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Obesity treatment and adherence to doctors' recommendations in patients with cardiovascular diseases and/or cardiovascular disease risk factors (results of patients' interviews within the outpatient registry «PROFILE»)

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ABSTRACT

Aim: Assessment of treatment specifics in patients with obesity and patients' adherence to doctors' recommendations within the outpatient registry PROFILE.

Methods: The registry PROFILE included patients with chronic cardiovascular diseases (CVD) or/and CVD risk factors, attending specialized cardiology department of a scientific medical center. During the period from April 19, 2017 to January 30, 2018 520 patients from the PROFILE registry have attended the department. Obesity was diagnosed in 347 patients. Out of 347 patients, 305 (88%) were interviewed using specifically designed questionnaire: 167 females, 138 males, mean age of patients was 63.9 ± 11.3.

Results: Only 81 out of 305 patients (26.6%) with diagnosed obesity accepted having this disease, 189 patients (62%) considered themselves overweight and 35 patients (11.5%) considered themselves normal weight. Primary-care doctors had paid attention to the problem of obesity only in 255 out of 305 cases (83.6%). Analysis of doctors' recommendations showed that 242 out of 305 patients (79.3%) had been recommended reducing calorie intake, 194 (63.6%) – increasing physical activity, 37 patients (12.1%) had been prescribed medications, three patients (1%) had been recommended surgical treatment.

Conclusions: Interviewing of patients revealed patients' underestimation of their condition and doctors' low attention to the problem of obesity treatment.

1. Introduction

WHO declared the obesity epidemic of the XXI century (World Health Organization, 2004). In 1975, there were nearly 105 million people with obesity; in 2016, this number amounted to 650 million, which made up 13% of adult population of the planet (11% males and 15% females), and in 2025, every fifth adult is expected to suffer from obesity (18% males and 21% females) (Global et al., 2014; WHO, 2018). Russia takes fourth place among the countries in the number of people with obesity: 60% of females and 50% of males over 30 years of age are overweight, and 30% have obesity (World Health Organization, 2015). According to data of the observational study ESSE-RF, the prevalence of obesity in the adult population aged 25–64 in 11 regions of the Russian Federation is 29.7% (Muromtseva et al., 2014).

All methods of treatment for obesity are divided into non-pharmacological (dietary and physical activity guidelines, psychotherapy), pharmacological (prescription of anti-obesity medication), and surgical (Grima and Dixon, 2013; Treatment of morbid obesi, 2013).

Anti-obesity medication therapy is recommended after unsuccessful attempts or inefficiency of diet treatment and other non-pharmacological methods of treatment, in complicated obesity, and on association with other diseases (cardiovascular diseases (CVD), diabetes mellitus (DM) type 2, significant CVD risk factors, musculoskeletal system diseases, respiratory failure) (Grima and Dixon, 2013; Treatment of morbid obesi, 2013; Drapkina et al., 2016).

Observational studies, particularly registries, may help in studying

Abbreviations: BAA, biologically active additives; BMI, body mass index; CVD, cardiovascular diseases; DM, diabetes mellitus; ESSE-RF, cross-sectional cohort observational study conducted in 12 regions of the Russian Federation; PROFILE, prospective registry conducted in a specialized cardiology department of a scientific center; WC, waist circumference; WHO, World Health Association

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problems of non-pharmacological and pharmacological treatment for obesity and patients' adherence to therapy in real clinical practice. Therefore, analysis of obesity treatment specifics (guidelines for non-pharmacological treatment, pharmacological therapy, assessment of patients' adherence to these guidelines, etc.) within the prospective outpatient registry seems of current interest.

Aim – assessment of treatment specifics in patients with obesity and patients' adherence to recommended treatment using data of patients' interviews within the PROFILE registry.

