

**STUDY THE INFLUENCE OF CARDIOVASCULAR SYSTEM  
PATHOLOGY TO THE QUALITY OF LIFE**

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**ABSTRACT**

**Goal.** To study the features of the psychoemotional state of middle-aged patients with acute coronary syndrome (ACS) without ST segment elevation in the period of 6 months after hospitalization.

**Material and methods.** 101 patients with ACS without ST segment elevation with non-obstructive coronary lesion were included. The groups were formed by gender: group 1 — 51 women, group 2 — 50 men. The average age of women is  $50.5 \pm 4.7$  years, men  $46.7 \pm 6.8$  years. Patients were distributed depending on the outcome of ACS without ST segment elevation: subgroup A — patients with unstable angina (NS), subgroup B — with myocardial infarction. The patients were interviewed by phone six months after discharge from the hospital. The questionnaire included the main indicators of health, emotional balance, physical activity, quality of life.

**Results.** There are gender differences in the components of quality of life between men and women. In the survey on well-being, 6% in the group of women replied that they were dissatisfied with their condition, in the group of men 2%; 27% of women and 38% of men feel satisfactory, 47% and 46% feel good, 20% and 14% are excellent, respectively, 45% have maintained their physical activity at work. group 1 and 32% in group 2, while 47% of women and 42% of men lead an active lifestyle. Men were more likely to feel hopeless (43% and 12%;  $p < 0.01$ ), while women indicated irritability and insomnia more (35% and 28%,  $p > 0.05$ ) and were dissatisfied with their state of mind (31% and 6%;  $p < 0.05$ ). In both groups, patients experienced a lack of meaning to live, women — slightly

more (7% and 4%;  $p > 0.05$ ), in turn, men noted a loss of interest in familiar things (13% and 22%;  $p > 0.05$ ). Differences in the type of ACS were also shown.

**Conclusion.** Despite the individuality of the concepts of quality of life, experiences, coping with the disease, it is possible to distinguish features by gender, as well as depending on the course of ACS without ST elevation. Such features can become part of patient-centered work with patients after a coronary event.

**Keywords:** myocardial infarction, gender characteristics, coronary heart disease in women, quality of life, psychoemotional status, risk factors

## **INTRODUCTION**

Quality of life (QOL) is a category that characterizes the essential circumstances of the life of the population that determine the degree of dignity and freedom of each person's personality, the comfort of a person both within himself and within society. QOL is considered both as a general sociological, as a socio-economic, and as a purely economic concept. Assessment of quality of life indicators, such as physical, psychological, emotional and social well-being in patients with combined cardiovascular pathology is of great scientific and practical importance. The possibility of correcting these disorders in the process of complex pharmacotherapy of patients with combined cardiovascular pathology is an urgent task of modern cardiology. The quality of life, according to WHO definition, is a characteristic of physical, psychological, emotional and social functioning based on its subjective perception. QOL indicators, as well as the characteristics of the disease picture, vary over time depending on the patient's condition, which allows monitoring of the treatment being carried out, and, if necessary, to carry out its correction. WHO experts define QOL as "a way of life as a result of the combined impact of factors affecting health, happiness, including individual well-being in the environment, satisfactory work, education, social success, as well as freedom, the possibility of free action, justice and the absence of any oppression." QOL is, first of all, an assessment by a person of the degree of satisfaction with various aspects of his life, subjective feelings of an individual formed on the basis of specific living conditions, health, emotional state, etc.

In recent decades, there has been a significant increase in research in the field of QOL, and this is not surprising, since with the help of them it becomes possible to assess the complex impact of the disease on the patient's life, compare the effectiveness of various interventions, and predict the course of the disease.

The psycho-emotional state, a key component of the quality of life, is purely individual and can hardly be fully measured in any generalizing ways. Understanding of the patient's experiences after acute coronary syndrome (ACS), the specifics of his problems, doubts, worries about his condition are revealed by the doctor during a conversation, during a medical interview. Further work requires skills on the part of the doctor to approach individually the problems of his patient. Individual work is important, but it can be done only through understanding the general psychological processes occurring with the patient. To do this, there are a number of standard methods that allow us to assess the main aspects of the quality of life, including its psycho-emotional components, and draw conclusions. The problem of quality of life in the field of cardiology is studied intensively. The most studied area is myocardial infarction (MI). For example, Wacheder, et al. (2016) considered the quality of life after MI associated with an episode of circulatory arrest and resuscitation. Anchah, et al. (2017) considered the problem of the first phase of cardiorehabilitation — its impact

on the further quality of life of patients. Zhang, et al. (2017) studied the phenomenon of “burnout” in patients involved in physical rehabilitation after ACS. However, sexual and gender issues are less often considered in the literature. Aspects of the quality of life after ACS, in particular, regarding the nature of the lesion of the coronary bed. The specificity and severity of the lesion certainly have an impact on the clinical course of the disease. Earlier, we considered the problem of incomplete revascularization in patients with coronary heart disease. In this study, the aim was to study the sexual characteristics of some components of the quality of life of patients after ACS without ST segment elevation in the medium term (6 months) after hospitalization.

