American Journal of Biomedicine and Pharmacy
https://biojournals.us/index.php/AJBP
ISSN: 2997-7177

Psychosocial Variables in Coronary Heart Disease

Raupov Abdurahmon Ortiq o'g'li
Bukhara State Medical Institute named after Abu Ali ibn Sina, Uzbekistan, Bukhara, st. A. Navoi
raupov.abdurahmon@bsmi.uz

Received: 2024, 15, Aug
Accepted: 2025, 21, Sep
Published: 2025, 09, Oct

Annotation: The study of the connection between psychosocial variables and the progression of coronary heart disease (CHD) is the focus of this article. Patients with coronary artery disease are examined for social isolation, anxiety, and depression. the necessity of determining the psychological aspects that patients with coronary artery disease have in order to address them and enhance their quality of life and prognosis.

Keywords: coronary heart disease, depression, psychosocial factors, anxiety.

Despite significant advances in diagnostics and treatment, coronary heart disease (CHD) remains the main cause of death and disability, which determines the relevance of studying this pathology [1]. Risk factors such as smoking, arterial hypertension (AH), dyslipidemia, etc. are of great importance in the etiology of CHD [2–4]. At the same time, in recent years, more and more attention has been paid to psychological factors, such as anxiety, social isolation and the level of social support, depression, which affect not only the course of coronary heart disease, but also the behavioral characteristics of patients with this pathology, as well as the quality of life of this category of patients [5, 6]. The increase in psychosocial stress in the population is accompanied by an increase in the level of emotional tension. The prevalence of anxiety disorders in the population, according to various authors, ranges from 3 to 30%. Anxiety increases after mental trauma, acute and chronic somatic diseases, and neuropsychiatric diseases. Thus, the severity of anxiety and the level of anxiety, reflecting the degree of an individual's ill-being, can be a kind of marker of chronic psychological stress [7].

It has been shown that anxiety and depressive disorders are independent risk factors for hypertension and coronary heart disease [8]. According to epidemiological studies, almost every fifth patient with coronary heart disease suffers from depression [9, 10]. It should be taken into account that only 30% of patients inform their doctor about their psychological problems that lead them to depression; most patients complain of physical discomfort (hidden, alexithymic depression) [11, 12]. In addition to the direct negative impact of depression on the course and prognosis of coronary heart disease, there is also an inverse relationship between coronary heart

disease and affective disorders of the depressive circle - the development and progression of "vascular" depression in patients with "active atherosclerosis" [13]. The role of anxiety-depressive disorder as a predictor of cardiovascular catastrophe has been shown, which is more pronounced in patients with arrhythmia, as well as in elderly patients with coronary heart disease. Thus, with diagnosed depression in a 70-year-old man, the probability of a cardiovascular catastrophe is 2 times higher than in a man of the same age without depression [14].

In addition, it should be noted that the combination of coronary heart disease and depression increases the economic burden on the healthcare system. Since depression in cardiac patients is often not diagnosed, the patient is treated for coronary heart disease, and depression remains in the shadows. As a result, patients continue to be bothered by non-specific symptoms, they visit doctors more often, call an ambulance more often, and are hospitalized more often [15, 16].

It is important to take into account the patient's psychological reaction to the disease. The very awareness of the fact that he has developed a disease causes the patient to feel anxious, fear for his health, and irritability. This condition is aggravated by the need to stay in the hospital, difficulty concentrating, and uncertainty about the future. At the same time, pain in the heart area with coronary heart disease often causes neurosis-like symptoms and anxiety-depressive syndromes [17]. When planning psychological correction for patients with coronary heart disease, various factors should be taken into account, including: gender characteristics, age, concomitant pathology, social environment, level of anxiety, depression, and cognitive sphere characteristics. Thus, it has been shown that women have a higher level of anxiety, which requires appropriate therapeutic approaches [18].