2. Materials and methods

The study was conducted within the outpatient registry PROFILE – prospective registry created in a specialized cardiology department of a scientific center. PROFILE registry included patients with chronic CVD (chronic ischemic heart disease, hypertensive heart disease) and/or CVD risk factors (arterial hypertension, dyslipidemia), attending for a consultation (Lukina et al., 2016; Zakharova et al., 2016). During the period from April 19, 2017 to January 30, 2018, 520 patients from the PROFILE registry have attended the department (for 244 patients, it was their first visit, and for remaining 276, it was their recurrent visit). Obesity was diagnosed in 347 patients (body mass index (BMI) ≥ 30). Out of 347 patients, 305 (88%) were interviewed using specifically designed questionnaire (patients' informed consent had been previously obtained for the study), containing topics about patients' self-concept of their body mass, doctors' prescriptions of therapy for obesity, patients' adherence to recommendations, their tendency to go for self-treatment, information about patients' personal readiness to spend money on treatment of this disease. Forty-two patients (12%) refused to get interviewed.

A total of 305 patients filled in the questionnaire forms: 167 females, 138 males, mean age of patients was 63.9 ± 11.3.

3. Calculation

Data were presented as means and standard deviations (for quantitative variables) and percentages (for qualitative variables). The comparative analysis of independent groups was performed using the Kruskal–Wallis test (for quantitative variables), and the χ^2 test and z-test for the comparison of proportions (for qualitative variables). p-values < 0.05 were considered significant.

4. Ethics

The study was approved by the local Ethical Committee of the Federal State Institution "National Medical Research Center for Preventive Medicine" of the Ministry of Healthcare of the Russian Federation, Moscow.

5. Results

According to the classification of overweight and obesity by BMI, class I obesity (BMI = 30.0–34.9) predominated in interviewed patients, and it was diagnosed in 213 patients (69.8%). Every fifth patient suffered from class II obesity (63 patients, 20.7%), while every tenth patient of the study had class III obesity (29 patients, 9.5%). All patients had abdominal obesity (waist circumference (WC) greater than or equal to 94 cm in men and 80 cm in women). The mean ± standard deviation WC was 104.7 ± 12.9 cm for females and 116.7 ± 9.6 cm for males.

The main characteristics of patients (sociodemographic data, information about CVD, and CVD risk factors) are presented in Table 1.

Most of the patients included in the PROFILE registry, as well as patients interviewed for this study, had higher education (229 out of 305 patients with obesity (75.1%) who answered the questions of the original questionnaire), 42 patients had already experienced participating in clinical studies, including those concerning obesity treatment.

Table 1
General characteristics of patients interviewed for the study.

Parameters	Patients with obesity n = 305 (100%)
Age	63,9 ± 11,3
Smoking (%)	52 (17,0%)
Regular alcohol consumption, %	85 (27,9%)
Arterial hypertension, %	263 (86,2%)
Ischemic heart disease, %	117 (38,4%)
History of myocardial infarction, %	48 (15,7%)
History of stroke, %	23 (7,5%)
Chronic heart failure, %	136 (44,7%)
Atrial fibrillation, %	55 (18,0%)
Diabetes mellitus type 2, %	85 (27,9%)
Impaired glucose tolerance, %	28 (9,2%)
Dyslipidemia, %	276 (90,5%)

Eighty-one out of 305 patients with diagnosed obesity (26.6%) accepted having this disease (women more often than men: 55 women (32.9%) vs. 26 men (18.8%), p < 0.005), 189 patients (62%) considered themselves overweight, and 35 patients (11.5%) considered themselves normal weight (men more often than women: 22 men (15.9%) vs. 13 women (7.8%), p < 0.005). Inadequate assessment of their weight was specific to patients with class I obesity. However, 231 patients (75.7%) noted that being overweight was bad for their health. Two hundred and sixty-three (86.2%) patients recognized the necessity of losing weight (no significant gender difference in response to this question).

Doctors of outpatient clinics that had been attended by the patients had paid attention to the problem of obesity only in 255 out of 305 cases (83.6%). A total of 246 patients (80.7%) had received doctors' recommendations for the management of obesity. Analysis of doctors' recommendations showed that 242 (79.3%) patients had been recommended reducing calorie intake, 194 (63.6%) recommended increasing physical activity, 37 (12.1%) patients had been prescribed medications, and three patients (1%) had been recommended surgical treatment. It was demonstrated that patients with class 1 obesity had been advised by doctors to use only non-pharmacological methods of losing weight, while medications had been prescribed to patients with class II-III obesity, and surgical treatment had been recommended only to patients with class III obesity.

