess weight and obesity among people of different ages, genders, social status, and ethnicity is increasing year by year worldwide [4]. In most cases of obesity (about 95%), the causes of excess body weight are hidden in the peculiarities of lifestyle and eating behavior. These are mainly associated with an increase in fats and excess calories in food as a result of a violation of the daily dietary regimen, as well as insufficient daily physical activity in relation to the food consumed. Lifestyle changes are the main method of obesity treatment, however, this does not always allow for the necessary weight reduction and preservation of the result [5]. Moreover, this process is often accompanied by restriction syndrome and increases the risk of obesity recurrence, and sometimes can lead to a sharp increase in body weight [5]. Obesity leads to negative medical, psychological, and social consequences. The medical aspect is explained by arterial hypertension (AH), coronary heart disease (CHD), type 2 diabetes mellitus (DM2), obstructive apnea, some malignant tumors, thromboses, cholelithiasis, osteoarthritis, non-alcoholic steatohepatitis, gastroesophageal reflux disease; pathology of the reproductive system and other somatic diseases, as well as a number of mental disorders. The psychosocial aspect of obesity manifests itself in the form of stigmatization, professional differences, as well as family, domestic, and other problems in everyday life; low self-esteem, problems in communication, personal life, sexual and behavioral disorders [3].

Today, bariatric surgery is considered the most reliable method of obesity treatment, as it shows the most effective results in terms of weight loss and its control. Although bariatric operations are effective, within 24 months after surgery, 20-30% of patients begin to gain weight again. "Emotional" overeating is a behavioral model that predicts a negative outcome [10]. One of the main reasons for this is eating disorders.

Eating behavior is a set of reactions aimed at searching, selecting, and consuming food in order to replenish the body's energy reserves, accumulate "building"

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material, and achieve psychological pleasure from its consumption. Three types of eating stereotype disorders are distinguished: external, emotional, and limiting [2, 6]. The external type of eating behavior is characterized by a high reaction to external stimuli of food intake (appearance and smell), and not to internal stimuli (stomach fullness, blood glucose concentration). The main factor in the formation of this pathological eating stereotype is the presence of food [2, 6, 8]. Emotional eating behavior is characterized by a hyperphagia reaction to stress, where emotional discomfort is the main trigger for eating: a person eats a lot when upset, depressed, and alone.

The main factors in the formation of this stereotype are a decrease in stress resistance, a tendency towards anxiety and depression, mental immaturity, and often the basis for the formation of this eating stereotype is laid in childhood, in the family (food is the main source of pleasure, any discomfort of the child is perceived by the mother as hunger, excessive parental care) [2]. Restrictive eating behavior is characterized by excessive diets, followed by "diet depression" disorder, and emotional overeating [2, 6, 8].

Thus, the situation with the spread of the "epidemic" of obesity in our country is approaching the situation in the USA and developed European countries.

Purpose

Determination of the degree of anxiety-depressive and eating disorders in patients with obesity who were recommended bariatric surgery but refused it.

Materials and methods

94 women with obesity of the 2nd and 3rd degree, living in the territory of OP-20 of the Almazar district of the city of Tashkent, participated in the study. HADS (Hospital Anxiety and Depression Scale) was used to determine their mental state, anxiety and depression, and the DEBQ questionnaire was used to determine eating behavior disorders. Also, through individual interviews, the reasons for refusing bariatric surgery were studied.

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Results

The results of the study show that when distributed by age, the average age of patients aged 20-29 was 27.82±1.08 years, 54 participants aged 30-39 years, and the average age was 35.09±2.84 years. 25 participants aged 40-49 years, with an average age of 43.84±2.62, and 4 patients aged 50 years and older, with an average age of 51±0. (Fig. 1)

By degree of obesity, women with obesity of the 2nd degree were 27 (28.8%), and women with obesity of the 3rd degree were 67 (71.2%).

When checking the employment of the subjects, it was established that 65 participants are engaged in labor activity, and the remaining 29 women are housewives. The survey revealed resistance to anxiety and depression in women engaged in any type of work activity, and all non-working women had obesity of the 3rd degree.