Research on the impact of low social support on the course of coronary heart disease remains relevant. Thus, in a meta-analysis by N.K. Valtorta et al. (2015), an assessment was made of the association of social isolation with the incidence of coronary heart disease and stroke. Data were analyzed in 16 electronic databases, including MEDLINE, EMBASE, CINAHL Plus, PsycINFO, ASSIA, Web of Science, Cochrane Library, HMIC, ETHOS, NDLTD, etc., included in the analysis of longitudinal studies [19]. It was shown that the prevalence of loneliness or social isolation varied from 2.8 to 77.2%. Among the 35,925 respondents included in the analysis, 4,628 cases of coronary heart disease and 3,002 strokes were recorded. The results of the study record an increase in the risk of coronary heart disease by 29% and stroke by 32% in socially isolated individuals who report a deep sense of loneliness and confirm that a lack of social relationships is associated with an increased risk of developing coronary heart disease and stroke [19].

In another multicenter study, R.B. Case et al. (1992) examined whether divorce or living alone were independent predictors of the risk of a subsequent major cardiac event after myocardial infarction (MI) in acute care and academic hospitals in the United States and Canada [20]. Patients aged 25 to 75 years and without other serious diseases were prospectively enrolled within 3–15 days after acute MI and were followed for 1–4 years (mean 2.1 years), 967 patients were followed for 1.1 years, and 530 patients were followed for 2.2 years. It was shown that the recurrence rate of cardiac events after 6 months was 15.8% in the unmarried group of patients versus 8.8% in the married group. Living alone has been found to be an independent risk factor [20]. The coping strategies that people use to cope with stress, adapt to difficult situations, and manage chronic illnesses and symptoms are defined as coping strategies and coping behavior. In turn, coping strategies are classified into adaptive (constructive strategies of cooperation), acceptance of social support, and maladaptive (strategies of avoiding the problem) [21].

In the study by H. Roohafza et al. (2012) the relationship between adaptive and maladaptive coping strategies of survival and the progression of chronic stable angina was assessed. The average age of 224 respondents was 55.0±10.4 years, of which 69.6% were men; 78 patients were hospitalized with acute coronary syndrome, and 146 with chronic stable angina and

participated as a control group. After adjustment for age, gender and traditional risk factors for coronary heart disease, the frequency of recurrent cardiac events was 5 times higher in the group living without social support compared to the group living using adaptive coping strategies. It is concluded that adaptive "coping strategies" and a high level of social support can contribute to the prevention of acute coronary events in patients suffering from chronic coronary heart disease [22].

Another example of the positive impact of an adaptive coping strategy is the study by M. Ziarko et al. (2015), in which the study group included patients with coronary heart disease, type 1 diabetes mellitus, and rheumatoid arthritis. 159 patients came from urban areas, 176 from rural areas. All patients filled out questionnaires on life satisfaction, depression severity, coping strategies, self-efficacy, social support, and a sense of coherence [23]. Analysis of the results showed that patients from rural areas were characterized by a lower level of depression. Predictors of life satisfaction included the following groups of indicators: self-efficacy, social support, and two coping strategies in the form of turning to religion and self-sufficiency in a household plot. It was found that rural and urban differences in the use of coping strategies may be associated with differences in the environment and lifestyle. Patients with coronary heart disease, type 1 diabetes and rheumatoid arthritis in urban areas have been found to have a higher risk of developing depression [23]

Emotional support and survival after myocardial infarction in the elderly was studied in another prospective population-based study by L.F. Berkman et al. (1992). In two hospitals in New Haven County, Connecticut, USA, the survival of elderly patients hospitalized for acute MI who had emotional support was compared with the survival of patients who did not have such support, while controlling for disease severity, functional status, and comorbidity [24]. The study included 100 men and 94 women aged 65 years and older, hospitalized for acute MI, and were followed for 6 years. Of the 194 patients, 76 (39%) died in the first 6 months after MI. In multiple logistic regression analysis, the absence of emotional support was significantly associated with mortality at 6 months after controlling for MI severity, comorbidities, risk factors such as smoking and hypertension, and sociodemographic factors. When emotional support was assessed before the onset of MI, it was independently associated with the risk of death at 6 months [24].

Thus, some psychosocial factors, such as low socioeconomic status, insufficient social support, stress at work and in the family, anxiety and depression, are independent risk factors for the development of cardiovascular diseases, such as coronary heart disease, and worsen the prognosis of these patients. In the absence of these factors, the risk of development decreases, and the prognosis improves [25].

