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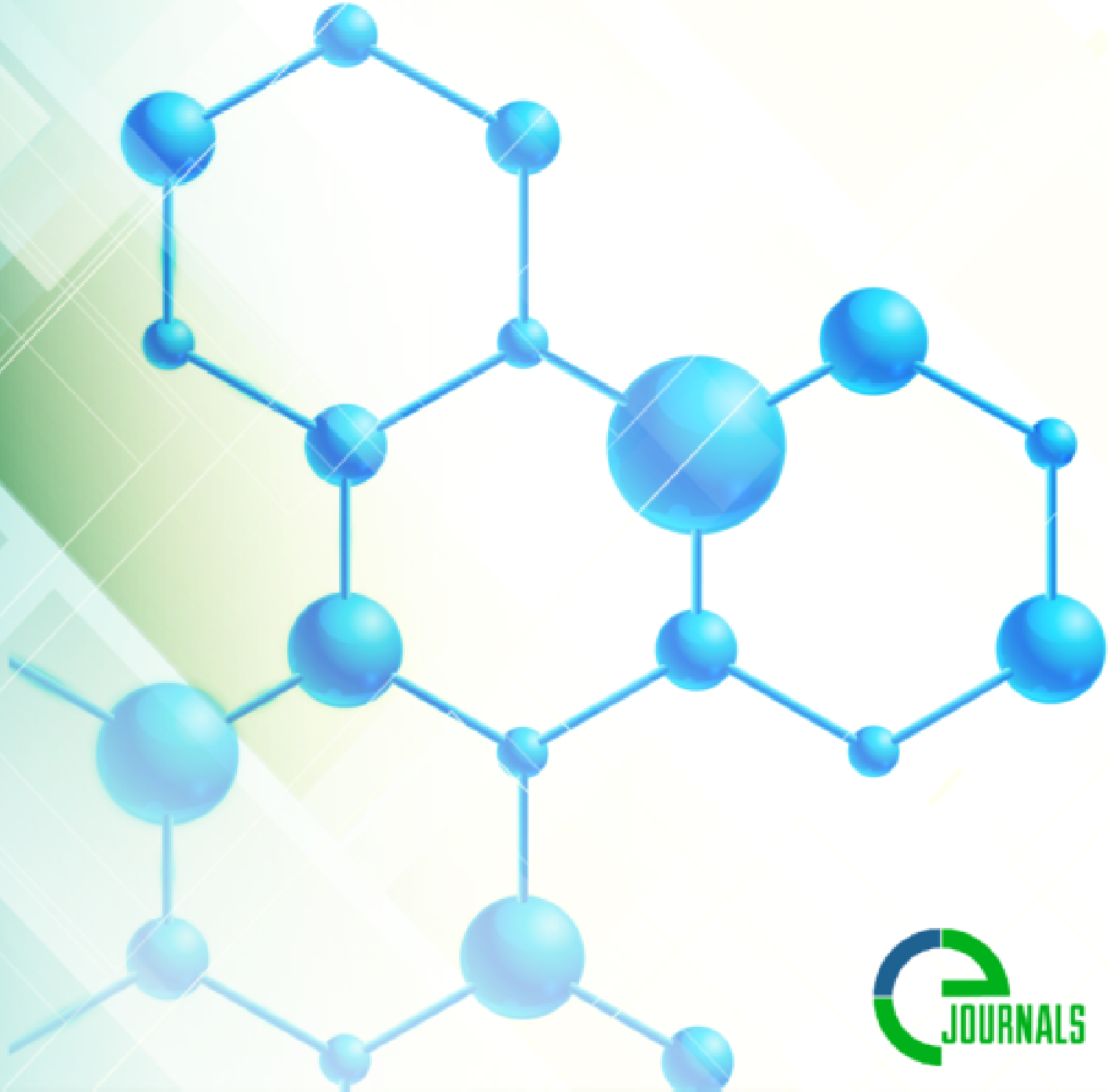

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ASSESSMENT OF THE QUALITY OF LIFE OF PATIENTS WITH A DIABETES MELLITUS AND COVID-19 PERFORMED AS PART OF A REHABILITATION PROGRAM FOR PATIENTS UNDERGOING CORONARY BYPASS SURGERY

Abdullaeva S.Ya
Mirzarakhimova Z.Kh
Mullabaeva G.U
Yakubbekov N.T
Republican Scientific and Practical Specialized Medical Center of Cardiology of the Ministry of Health of the Republic of Uzbekistan.

The aim of this study was to assess the quality of life in patients undergoing coronary bypass surgery with and without a history of COVID-19.