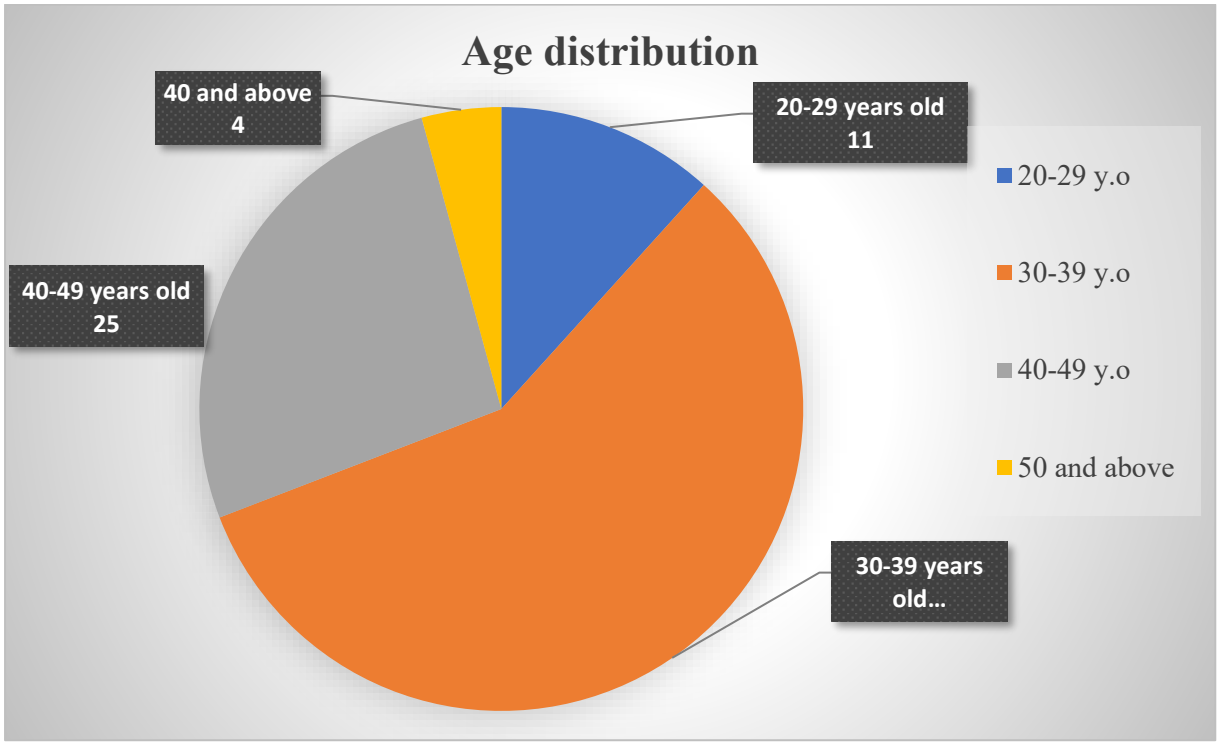

Figure 1

According to the results obtained, out of 94 subjects, 40 (42.5%) ate three meals a day, and the remaining 46 (51.1%) ate four meals a day. In the remaining 36 (38.2%) patients, type 2 diabetes mellitus was diagnosed with somatic

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comorbidities. The main reason is their existing obesity of the 3rd degree. While they regularly visited an endocrinologist, 40 (42.5%) subjects attended dietitian examinations and weight loss courses due to obesity. The obtained results show that 16 (17.02%) participants visited a psychologist. Upon questioning using the individual interview method, it was revealed that she attended psychological sessions due to her obesity and the fact that her family relationships and marital relations were not the same as before. It can be seen that weight gain negatively affects the quality of life of people due to the fact that it causes somatic changes, including mental and social changes.

Analysis of the results of the main questionnaires revealed disorders of emotional nutrition in 50 (53.1%) participants. The remaining 30 (31.9%) participants had external nutritional disorders, while 14 (14.8%) had limiting nutritional disorders.