The influence of psychosocial factors on the course of coronary heart disease can be divided into two main ways. On the one hand, they significantly worsen patients' adherence to treatment, hinder efforts to improve lifestyle, reduce the quality of life of patients, increase the risk of disability and health care costs [26]. On the other hand, possible pathophysiological mechanisms by which the influence of psychoemotional factors on the course of coronary heart disease may be realized may include increased sympathetic activity (or decreased parasympathetic activity) of the autonomic nervous system, decreased heart rate variability, activation of the hypothalamic-pituitary-adrenal system, endothelial dysfunction, increased blood clotting, stress-induced myocardial ischemia, increased levels of inflammation bimarkers, etc. [26].

However, psychosocial factors may also be closely associated with each other. For example, individuals with low socioeconomic status are more likely to have low social support, hostility, and depressive symptoms. According to the INTERHEART study [27], a cluster of psychosocial risk factors (low social support, depression, and stress at work and in the family) increases the risk of developing MI (relative risk 3.5 in women and 2.5 in men).

REFERENCES

1. Patel H, Mazur W, Williams KA Sr, Kalra DK. Myocardial viabilityState of the art: Is it still relevant and how to best assess it with imaging? Trends Cardiovasc Med. 2018 Jan;28(1):24-37. doi: 10.1016/ j.tcm.2017.07.001
2. Liang C, Yawei X, Qinwan W, Jingying Z, Aihong M, Yanqing C. Association of AdipoQ single-nucleotide polymorphisms and smoking interaction with the risk of coronary heart disease in Chinese Han population. Clin Exp Hypertens. 2017;39(8):748-53. doi: 10.1080/ 10641963.2017.1324479
3. Порсуков Э.А. Морфологические особенности алкогольного поражения сердца. Астраханский медицинский журнал. 2013;4(8):195-8 [Porsukov EA. The morphological features of the alcoholic lesion of heart. Astrahanskij Medicinskij Zhurnal. 2013;4(8):195-8 (In Russ.)].
4. Otaki Y, Gransar H, Berman DS, Cheng VY, Dey D, Lin FY, Achenbach S, Al-Mallah M, Budoff MJ, Cademartiri F, Callister TQ, Chang HJ, Chinnaiyan K, Chow BJ, Delago A, Hadamitzky M, Hausleiter J, Kaufmann P, Maffei E, Raff G, Shaw LJ, Villines TC, Dunning A, Min JK. Impact of family history of coronary artery disease in young individuals. Am J Cardiol. 2013 Apr 15;111(8):1081-6. doi: 10.1016/j.amjcard.2012.12.042
5. Nurbaev, F. E. (2022). Raupov AO Sharipova NK Dzhumaev H. Liver lesions in GOVID-19: etiology, clinic, prognosis, treatment and prevention. Bukhara scientific-abstract, spiritual and educational journal, 11, 49.
6. Berkman LF, Blumenthal J, Burg M, Carney RM, Catellier D, Cowan MJ, Czajkowski SM, DeBusk R, Hosking J, Jaffe A, Kaufmann PG, Mitchell P, Norman J, Powell LH, Raczynski JM, Schneiderman N. Effects of treating depression and low perceived social support on clinical events after myocardial infarction: the Enhancing Recovery in Coronary Heart Disease Patients (ENRICHD) Randomized Trial. JAMA. 2003 Jun 18;289(23):3106-16. doi: 10.1001/jama.289.23.3106
7. Ибатов А.Д. Влияние тревожных расстройств на течение ишемической болезни сердца. Русский медицинский журнал. 2007;(20):1443- 8 [Ibatov AD. Effect of anxiety disorders on the course of coronary heart disease. Russkij Medicinskij Zhurnal. 2007;(20):1443-8 (In Russ.)].
8. Ибатов А.Д., Сыркин А.Л., Вейн А. М. Тревога и ишемическая болезнь сердца. Врач. 2003;(1):8-11 [Ibatov AD, Syrkin AL, Wayne AM. Anxiety and coronary heart disease. Vrach. 2003;(1):8-11 (In Russ.)].
9. Акарачкова Е.С., Котова О.В., Рябоконь И.В. Депрессия и инсомния у пациентов с ишемической болезью сердца. Медицинский совет. 2014;(11):50-4 [Akarachkova ES, Kotova OV, Ryabokon IV. Depression and insomnia in patients with coronary heart disease. Medicinskij Sovet. 2014;(11):50-4 (In Russ.)].
10. Ortiq o'gli, R. A. (2024). THE DEGREE OF ETIOLOGY, SPECIFICITY, AND CLINICAL COURSE PATHOGENESIS OF CHRONIC LIVER ILLNESSES, SPECIFICALLY CHRONIC HEPATITIS. *EUROPEAN JOURNAL OF MODERN MEDICINE AND PRACTICE*, *4*(4), 282-285.
11. Spurgeon L, James G, Sackley C. The Hospital Anxiety and Depression Scale: a pilot study to examine its latent structure and the link between psychological state and symptom severity in transient ischaemic attack patients. Psychol Health Med. 2016 Jul;21(5):632-8. doi: 10.1080/13548506.2015.1074711
12. Arat S, de Cock D, Moons P, Vandenberghe J, Westhovens R. Modifiable correlates of illness perceptions in adults with chronic somatic conditions: A systematic review. Res Nurs