Materials and methods. A study was performed on 103 patients who underwent coronary bypass surgery (from 2 to 4 bypasses). Patients were divided into 2 groups, taking into account the history of COVID-19. SAQ and SF-36 questionnaires were used

Results. In both groups, there was a significant limitation of physical activity (52.26 ± 12.82 in the group of patients with a history of COVID-19 and 56.51 ± 13.47 in the group of patients without a history of coronavirus infection, P = 0.43) , as well as reduced indicators of the patient's attitude to the disease: 70.96 ± 10.97 in the group of patients with a history of COVID-19 and 60.12 ± 18.2 in the group of patients without a history of coronavirus infection, P = 0.11. No significant differences were found between the groups on any scale.

Keywords: coronary artery bypass grafting, quality of life, COVID-19

Background. Coronary heart disease (CHD) occupies almost 1/3 of all causes of death from cardiovascular diseases (CVD), which is 7.4 million people in 2012, according to WHO statistics [1.].

In accordance with the recommendations of the European Society of Cardiology (ESC Guidelines, 2013), in order to optimize the treatment and rehabilitation of patients with coronary artery disease, doctors need to solve 2 main tasks: - improving the prognosis and prevention of myocardial infarction (MI) and sudden death and prolonging life; - reducing the frequency and intensity of angina attacks and improving the quality of daily life of patients [2-4].

In the CHD clinic, special attention is paid to the analysis of quality of life (QoL), which makes it possible to determine not only the impact of the disease on the social, physical and mental well-being of the patient, but also serves as an additional criterion in the selection and evaluation of the effectiveness of therapy, prognosis of the course of the disease, examination of working capacity, testing new medical technologies and methods of treatment at any stage [5].

Health related quality of life (HRQL) is understood as an integral characteristic of the patient's physical, psychological, social and emotional state, assessed based on his subjective perception [6.]. QoL is a multifactorial concept that reflects the level of well-being and satisfaction with those aspects of life that are affected by diseases and their treatment [5,7]. Undoubtedly, the main goals of the treatment of coronary artery disease, in addition to reducing mortality, include reducing the strength and frequency of angina attacks and improving the quality of life.

Combined and comorbid pathology in a patient with coronary artery disease makes it difficult to assess the risk of adverse outcomes (death, worsening of the underlying disease, the development of life-threatening and disabling complications), the selection

of the optimal drug therapy regimen, the choice of the method of myocardial revascularization, and the prevention of possible perioperative complications [8]. Due to the fact that coronavirus infection has a great impact on the decompensation of existing chronic diseases, specific lesions of the cardiovascular system, patients with coronary artery disease and COVID-19 are allocated to a special risk group.

Aim. To assess the quality of life in patients undergoing coronary bypass surgery with and without a history of COVID-19

Results.

A study was performed on 103 patients who underwent coronary bypass grafting. All patients received conventional basic therapy, including acetylsalicylic acid (ASA), clopidogrel, beta-blocker bisoprolol 2.5-5 mg/day, an ACE inhibitor, rosuvastatin 20 mg/day.

The patients were divided into 2 groups. The first group consisted of patients with a history of COVID-19 (48 patients), the second - without a history of coronavirus infection

The quality of life was assessed using the SAQ (Seattle Angina Questionnaire), which was developed for use in patients with exertional angina, and in some patients, the SF-36 questionnaire was also additionally used. The SF-36 consists of 36 items grouped into eight scales: physical functioning, role-playing, bodily pain, general health, vitality, social functioning, emotional state, and mental health. Two parameters are formed from them: the psychological and physical components of health. The Seattle questionnaire, in turn, includes 19 questions that form 5 scales: limitation of physical activity / load, stability (severity) of angina attacks, frequency of angina attacks, satisfaction with treatment, and the patient's attitude to the disease.

In both questionnaires, the indicators of each scale are compiled in such a way that the higher the value of the indicator (from 0 to 100), the better the score on the chosen scale.

Table 1. Quality of life indicators in groups, according to the SAQ questionnaire

	History of COVID-19	No history of COVID-19 P	**P**
Limitation of physical activity/load	52,26 ± 12,82	56,51 ± 13,47	0,43
Stability (severity) of angina attacks	90,15 ± 14,33	87,5 ± 17,86	0,72
Frequency of angina attacks	85,15 ± 25,56	83,57 ± 13,47	0,85
Satisfaction with treatment	83,45 ± 11,41	78,39 ± 13,88	0,40
Patient's attitude to the disease	70,96 ± 10,97	60,12 ± 18,2	0,11

* the quality of life on each of the five considered scales is measured in%, moreover, 0% corresponds to the worst quality of life, and 100% - the best

**differences are significant at $P \leq 0.05$

In both groups, there was a significant limitation of physical activity (52.26 ± 12.82 in the group of patients with a history of COVID-19 and 56.51 ± 13.47 in the group of patients without a history of coronavirus infection, P = 0.43) , which, apparently, can be associated with not the best indicators of the patient's attitude to the disease: 70.96 ± 10.97 in the group of patients with a history of COVID-19 and 60.12 ± 18.2 in the group of patients without coronavirus infection in history, P = 0.11. On the other three scales, the indicators are much better (Table 1). At the same time, there were no significant differences between the groups on any scale.