Figure 2

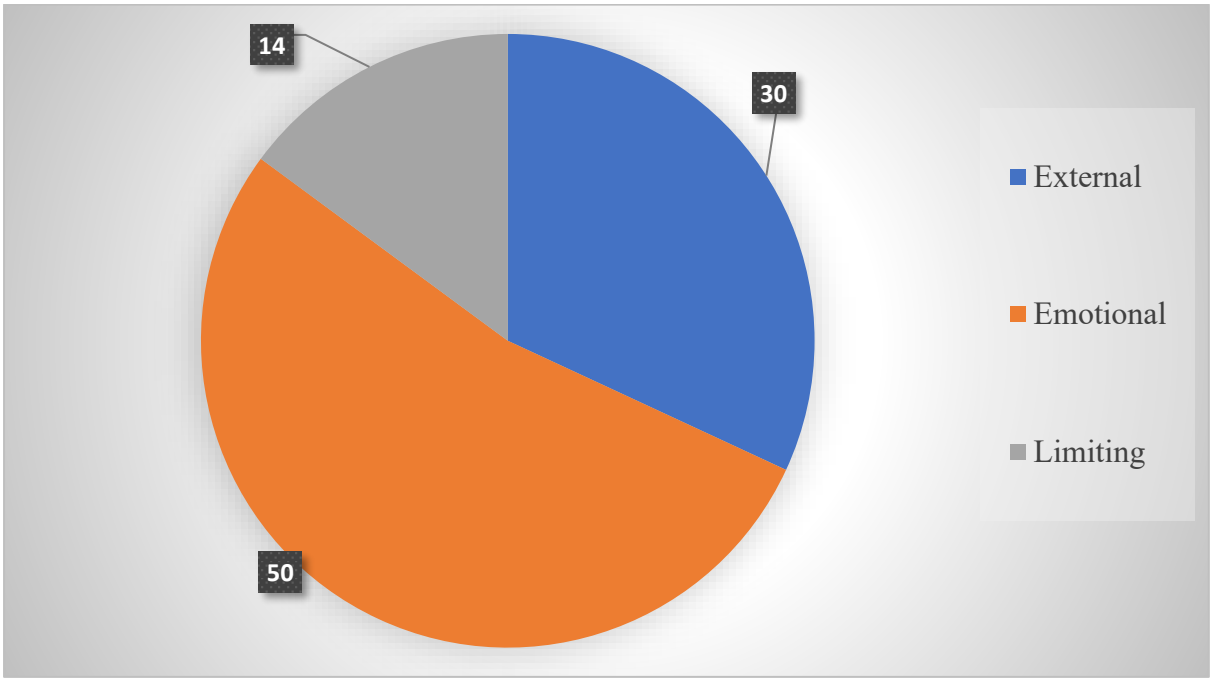

Figure 2

The results of the study determined the prevalence of anxiety and depression symptoms among participants with different eating patterns based on the HADS (Hospital Anxiety and Depression Scale) questionnaire. In the study, participants were divided into groups based on external, emotional, and restrictive eating

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disorder behavior, and the levels of anxiety and depression in each of them were statistically compared. (Table 1)

Table 1

	External n-30		**Emotional n-50**		**Limiting n-14**	
Interpretation	**anxiety**	**depression**	**anxiety**	**depression**	**anxiety**	**depression**
Normal (no symptoms)	16	19	7	11	2	7
Subclinical (mild, significant)	10	7	33	29	3	5
Clinically significant symptoms present	4	4	10	10	9	2

Analysis using Student's t-test showed that the levels of anxiety ($p = 0.0048$) and depression ($p = 0.0046$) in the participants of the emotional nutrition group were significantly higher than in the external group. This indicates that the strategy of emotional nutrition is significantly associated with the intensification of psychological symptoms.

Also, the level of anxiety in the restrictive nutrition group participants was significantly higher than in participants with external nutrition ($p = 0.0011$), which suggests that cases of strict nutritional control are accompanied by internal anxiety and anxiety. However, the levels of depression did not show a significant difference between these two groups ($p = 0.556$). Comparative analyses between the groups of emotional and restrictive nutrition showed a practically statistically significant difference in the level of anxiety ($p = 0.060$), while no significant difference was found in the levels of depression ($p = 0.141$).

In general, the research results show that emotional nutrition strategies are most strongly associated with anxiety and depression. External nutrition, on the contrary, was characterized by relatively low psychological symptoms. This situation indicates that there is a clinically and psychopathologically significant relationship between psychological symptoms and eating behavior, which should be taken into account in treatment and psychocorrection programs.

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Conclusion

The studied results showed a significantly higher level of affective disorders, such as anxiety and depression, among participants with obesity, but who refused bariatric surgery. Especially in the group of participants with emotional eating behavior, symptoms of anxiety and depression at the clinical level were observed more often. This situation shows that nutrition for the purpose of alleviating mental tension and stress among obese individuals is formed as a certain psychological defense mechanism.

Subclinical and clinical anxiety symptoms were also encountered in the group of external nutrition. This indicates that obese individuals with high sensitivity to external stimuli (advertising, seeing others eating, smells, etc.) also experience psychological discomfort. In the restrictive nutrition group, the level of anxiety was relatively high, but symptoms of depression were less common. This means that people using restrictive eating strategies, despite trying to control their weight, cannot overcome internal tension and anxiety.

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