Health. 2018 Apr;41(2):173-84. doi: 10.1002/nur.21852 разования. – 2019. – №. 10 (51). – С. 37-40.

13. Лебедев А.В., Васюк Ю.А. Депрессия, тревога и инфаркт миокарда: все только начинается. Часть 2. Рациональная фармакотерапия в кардиологии. 2007;4(11):39-45 [Lebedev AV, Vasyuk YuA. Depression, anxiety and myocardial infarction: everything is just beginning. Part 2. Racional'naya Farmakoterapiya v Kardiologii. 2007;4(11):39- 45 (In Russ.)].
14. Ortiq o'gli, R. A. (2024). THE NATURE OF LIVER INJURY IN COVID-19, AS WELL AS THE CLINICAL COURSE'S SPECIFICITY. *SCIENTIFIC JOURNAL OF APPLIED AND MEDICAL SCIENCES*, *3*(4), 489-493.
15. Погосова Н.В., Байчоров И.Х., Юферева Ю.М., Колтунов И.Е. Качество жизни больных с сердечно-сосудистыми заболеваниями: современное состояние проблемы. Кардиология. 2010;(4):66-78 [Pogosova NV, Baichorov IH, Yufereva YuM, Koltunov IE. Quality of life of patients with cardiovascular diseases: the current state of the problem. Kardiologiya. 2010;(4):66-78 (In Russ.)].
16. Palacios J, Khondoker M, Mann A, Tylee A, Hotopf M. Depression and anxiety symptom trajectories in coronary heart disease: Associations with measures of disability and impact on 3-year health care costs. J Psychosom Res. 2018 Jan;104:1-8. doi: 10.1016/j.jpsychores.2017.10.015
17. Ortiq o'g'li, R. A. (2024). ACUTE AND CHRONIC GASTRITIS: ETIOLOGY, PATHOGENESIS, MODERN METHODS OF DIAGNOSIS, TREATMENT. *SCIENTIFIC JOURNAL OF APPLIED AND MEDICAL SCIENCES*, *3*(5), 346-348.
18. Ghannem M, Ghannem L, Lamouchi S, Justin KD, Meimoun P, Ghannem L. Cardiac rehabilitation in women. Ann Cardiol Angeiol (Paris). 2016 Dec;65(6):462-7. doi: 10.1016/j.ancard.2016.10.002
19. Valtorta NK, Kanaan M, Gilbody S, Ronzi S, Hanratt B. Loneliness and social isolation as risk factors for coronary heart disease and stroke: systematic review and meta-analysis of longitudinal observational studies. Heart. 2016 Jul 1;102(13):1009-16. doi: 10.1136/heartjnl-2015-308790
20. Case RB, Moss AJ, Case N, Mc Dermott M, Eberly S. Living alone after myocardial infarction. Impact on prognosis. JAMA. 1992 Jan 22- 29;267(4):515-9.
21. Lazarus RS. A Strategy for Research on Psychological and Social Factors in Hypertension. J Human Stress. 1978;4(3):35-40. doi: 10.1080/0097840X.1978.9934994
22. Ortiq o'g'li, R. A. (2024). ACUTE PANCREATITIS: PATHOGENESIS, CLINIC, DIAGNOSIS, TREATMENT, COMPLICATINS. *Research Journal of Trauma and Disability Studies*, *3*(5), 318-325.
23. Ziarko M, Mojs E, Kaczmarek ŁD, Warchol-Biedermann K, Malak R, Lisinski P, Samborski W. Do urban and rural residents living in Poland differ in their ways of coping with chronic diseases? Eur Rev Med Pharmacol Sci. 2015 Nov;19(22):4227-34.
24. Berkman LF, Leo-Summers L, Horwitz RI. Emotional support and survival after myocardial infarction. A prospective, population-based study of the elderly. Ann Intern Med. 1992 Dec 15;117(12):1003-9.
25. Piepoli MF, Hoes AW, Agewall S, Albus C, Brotons C, Catapano AL, Cooney MT, Corrà U, Cosyns B, Deaton C, Graham I, Hall MS, Hobbs FDR, Løchen ML, Löllgen H, Marques-Vidal P, Perk J, Prescott E, Redon J,Richter DJ, Sattar N, Smulders Y, Tiberi M,van der Worp HB, Verschuren WMM, Binno S. 2016 European Guidelines on cardiovascular disease prevention in clinical practice. The Sixth Joint Task Force of the European Society

