

## EVALUATION OF THE EFFECT OF ANXIETY DEPRESSIVE DISORDERS ON TYPE 2 DIABETES PATIENTS ON THE COURSE OF THE UNDERLYING DISEASE

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**Abstract.** *Diabetes mellitus is often associated with mental illness. Depressive disorders occur in patients with diabetes as often as in the non-diabetic population. Other mental illnesses that often accompany prediabetes and diabetes mellitus include cognitive dysfunctions up to dementia, conditioned eating behavior, anxiety disorders, schizophrenia, bipolar disorder and borderline personality disorders. The adverse effect of this coincidence on metabolism is stable and manifests itself in the form of deterioration of metabolic control and increased micro- and macroangiopathic complications.*

**Keywords:** *anxiety-depressive disorders, diabetes mellitus, personality changes, quality of life*

Diabetes mellitus (DM) is a chronic disease characterized by metabolic disorders and persistent pathological hyperglycemia. It is the fifth most common disease outbreak and the sixth most common cause of death for elderly people [1,2]. The chronic course of QD, the nature of complications, the need for frequent self-control of glycemia using an invasive method increase the risk of developing mental disorders, especially anxiety and depressive states. Persistent forms of anxiety are more characteristic in patients with Type 2 diabetes - general anxiety disorder, organic anxiety disorder, and subsyndromal anxiety. Constant forms of anxiety are associated with increased non-specific inflammatory response, obesity and arterial hypertension-factors that contribute significantly to the development of dm. In addition, constant forms of anxiety can lead to an unhealthy lifestyle. Anxiety disorders in patients with diabetes lead, first of all, to a deterioration in treatment and adherence to dietary guidelines. The Spielberger-hanin test helps assess anxiety levels. This allows anxiety to be measured as a personal trait and as a state of affairs with the current situation.

Studies show that the combination of anxiety, depression and cardiovascular diseases is not accidental. Evidence has been obtained that depressive disorders are an independent risk factor for the development of coronary heart disease, arterial hypertension, microvascular complications of diabetes mellitus and increase the likelihood of repeated cardiovascular catastrophes. It turned out that depression among patients with diabetes occurs in 24-46% of cases, and this combination worsens the life prognosis. Even a low-expressed depressed mood increases the likelihood of cardiac death, and mortality in patients who have suffered a myocardial infarction and suffering from depression is 3-6 times higher than in post-infarction patients with a normal emotional background. All this points to the importance of the problem.

Today, a number of mechanisms of the influence of anxiety and depression on the incidence and outcomes of cardiovascular diseases have been established. It has been shown that under stress, anxiety and depression, the endothelial function of blood vessels is disrupted,

inflammatory processes, platelet aggregation and thrombosis are activated, the activity of the sympathetic nervous system increases, the level of adrenaline, norepinephrine and cortisol in the blood, the metabolism of--3 fatty acids and folic acid is disrupted. These mechanisms contribute to atherogenesis and thrombosis.

Patients with diabetes mellitus almost always develop certain emotional and mental disorders. Depressive disorders are especially common in elderly people with type 2 diabetes mellitus. Their severity depends on the personal qualities of a person, the activity of his life position, working capacity. The presence of depression concomitant with diabetes mellitus hinders the patient's adaptation, negatively affects the course of the underlying disease, worsens the implementation of therapeutic recommendations, including those related to diet, taking hypoglycemic drugs, self-monitoring of blood sugar levels. The very fact of making a diagnosis of diabetes mellitus, a painful condition, the need to take medications and lifestyle changes □ all this leads to mental asthenization of many patients, a decrease in the quality of life.

**Research objective.** Establishing the dynamics of the course of Type 2 diabetes in these patients, taking into account the stressful psychological effects that led to the formation of anxiety-depressive disorders.

#### **Research materials and methods**

The study used cross-sectional design. Sample size was calculated based on previous estimates of the prevalence of depression and general anxiety disorder in diabetic patients [4]. The required sample size was 92 people. The average age of participants was 52 and 3.4 years, with participants tested on inclusion criteria such as (1) age 18 and older and (2) the presence of a confirmed diagnosis of Type 2 or gestational diabetes. Patients with impaired mental abilities, such as psychotic traits or cognitive impairments, were excluded from the study. All participants who were diagnosed with depression and anxiety disorders were sent to the dispensary Department of the Samarkand Regional Psychiatric Hospital for further examination.

Participants completed a survey that collected data on demographic, social and clinical characteristics. Demographic variables include age, gender, marital status, ethnicity, education level, employment status, family income, and religion. Social variables include levels of social support, smoking, alcohol, and drug use. Clinical variables include disease history, diabetes history (onset, type, and application of insulin therapy), body mass index (BMI), and diabetes management self-assessment (assessed using a five-point Likert scale). The data presented in the questionnaire was supplemented by a review of the medical records of patients. In addition, participants were assigned a seven-part general anxiety disorder scale (GAD-7) to assess anxiety prevalence, The Beck Depression Survey-II (BDI-II), The Big Five survey (BFI) to assess depression prevalence.). World Health Organization for personal quality assessment and quality of life-BREF (JSSOL-BREF) for quality of life measurement (QOL).

The seven-point total anxiety disorder scale (GAD-7) GAD-7 is a questionnaire designed to identify general anxiety disorder (GAD). It consists of seven points, each of which is scored from 0 to 3 on the Likert scale. Thus, its total score varies from 0 to 21.