Attempts to losing weight had been made by most of the patients (n = 263, 86.2%, upon doctor's advice as well as independently), where 238 patients (78%) adjusted their diet, 153 (50.2%) increased their physical activity, 31 patients (10.2%) took medications, seven patients (2.3%) took biologically active additives (BAA), and one patient had a course of acupuncture treatment. None of the interviewed patients had undergone surgical treatment (Fig. 1).

A total of 234 patients (76.7%) expressed readiness to proceed with their attempts to lose weight.

Only every fourth of all interviewed patients (n = 77, 25.2%) was aware of pharmacological treatment for obesity and knew the names of medications (females three times more often than males: 61 females (36.5%) vs. 16 males (11.6%), p < 0.0001). Forty-two of all interviewed patients (13.8%) had experienced taking these drugs: every fifth woman (n = 37, 22.2%) and only five men (3.6%). At the time of the interview, none of the patients took anti-obesity medications. Previously, 15 patients had taken liraglutide, and five patients had taken sibutramine. Five patients had taken two different medications at a different time. Four patients noticed the positive long-term effect of weight loss therapy, 31 patients noticed a positive short-term effect, while five patients did not have any effect from anti-obesity therapy.

Although none of the doctors had recommended them for obesity treatment, 16 patients (5.2%) named BAA (Herbalife, teas for weight loss, senna extract) as known weight loss products (women named BAA

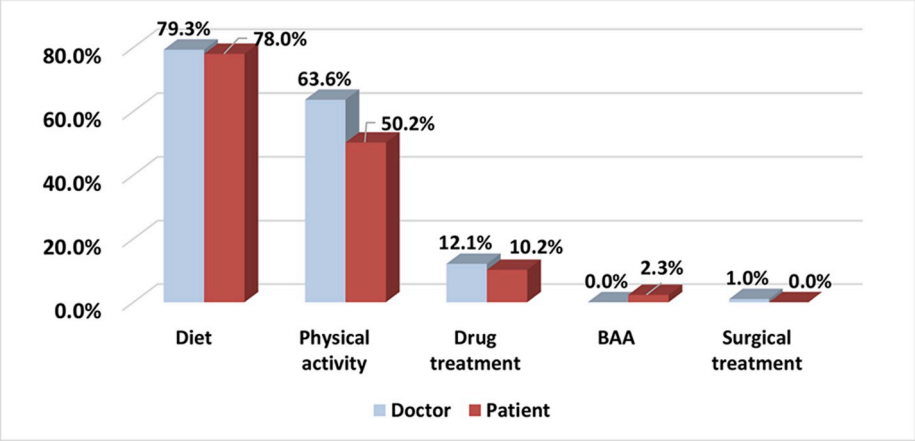

Fig. 1. Doctors' advice on treatment of obesity and patients' adherence to these recommendations.

as weight loss products more often than men: 13 women (7.8%) vs. three men (2.2%), p = 0.03). Seven patients had taken BAA to lose weight (four patients took Herbalife, two patients took teas for weight loss, one patient took senna extract). Nevertheless, three patients noticed the positive long-term effect of BAA, three patients had a positive short-term effect, and one patient did not notice any positive effect.

6. Discussion

In their practice, most of the doctors encounter patients with primary obesity who need to receive recommendations for the treatment of this disease.

According to Russian clinical guidelines, class III obesity (BMI ≥ 40) and class II obesity (BMI 35–40) in the presence of complications of this disease are classified as morbid obesity. Morbid obesity is an indication for surgical treatment and obligational pharmacological therapy (Treatment of morbid obesi, 2013; Drapkina et al., 2016).

To date, several drugs are registered and recommended for obesity treatment in the Russian Federation: Orlistat, anorectic sibutramine, liraglutide – a derivative of a glucagon-like peptide-1 for subcutaneous injection, which is used for the treatment of DM type 2 and obesity.

