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# Pharmacotherapy of Giperglycemia, Abdominal Obesity

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**Abstract:** In clause the results of study pharmacotherapy of the basic components metabolic syndrome among a population of Bukhara are given. The unsufficient pharmacological correction of the basic components metabolic syndrome is shown. Is analyzed mortality of the population in conditions of inadequate correction components of metabolic syndrome.

Keywords: hyperglycemia, hyperlipidemia, abdominal obesity, arterial hepertension, treatment.

#### Introduction

Metabolic syndrome (MS) is a symptom complex, the presence of which over the next 5-10 years increases the risk of developing type 2 diabetes mellitus (DM 2) by 5 times, stroke - by 2-4 times, acute myocardial infarction (MI) by 3- 4 times and cardiovascular mortality 2 times [6]

Metabolic syndrome (MS) is one of the most important problems of modern medicine. This is due to the fact that MS has a high risk of mortality [5,7]. Among people with MS, mortality is 20 or more times higher than without MS (2.8). The main components of MS include non-insulin-dependent diabetes mellitus (or impaired glucose tolerance), arterial hypertension, obesity and dyslipidemia. The prevalence of MS among the population in various regions is quite high (10-24%), and in economically developed countries the frequency of MS among the population reaches 35-40% [1,4].

In the pathogenesis of MS, insulin resistance plays an important role, in which pancreatic betta cells increase insulin secretion, as a result of which hyperinsulinemia develops. Excess insulin production increases the activity of the SNS, causes vasoconstriction and an increase in the minute volume of blood circulation, increases the synthesis of VLDL, and forms atherogenic dyslipidemia and obesity. At the initial stages of the pathological process, hyperinsulinemia compensates for the negative effects of insulin resistance. However, with increased production of insulin, there is a further increase in the degree of insulin resistance. As a result of these processes, a violation of glucose tolerance is formed and subsequently an obvious diabetes mellitus develops.

A close pathogenetic relationship between the various components of MS should be noted. Therefore, the recommendations proposed by the International Diabetes Federation (IDF) in 2006 [3] indicate that in the treatment of MS, lipid-lowering drugs, antihypertensive drugs, and also drugs to reduce insulin resistance and hyperglycemia should be used. It is also necessary to normalize the increased body mass. Therefore, in the treatment, in the primary and secondary prevention of MS, as well as related mortality, adequate pharmacotherapy of the main components of MS is of great importance. Given that in modern conditions the majority of MS patients receive treatment in an outpatient setting, of particular interest is the study of pharmacotherapy and its effectiveness in primary health care.

#### Purpose of the study.

The study of the adequacy of pharmacotherapy of metabolic syndrome in the primary health care



### **Research methods.**

The analysis includes the results of a population study among the unorganized population of 797 people (242 men and 555 women). MS was diagnosed in the presence of abdominal obesity (waist circumference> 94 cm for men and> 80 cm for women if the body mass index (Quetelet index) exceeds 30 kg / m2, central obesity is assumed, with no need to determine the waist circumference), plus two any other of the following criteria: hypertension (blood pressure> 130/85 mmHg or therapy with previously diagnosed hypertension); hyperlipidemia (cholesterol> 6.1 mmol / L or triglycerides> 1.7 mmol / L); hyperglycemia (on an empty stomach> 5.6 mmol / l; type 2 diabetes or NTG).

When assessing the adequacy of treatment for MS, the use of hypolipidemic and antihypertensive drugs in patients, as well as means to reduce insulin resistance, hyperglycemia and body weight, was taken into account.

### Results of work and discussion.

The analysis of data on the state of pharmacotherapy of the metabolic syndrome was carried out separately for its main components (Fig. 1). Of all the individuals examined, 18.32% were obese or had a BMI. According to the data obtained, only 0.68% of people with BMI or obesity use pharmacological correction of increased-weight.

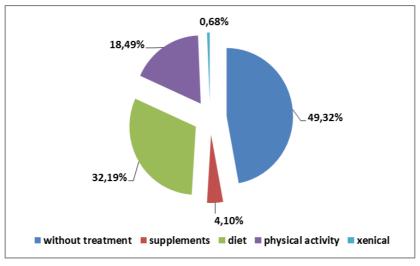


Figure 1. Treatment status for obesity and BMI.

4.7% of people in this category use dietary supplements. Dietary and physical activity are used in 32, 19% and 18.49% of cases. It should be noted that half of patients with obesity and BMI (49.32%) do not take any medical and dietary and other measures to reduce weight.

In the examined group, 115 people (14.43%) suffered from diabetes mellitus (2.89%) or had NTG (11.54%).

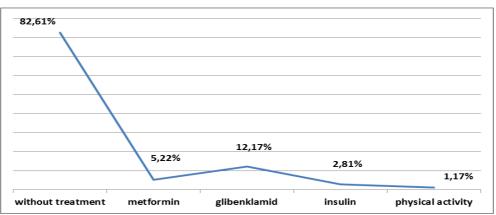


Figure 2. Treatment status for diabetes mellitus and NTG.

Almost all cases of NTG were detected for the first time in the course of this study. Therefore, patients with NTG did not know that they had hyperglycemia and did not receive any treatment. It should be emphasized that such an undetectable NTG and, accordingly, the lack of treatment in this group of patients are an important risk factor for cardiovascular morbidity and mortality. Further, the state of treatment of hypertension is considered, the prevalence of which in the population was 20.2%. As it turned out, patients with hypertension prefer pharmacological treatment and insufficiently use dietary measures and physical activity (Fig. 3). It should also be noted that 13.66% of hypertensive patients do not receive any treatment.

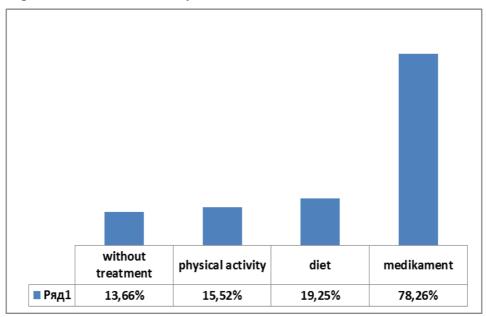


Figure 3. The treatment status of arterial hypertension.

According to modern literature, hyperlipidemia significantly increases the likelihood of the formation of cardiovascular diseases and significantly worsens their prognosis. In the examined population, the frequency of hyperlipidemia was 14.43%. However, despite the relatively high prevalence of hyperlipidemia, in no case was there a pharmacological treatment of this component of the metabolic syndrome.

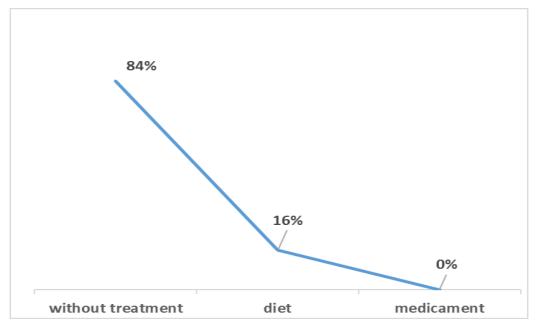


Figure 4. Treatment status for hyperlipidemia.

## Conclusion

- 1. Among the unorganized population there is an insufficient pharmacological correction of the main components of the metabolic syndrome.
- 2. For the correction of such components of MS as hyperlipidemia, NTG and BMI, non-drug methods are not used enough, and pharmacological drugs are practically not used.

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