Depression assessment on the beck-II scale (BDI-II BDI-II is a questionnaire survey commonly used to determine and assess depression levels. It consists of things related to the symptoms of depression. It consists of 21 elements, each rated from 0 to 3. Scores from 10 to 16 indicate mild depression, scores from 17 to 29 indicate moderate depression, and scores from 30 to 63 indicate severe depression.

BFI is a short tool for assessing personal qualities based on a five-factor model. The BFI includes 44 elements divided into five subsets: extroversion, benevolence, conscientiousness, neuroticism, and openness. Each question is evaluated on a five-point Likert scale in the range from 0 (I fully agree) to 4 (I categorically disagree).

#### Quality of life of the World Health Organization-BREF (KIMQOL-BREF)

KIMQOL-BREF is a survey that assesses the quality of life. It consists of 26 elements. Points 1 and 2 assess the overall quality of life, while the rest are divided into four categories that assess different areas: physical health, psychological, social relationships, and the quality of life of the environment. Each item is rated from 1 to 5 on the Likert scale. KIMQOL-BREF has good psychometric properties and has proven its effectiveness and reliability as an alternative to KIMQOL-100 to measure quality of life.

#### **Research results.**

To reflect the dependence of reactive and personal anxiety indicators on the stage of the type 2 diabetes course, numerical values were introduced in the order of growth corresponding to the existing stage of Type 2 diabetes in a patient on the Spilberger-Khanin scale: 1st compensation stage; 2nd subcompensation Stage; 3rd decompensation stage. When conducting a statistical analysis, it was found that the level of situational and reactive anxiety increases with an increase in the indicators of glucose and glycated hemoglobin. The differences are of statistical significance.

To reflect the dependence of reactive and personal anxiety indicators on the general condition of the patient during the examination of patients with Type 2 diabetes, on the Spilberger-Hanin scale, points were entered describing the main complaints and objective examination data of these patients: 0 points-satisfactory condition, 1 point - weakness, 2 points - weakness + headache, 3 points - weakness + headache + thirst, 4 points-weakness + headache + thirst, sweating + increased blood pressure. As a result of the study conducted, it was found that with an increase in the level of reactive and personal anxiety, blood glucose levels on an empty stomach increase, which leads to an increase in the dose of consumption of sugar-reducing drugs by such patients; the general condition worsens: pronounced weakness, thirst, sweating appear; the course of diabetes is aggravated, which

#### **Conclusions**

From what has been analysed and discussed above it can be inferred that there are two criteria can be distinguished. The following points are concluded according to the above-mentioned research analysis and results. There are some precaution measures that should be taken into consideration. The one of them is described below:

1. Individuals predominate in the subcompensation phase among patients with Type 2 diabetes, from which the conclusion is that the attention of the Attending Physician on an outpatient basis should be paid to such patients, to prevent the transition to the compensatory phase. The other is developed in the further lines as a separate specificity of the issue discussed.
2. Anxiety disorders in patients with Type 2 diabetes significantly aggravate the course of this disease, which leads to a deterioration in the quality of life of patients.

#### **REFERENCES**

1. Маслова О.В., Сунцов Ю.И. Эпидемиология сахарного диабета и микрососудистых осложнений.// Сахарный диабет. - 2011. - №3. - С. 6-12.

2. Мухтаренко С.Ю., Бобушова Г.С., Мураталиев Т.М., Федяй С.О. Тревожно-депрессивные расстройства и особенности субъективного контроля личности в отношении здоровья у больных сахарным диабетом 2-го типа Вестник Кыргызско-Российского Славянского университета. 2013. Т. 13. № 11. С. 108-111.
3. Маргулис М.Е., Поладов Э.Ш., Мокашева Е.Н., Макеева А.В. Сравнительный анализ психодиагностики тревоги и депрессии у пациентов с сочетанными заболеваниями Научное обозрение. Педагогические науки. 2019. № 5-4. С. 93-97.
4. Эшдавлатов Б.М., Одилова М.А., Нуритов Н.Р. Показатель тревожности и депрессии у больных сахарным диабетом Теория и практика современной науки. 2017. № 5 (23). С. 932-934.
5. Nefs G, Hendrieckx C, Reddy P, Browne JL, Bot M, Dixon J, et al. Comorbid elevated symptoms of anxiety and depression in adults with type 1 or type 2 diabetes: results from the international diabetes MILES study. *J Diabetes Complicat*. 2019;33(8):523–9.
6. Khan P, Qayyum N, Malik F, Khan T, Khan M, Tahir A. Incidence of anxiety and depression among patients with type 2 diabetes and the predicting factors. *Cureus*. 2019;11(3):e4254.
7. Arambewela MH, Somasundaram NP, Jayasekara HBPR, Kumbukage MH. Prevalence of depression and associated factors among patients with type 2 diabetes attending the diabetic clinic at a tertiary care hospital in Sri Lanka: a descriptive study. *Psychiatry J*. 2019;2019:7468363.
8. Ahmad A, Abujbara M, Jaddou H, Younes NA, Ajlouni A. Anxiety and depression among adult patients with diabetic foot: prevalence and associated factors. *J Clin Med Res*. 2018;10(5):411–8.