### MATERIALS AND METHODS

The study included 101 patients with ACS without ST segment elevation with non-obstructive coronary lesion. The groups were formed by gender: group 1 — 51 women, group 2 — 50 men. The average age was  $50.5 \pm 4.7$  years for women (from 33 to 55 years),  $46.7 \pm 6.8$  years for men (from 29 to 55 years). Further, patients were distributed depending on the outcome of ACS without ST segment elevation: subgroup A included patients with unstable angina (NS), subgroup B — with myocardial infarction. The patients were interviewed by phone six months after discharge from the hospital. Questionnaire quality of life included the main indicators of health, emotional balance, physical activity, quality of life. The questionnaire was compiled on the basis of methodological recommendations for ensuring physical activity of citizens with health restrictions (edited by S.A. Boytsov), based on the SF-36 quality of life questionnaire and the hospital anxiety and depression scale HADS (Zigmond-Snaith). The questionnaire was approved by the Ethics Committee of the RNIMU named after N.I. Pirogov. Statistical processing of the received data It was carried out using the StatSoft Statistica v.6.0 software package. The determination of the statistical significance of intergroup differences was carried out according to the Mann-Whitney criteria ( $p < 0.05$  at  $U \leq 1032$ ;  $p < 0.01$  at  $U \leq 932$ ) and Fischer ( $p < 0.05$  at  $\phi \geq 1.64$ ;  $p < 0.01$  at  $\phi \geq 2.28$ ).

### RESULTS

Assessment of the quality of life in patients of group 1 and group 2. When asked about the well-being, 6% in the women's group said they were dissatisfied with their condition, in the men's group 2%; they feel satisfactory — 27% vs. 38%, well - 47% against 46%, excellent — 20% vs. 14%, respectively. At the same time, 69% in group 1 and 52% in group 2 ( $\phi = 1.87$ ;  $p < 0.05$ ) noted an improvement in their condition against the background of receiving therapy for six months. They retained their physical activity at work 45% in group 1 and 32% in group 2, while 47% of patients in the women's group and 42% in the men's group lead an active lifestyle. It was found that physical activity in the last six months decreased in group 1 in 11 patients, in group 2 in 17 patients, which was 22% against 34% ( $\phi = 0.89$ ). Nevertheless, 14% of women and

12% of men noted more intense physical activity in the last 6 months ( $\varphi=0.85$ ).

Men were more likely to feel hopeless (43% and 12%;  $p<0.01$ ), while women indicated more irritability and insomnia (35% and 28%,  $p>0.05$ , respectively) and were dissatisfied with their state of mind (31% and 6%;  $p<0.05$ ). In group 1 — 11% experienced a feeling of anxiety, in group 2 — 16%. Physical pain was felt by 28% of women and 16% of men. In relation to the course of life, men were less likely to think about the lack of meaning to live compared to women (4% and 7%, respectively).

Characteristics of the quality of life in female patients depending on the form of ACS without ST segment elevation. When assessing the quality of life in female patients, depending on the outcome of ACS without ST segment elevation, it was shown that 5% in group 1A and 7% in group 1B felt bad at the time of the survey, satisfactory — 30% vs. 21%, good — 41% vs. 64%, excellent - 24% vs. 7%. 52% of the group had high activity at work NS and 28% in the MI group without ST segment elevation. Increased physical activity in their free time by 54% in Group 1A and 28% in Group 1B, while both 22% and 29%, on the contrary, believe that the disease contributed to a decrease in activity.

In the MI group without ST segment elevation, 71% of patients and 67% in the NS group are satisfied with their well-being compared to the moment of initial hospitalization, however, 29% vs. 36% are not satisfied with their mental state, of which 27% and 28% experienced physical pain. They felt fatigue, lack of energy and fatigue in each group in equal values — 65%, unreasonable anxiety and excessive irritability were in 25% in the NS group and 28% in the MI group without ST segment elevation. 8% felt guilty towards themselves and their loved ones against 11%, respectively. Loss interest in life was noted by 10% of patients after MI, while among patients with NS — 3% ( $\varphi=1.67$ ;  $p<0.05$ ).

