

# COVID-ASSOCIATED DEPRESSIVE DISORDERS IN DIABETES MELLITUS

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By the beginning of our century, depressive and anxiety disorders took one of the first places in the structure of mental pathology. According to WHO data for 2000, they accounted for about 40% of the total number of mental disorders registered in the world [1]. It is noted that up to 20-25% of women and 7-12% of men have suffered a depressive episode at least once in their lives, and 3-4% of the entire population of the planet suffers from recurrent depression [2].

The statistical indicators of the prevalence of depression in the population continue to grow steadily, and over the past decade they have increased from 5% to 25-30%, that is, 5-6 times [3]. 5% of the population suffer from severe forms of depression. The significance of depression is determined by the nature of its course - recurrent or continuous. The noted nature of depression is observed in 60% of patients [4]. There is evidence that patients who have had one depressive episode, in 50% of cases, there is a second one. In patients who have had three depressive attacks, in 90% of cases there is a risk of postponing the fourth episode. The severity of the condition of depressed patients is determined not only by medical, but also by social criteria, namely: a decrease or loss of working capacity and a deterioration in the quality of life, a high risk of suicide. All this entails serious economic damage [5].

According to numerous epidemiological and clinical studies among patients visiting general practitioners, the number of people with conditions attributed to a wide range of depressive conditions continues to grow. The vast majority of authors associate such a picture with the changed socio-psychological conditions of society. However, the high detection rate of depression and, to a lesser extent, the pathomorphosis of both mental and somatic diseases, due, among other reasons, to the success of modern therapy, is also not disregarded.

Among the reasons for medical consultation in developed countries, emotional disorders rank third and represent the main workload for psychiatrists. For these disorders, women are 2-3 times more likely than men to seek help from a primary health care provider [3].

Depressive disorders are subdivided into endogenous, somatogenic (symptomatic) and psychogenic, including iatrogenic, nosogenic (reaction to illness) forms [6]. In the pathogenesis of depression, neurobiological (genetic, impaired metabolism of biogenic amines), psychosocial (stress), constitutional (a certain personality type) and other factors are important.

COVID-19 refers to a viral infection of the coronavirus genus, which is poorly understood today, entailing unpredictable consequences. If a healthy body is still able to cope with the disease or its consequences on its own, then patients with coronavirus and diabetes mellitus, as well as other severe chronic diseases, are likely to be at risk of serious complications, including death. In diabetic pathology, the new viral strain poses a serious threat for the following reasons: a high risk of blood poisoning, a complex protracted course of pneumonia, and a high likelihood of respiratory failure. When infected with COVID-19, it is important to control blood sugar levels, to correct the glycemic index in a timely manner. Otherwise, a favorable environment is created for the reproduction of pathogenic microflora, pneumonia is difficult to treat, literally exhausts an already weakened organism.

Patients are especially susceptible to infections of any nature due to a decrease in the activity of cells of the immune system, the number of antibodies. Clinicians associate the aggravated course of a viral infection against the background of metabolic syndrome with constant intake of insulin, drugs for antihypertensive therapy, and normalization of cholesterol.



**Objective of the study:** identification and study of depressive disorders among patients with diabetes mellitus with associated coronavirus infection at the level of primary health care institutions (hereinafter PHC).

**Material and methods.** A survey of 134 patients with diabetes mellitus in association with coronavirus infection was carried out, of which depressive disorders were detected in 28 patients (21.3%). Depressive disorders were identified using international diagnostic scales (HADS, Tsung's questionnaire). The research was conducted online. Each patient signed an informed consent for data processing.

**Results.** Among the surveyed women prevailed (91%), mainly over the age of 60 (77%), which is shown in Figures 1 and 2.