The results of the patients' interviews showed that doctors do not always attract their patients' attention to the problem of obesity: only 83.6% of patients noted that they had been given recommendations for treatment (non-pharmacological or pharmacological) of this disease. The absence of doctors' control in these patients leads to the fact that in 90% of cases, patients are unable to be adherent to weight loss behavior for a long time (Shalnova et al., 2014; Prospective Studies Collaborations, 2009; Bubnova, 2005). The same clinical inertia in diagnostics and treatment of obesity is demonstrated in the results of other studies, which display extremely low use of anti-obesity drugs (Public perceptions of obe, 2015; Yaemsiri et al., 2011). Besides, the results of these studies show that primary care physicians very often (in 20–40% of cases) recommend to their patients different BAA, which is also very popular among the patients (Public perceptions of obe, 2015; Yaemsiri et al., 2011).

Although doctors of the PROFILE registry did not recommend BAA as a weight loss therapy, 15 of the interviewed patients knew these products and seven patients had taken them on their own.

It is noticeable that patients' obesity denial that was revealed during this interview is specific to patients with this disease. It has been confirmed in the results of other studies (Public perceptions of obe, 2015; Yaemsiri et al., 2011; Moyer, 2012). According to the medical interview of patients held in seven European countries, every fifth overweight patient considered himself normal weight, and every third patient with obesity acknowledged being overweight but not having a disease (Public perceptions of obe, 2015). Besides, patients of the PROFILE registry were mostly highly educated people, meaning they most likely adequately evaluated their disease and were responsible enough to take their treatment seriously.

It should be noted that obesity treatment is a long process that takes constant medical monitoring, psychological support for patients to increase their adherence to lose weight, and weight maintenance process (Grima and Dixon, 2013; Treatment of morbid obesi, 2013). Positive results in this process may be achieved through the organization of educational seminars for doctors on the topic of obesity treatment in different clinical categories of patients and educational programs for patients with obesity that could be similar to « Educational schools for patients with DM». Monitoring of efficiency of these events could be done with the help of registry data and patients' interviewing.

In this study, the problems of doctors' adherence to clinical guidelines for obesity management, patients' awareness of this disease (increase of CVD risk, ways to lose weight, etc.) and obesity patients' adherence to doctors' recommendations were assessed simultaneously for the first time in the Russian Federation within the outpatient prospective registry of CVD patients with the use of specialized questionnaires.

Despite some differences between the results of this study and research performed in 2015 as a foreword from the European association for the study of obesity (European Association for the Study of Obesity (EASO), 2015), the results of this study confirmed the relevance of the problem of obesity and revealed a number of unsolved problems in this area, that are common both for Russia and other developed and developing countries.

7. Limitations of the study

The study presented is a cross-sectional observational study. Despite all the advantages of the registry study (consecutive inclusion of patients), not a very large number of patients with obesity participated in the interview. The original questionnaire used had not been validated; nevertheless, it contained mostly descriptive questions that were not in need of validation.

8. Conclusion

Interviewing of patients with high risk of CVD and obesity within the PROFILE registry revealed patients' underestimation of their obesity-related cardiometabolic complications and doctors' low attention to the problem of obesity treatment. Even when diet therapy and other non-pharmacological methods of treatment are inefficient, anti-obesity drug treatment are prescribed to patients very rarely. Most patients consider obesity treatment expenses to be unnecessary, especially

expenses on weight loss drugs.

Declarations of interest

None.

Prior posting and presentations

This article has not been published previously. It contains original unpublished work and is not being submitted for publication elsewhere at the same time. Its publication is approved by all authors.

Author contribution

Martsevich Sergey Yu. – the conception and design of the study, revising the article critically for important intellectual content, final approval of the version to be submitted;

Lukina Yulia V. – the conception and design of the study, acquisition of data, analysis and interpretation of data, drafting the article;

Lerman Olga V. – the conception and design of the study, acquisition of data;

Kutishenko Natalia P. – the conception and design of the study, revising the article critically for important intellectual content;

Semenova Yulia V. – drafting the article.

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