of Cardiology and Other Societies on Cardiovascular Disease Prevention in Clinical Practice (constituted by representatives of 10 societies and by invited experts) Developed with the special contribution of the European Association for Cardiovascular Prevention & Rehabilitation (EACPR). Eur Heart J. 2016 Aug 1;37(29):2315-81. doi: 10.1093/eurheartj/ehw106

26. Кардиоваскулярная профилактика 2017. Российские национальные рекомендации. Российский кардиологический журнал. 2018;(6):7- 122 [Cardiovascular prevention 2017. National guidelines. Russian Journal of Cardiology. 2018;(6):7-122 (In Russ.)]. doi: 10.15829/1560- 4071-2018-6-7-122
27. Yusuf S, Hawken S, Ounpuu S, Dans T, Avezum A, Lanas F, McQueen M, Budaj A, Pais P, Varigos J, Lisheng L; INTERHEART Study Investigators. Effect of potentially modifiable risk factors associated with myocardial infarction in 52 countries (the INTERHEART study): case-control study. Lancet. 2004 Sep 11-17;364(9438):937-52. doi: 10.1016/S0140-6736(04)17018-9
28. Whalley B, Thompson DR, Taylor RS. Psychological interventions for coronary heart disease: cochrane systematic review and meta-analysis. Int J Behav Med. 2014 Feb;21(1):109-21. doi: 10.1007/s12529-012- 9282-x
29. Rutledge T, Redwine LS, Linke SE, Mills PJ. A meta-analysis of mental health treatments and cardiac rehabilitation for improving clinical outcomes and depression among patients with coronary heart disease. Psychosom Med. 2013;75:335-49. doi: 10.1097/PSY.0b013e318291d798
30. Huffman JC, Mastromauro CA, Beach SR, Celano CM, DuBois CM, Healy BC, Suarez L, Rollman BL, Januzzi JL. Collaborative care for depression and anxiety disorders in patients with recent cardiac events: the Management of Sadness and Anxiety in Cardiology (MOSAIC) randomized clinical trial. JAMA Intern Med. 2014;174:927-35. doi: 10.1001/jamainternmed.2014.739
31. Stewart JC, Perkins AJ, Callahan CM. Effect of collaborative care for depression on risk of cardiovascular events: data from the IMPACT randomized controlled trial. Psychosom Med. 2014;76(1):29-37. doi: 10.1097/PSY.0000000000000022
32. Glozier N, Christensen H, Naismith S, Cockayne N, Donkin L, Neal B, Mackinnon A, Hickie I. Internet-delivered cognitive behavioural therapy for adults with mild to moderate depression and high cardiovascular disease risks: a randomized attention-controlled trial. PLoS One. 2013;8(3):e59139. doi: 10.1371/journal.pone.0059139