Characteristics of the quality of life in male patients, depending on the form of ACS without ST segment elevation. When assessing the quality of life in male patients, depending on the outcome of ACS without ST segment elevation, it was shown that poor health at the time of the survey was only in group 2A — 3%; 39% of the group felt satisfactory 2A and 33% in group 2B at  $p>0.05$ , good — 39% and 67% ( $\varphi=1.67$ ;  $p<0.05$ ), the answer “excellent” was given only by patients of group 2A — 19% ( $\varphi=2.68$ ;  $p<0.01$ ). Intense physical activity at work was observed in the MI group without ST segment elevation (33% and 31%), however, the activity in free time did not differ between the groups. The positive dynamics of activity against the background of therapy was noted by 50% in group 2A and 59% in group 2B.

They were concerned about their state of mind 5% of patients with unstable angina and 8% with MI without ST segment elevation, but 29% in the group 2A and more than half in group 2B (85%) were “in harmony with their inner world” ( $\varphi=3.07$ ;  $p<0.01$ ).

The MI group without ST segment elevation was more likely to feel hopeless — 17% vs. 9%, while the feeling of constant anxiety was more likely to bother patients with unstable angina: 18% vs. 11%. Problems with insomnia and a feeling of lack of energy during the day were less common in group 2B (5% vs. 12%), however, they had deeper problems leading to reflections on the lack of meaning to live — 4% ( $\varphi=1.74$ ;  $p<0.05$ ).

Assessment of the quality of life in patients with unstable angina. Comparing two groups with unstable angina, differing by gender, it became known that 5% in the group of women and 3% in the group of men felt bad, 30% and 39% were satisfied with their state of health, 41% and 39%

felt well, 24% and 19% were excellent. Almost half of the patients in both groups had low physical activity — 40% in group 1A and 58% in group 2A, but an active lifestyle in their free time became the choice of 55% and 31%, including, there were patients who changed their lifestyle due to the disease: 35% and 43%.

65% of women and 50% of men noted a tendency to improve their well-being while taking medication. Nevertheless, there were those who were dissatisfied with their mental and physical condition 29% and 5% ( $\varphi=2.46$ ;  $p<0.01$ ). Women were more likely to be irritated — 31% and 14%, but the loss of interest in familiar things was higher in men — 22% and 13%. Assessment of quality of life in patients with MI without ST segment elevation. During the evaluation of the results for MI without ST segment elevation, it became known that only 7% of patients in group 1B noted poor health, 33% vs. 21% were satisfactory, 67% vs. 64% were good, and 8% of patients in the women's group were completely satisfied with their well-being. In the group of men, half of the patients were exposed to low physical activity by 50% versus 57%, but an active lifestyle in their free time was chosen by 33% in the group of men and 28% in the group of women. At the same time, from the point of view of physical activity, the disease had a lesser effect on women — 14% versus 17%. 78% in the group of women and 59% in the group of men noted an improvement in well-being during therapy, while 28% of women ( $p<0.01$ ) periodically experienced pain, while they were not satisfied with their mental state 36% against 8% ( $\varphi=2,45$ ;  $p<0,01$ ).

## **DISCUSSION**

The experiences that enter into the psychoemotional state of patients usually remain unknown to doctors. We conducted an analysis devoted to the first six months from the initial hospitalization — this period is difficult for middle-aged patients from a psychological and social point of view. The revealed features of the experiences do not coincide much with the usual image — the gender stereotype. A priori, a woman is seen as an emotionally labile person who does not hide her inner feelings, but in the course of the work it is shown that men are no less likely to experience women a feeling of hopelessness that leads them to mental imbalance. This is due to the responsibility



for your family and the fear of physical disability. At the same time, men, less than women, succumbed to thoughts about the lack of meaning to live. In turn, women were willing to change their lifestyle to combat the risk factors leading to the disease, but internal problems such as guilt in front of their loved ones led women to insomnia and anxiety. When evaluating data in the form of ACS without lifting ST segment, unstable angina, a more “favorable” condition, does not always proceed emotionally calmly. It is shown that to a greater

extent unstable angina leads to a feeling of constant anxiety, excessive irritability and loss of interest in familiar things. At the same time, the idea of the lack of meaning to live arises in patients with MI without ST segment elevation. Given the fact that diseases of the cardiovascular system are rapidly “getting younger”, more and more patients of working age suffer ACS. Their task is to return as soon as possible to his usual way of life, however, the internal struggle with his illness does not make it possible to improve the quality of life. Although the sample of our study is limited, the results indicate that the psycho-emotional side is no less important than the selection of the right drug therapy and the provision of highly qualified care. It is what happens to the patient with in the framework of understanding his disease and his emotional experience that can contribute to sufficient adherence to therapy and constructive work with the doctor against the disease. The obtained results confirmed that the problem of psychoemotional status needs deeper study and further analysis, which will allow us to develop a specific approach to an individualized method of psychological care for middle-aged patients after a cardiovascular event.

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