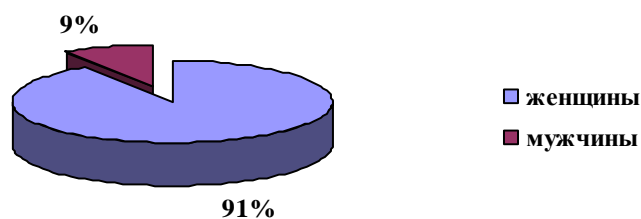


Figure 1 - Distribution of patients with diabetes mellitus with coronavirus infection and depressive disorders by gender

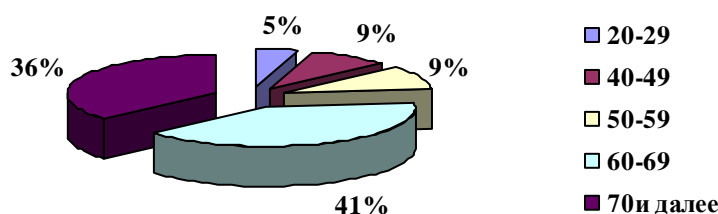


Figure 2 - Distribution of patients with diabetes mellitus complicated by coronavirus infection and depressive disorders by age

All examined patients suffered from diabetes mellitus (DM), mainly of severe degree, in 40% of cases hereditary complication of this disease was revealed, residents of the city predominated at the place of residence.

Depressive disorders that were detected in the surveyed of this group were mostly latent, larvae. Patients were fixed on somatic pathology and did not openly present complaints of depressed mood; they considered general discomfort, anxiety, malaise, lethargy, lack of desire for activity as a manifestation of diabetes. Depressive disorders in such patients were detected only with targeted questioning and were confirmed by diagnostic tests.

The depressive states identified in patients with diabetes were predominantly psychogenic (68.1%) and somatogenic (27.2%), and only in a few cases (4.7%) the presence of an endogenous depressive phase could be suspected.

By the prevalence of psychopathological syndrome in mild DM, anxious depressions were revealed, which manifested themselves as a constant feeling of internal tension, sleep disorders, at times turning into anxiety attacks, vaguely resembling panic attacks. Patients are depressed, depressed, fearful, worried about their future, not sure of the correctness of their actions in the present.

With an average degree of diabetes, melancholy depressions were more often observed, with a low, depressed mood, a feeling of heaviness in the soul, intellectual and motor inhibition, ideas of physical impairment associated with a decrease in the level of social functioning caused by somatic pathology were observed. Patients perceived their surroundings in a gloomy light, impressions that give pleasure do not interest, they lose their relevance.

In severe diabetes, apathetic and adynamic forms prevailed. Apathetic depression - in the foreground, such patients had difficulty in performing mental and physical exertion, lack of desire and desire for any kind of activity,

and a reduced level of motivation. The mood is lowered, with a feeling of longing, the idea of self-accusation - with fragmentary suicidal thoughts.

Adynamic depression was characterized by weakness, lethargy, powerlessness, weakness, internal relaxation, inability or difficulty in performing normal physical or mental activities, lack of initiative, lack of desires and motives.

The combination of diabetes mellitus complicated by coronavirus infection with depressive disorders aggravated the course of the underlying somatic illness and significantly reduced the quality of life of patients.

It is impossible to reliably answer the common question of which type of diabetes is more dangerous in coronavirus, because in both cases there is a persistent violation of metabolic processes, accompanying complications of the underlying disease.

**Conclusions.** Thus, the study showed that diabetes mellitus associated with coronavirus infection is often combined with depressive disorders that aggravate the course of the underlying disease. This leads to the development of complications, in particular in the form of ophthalmic pathology. Patients suffering from diabetes, especially in connection with coronavirus infection, are at risk of developing depression, which makes it possible to recommend the inclusion of a psychotherapist in the complex of examination and treatment of patients with diabetes.

Complex therapy of diabetes through the joint efforts of doctors of various specialties (infectious disease specialist, endocrinologist, ophthalmologist, psychotherapist) will improve the quality of medical care for this category of patients. Timely detection and treatment of depressive disorders in covid-associated diabetes mellitus can serve as prevention of complications of this disease.

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