In addition, in a group of patients with COVID-19, an additional study of the quality of life was conducted using the SF-36 questionnaire.

On almost all scales, with the exception of social functioning, the parameters in patients with a history of coronavirus infection and coronary artery bypass surgery score “C”

Table 2 Quality of life indicators in the group of patients with a history of COVID-19, according to the SF-36 questionnaire

Physical functioning	59,4 ± 22,8
Role functioning due to physical condition	50 ± 41,9
Pain intensity	61 ± 22,1
General health	51,3 ± 10
Vital activity	55,9 ± 9,2
Social functioning	72 ± 20,6
Role functioning due to emotional state	50,5 ± 42,6
Mental health	49,5 ± 6,1
General physical well-being	42,3 ± 9,1
General mental well-being	41,6 ± 4,5

In a more detailed analysis, it can be noted that 59.4 ± 22.8 points on the scale of physical functioning (Physical Functioning - PF). This scale measures the extent to which the physical condition limits the performance of physical activities (self-service, walking, climbing stairs, carrying heavy loads, etc.). Indicators slightly above average indicate that the patient's physical activity is quite significantly limited by the state of his health.

Similar data are given by the scale aimed at assessing the influence of the patient's physical condition on the daily role activity: work, performance of daily duties (role functioning due to physical condition). The mean score on this scale was 50 ± 41.9, indicating that daily activities are significantly limited by the patient's physical condition.

We can say that the intensity of pain does not particularly limit the activity of the patient: 61 ± 22.1 points.

General Health (GH) - 51.3 ± 10 patients' assessment of their current state of health and prospects for treatment. The lower the score on this scale, the lower the health score.

Vitality (VT) - 55.9 ± 9.2 implies a feeling of full strength and energy or, on the contrary, exhausted. Low scores indicate the patient's fatigue, a decrease in vital activity.

Social functioning (Social Functioning - SF) - 72 ± 20.6, is determined by the degree to which the physical or emotional state limits social activity (communication). Low scores indicate a significant limitation of social contacts, a decrease in the level of communication due to the deterioration of the physical and emotional state.

Role functioning due to the emotional state (Role Emotional - RE) - 50.5 ± 42.6 involves an assessment of the degree to which the emotional state interferes with the performance of work or other daily activities (including spending more time, reducing the volume of work, reducing its quality, etc.). P.). Low scores on this scale are interpreted as a limitation in the performance of daily work due to a deterioration in the emotional state.

Mental health (MH) - 49.5 ± 6.1, characterizes the mood, the presence of depression, anxiety, a general indicator of positive emotions. Low rates indicate the presence of depressive, anxious experiences, mental ill-being.

Discussion

From a medical point of view, the term "quality of life" is closely related to human health. Factors related to the state of health, both directly and indirectly, are taken into account. Improving the quality of life is the main, and in the case of incurable diseases, the only goal of treatment. [9, 10]. In this regard, the assessment of QoL in patients with chronic diseases, including stable coronary artery disease, plays a huge role in determining the effectiveness of the treatment.

In the current literature, the SAQ is a psychometrically validated case-finding tool designed to assess the functional status of patients with coronary artery disease. It consists of 19 questions covering 5 significant domains: presentation, angina stability, angina frequency, satisfaction with treatment, and perceived illness/quality of life.

In patients with coronary artery disease who underwent CABG, regardless of the presence of a coronavirus infection in history, there is a significant limitation of physical activity, and, accordingly, a decrease in indicators of attitude towards the disease. At the same time, satisfaction with treatment is more than 80%, and a decrease in the frequency and severity of angina attacks in 90% of cases. There were no significant differences between the groups on any scale.

The Short Form Medical Outcomes Study (SF-36), one of the most widely used general questionnaires for assessing quality of life, and according to MedLine 2006, SF-36 is currently used in 95% of research studies on quality of life in various diseases. 36 items of the questionnaire form 8 scales, which, in turn, make it possible to evaluate 2 indicators: the physical and psychological components of health [11].

The data obtained by us, with its use, echoes the results obtained using SAQ. In particular, a significant limitation of physical activity is registered: 52.26 ± 12.82 points on SAQ and 59.4 ± 22.8 on SF-36. The general psychological component of health also leaves much to be desired (mean score 41.6 ± 4.5).

Conclusion:

Summing up, we can say that the transferred coronavirus infection, in combination with the transferred surgical intervention, allows us to assess the general physical well-being of patients at 42.3 ± 9.1 points out of 100, and the general mental well-being at 41.6 ± 4.5 points out of 100 Probably, in this case, the joint work of psychologists and rehabilitation specialists is required to improve the quality of life in this category of patients.

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