



RESEARCH ARTICLE

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MANIFESTATION OF ANXIETY AND DEPRESSIVE DISORDERS IN ELDERLY AND SENILE PATIENTS WITH CHRONIC HEART FAILURE

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ABSTRACT

The article aims to evaluate the severity of anxiety-depressive disorders (ADD) in elderly and middle-aged female patients with chronic heart failure (CHF). **Material and methods:** A study of 139 patients with CHF Functional Class (FC) 2 and 3 was conducted. The average age was 67.1 ± 10.6 years. Depending on the age characteristic, the patients were divided into three groups: the elderly, senile, and middle-aged groups. Assessment of the severity of depression was conducted using the Hamilton Scale for Depression Assessment (HAM-D) and the Minnesota Quality of Life Assessment Questionnaire (MLHFQ) to assess the impact of CHF on the social aspects of patients' lives. **Results:** It was found that the highest prevalence of depression in FC II was in elderly patients. The highest prevalence of depression in FC III was observed in the middle-aged group. The analysis showed that there is a pronounced relationship between the degree of depression and CHF FC, which was determined in the age group of elderly patients. The assessment of the correlation between the severity of ADD and the indicators characterizing the severity of CHF showed that there was a noticeable or strong direct correlation between the indicators in the middle and senile age group, which indicates that ADD is a marker of the severity of CHF in patients of these age groups. **Conclusion:** The presence of ADD affects the physical component of the quality of life, which is proved by reliable results obtained using both the MLHFQ scale and the Clinical status assessment scale (CSAS). At the same time, the influence of the severity of CHF on the mental component was revealed when using HAM-D as a tool for determining ADD.

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INTRODUCTION

The prevalence of anxiety-depressive disorders (ADD) tends to increase with age. So, the probability of having depression rises by 20% every ten years. According to statistics, ADD is detected in patients with the age group of 61-70 years in 54% of cases. At the same time, in a third of patients, they took pronounced character. ADD is observed in 61.7% of patients over 70 years of age (3; 7). The total point prevalence of depression in patients with chronic heart failure (CHF) is about 21% (10). However, the figures presented in the studies range from 9% to 60%.

The overall prevalence of ADD among women is higher than men: 32.7% of women on average (range 11 to 67%) suffer from depression, compared to 26.1% on average (7 to 63%) in men. It was found that the prevalence of depression increases with the functional class of New York Heart Association (NYHA) CHF, with the greatest difference observed between FC NYHA II and III (6,7,8,11). Based on the above, it becomes clear that ADD, due to the high prevalence of CHF in older age groups, can significantly impact the course of the disease. Therefore the study of their severity in this category of patients is relevant.

MATERIALS AND METHODS

The study included 139 patients with CHF that developed due to coronary heart disease (CHD) and arterial hypertension (AH). The average age was 67.1 ± 10.6 years. Depending on the age characteristic, the patients were divided into three groups:

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Elderly group: included 69 older women (60-74 years), 35 of whom suffered from CHF FC II and 34 with CHF FC III. Senile age group: included 38 women of senile age (75-90 years), 19 of whom suffered from CHF FC II and 19 with CHF FC III. Middle-aged group (as a control group): the study included 32 middle-aged women (45-59 years), 20 of whom had CHF FC II and 12 with CHF FC III. Assessment of the severity of depression was conducted using the Hamilton Scale for Depression Assessment (HAM-D) and the Minnesota Quality of Life Assessment Questionnaire (MLHFQ) to assess the impact of CHF on the social aspects of patients' lives. The data obtained in the study were subjected to statistical processing using the Microsoft Office Excel-2012 software package, including the use of built-in statistical processing functions.

RESULTS

The overall prevalence of depression is shown in Figure 1. The graph shows that the highest ADD proportion among patients was observed in the elderly group – 60.8%. In the elderly group, the prevalence of ADD was 55.2%. In the middle-aged group, the prevalence of ADD was 53.4%.

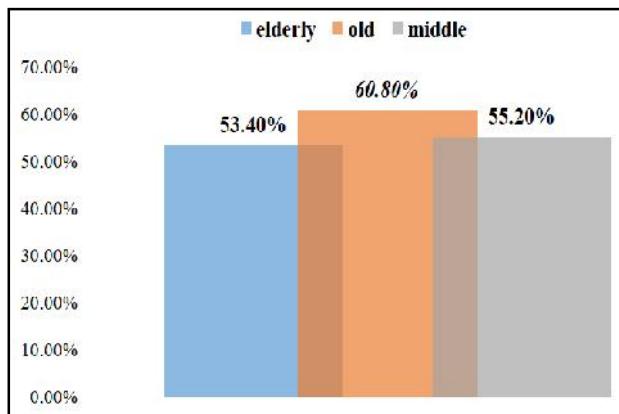


Figure 1. Prevalence of depression in patients with CHF in the study groups

The prevalence of ADD in patients with CHF in the study groups, depending on FC, shown in Figure 2, shows that the highest prevalence of depression in FC II was in elderly patients.

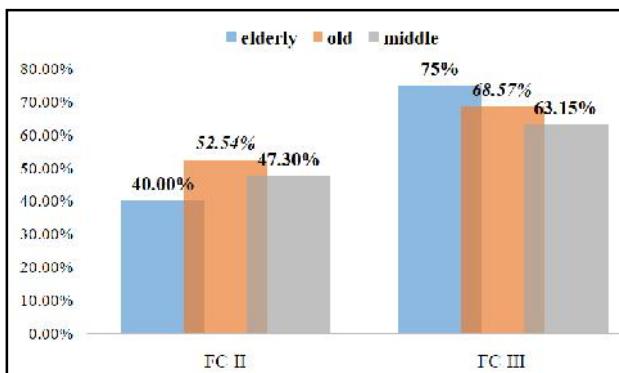


Figure 2. Prevalence of depression in patients with CHF in the study groups, depending on FC

The highest prevalence of depression in FC III was observed in the middle-aged group.

The analysis of the ADD prevalence, depending on their severity, showed that there is a pronounced relationship between the degree of depression and CHF FC, which was determined in the age group of elderly patients, in whom the severity of ADD increased with an increase in FC (Table 1). The results of the HAM-D questionnaire showed that severe depression was observed in a group of elderly and middle-aged patients. Such figures are quite understandable in the middle-aged group because some of the patients in this group were non-disabled, and the development of CHF affected their routine activities, leading to a change in their usual lifestyle (Fig. 3).

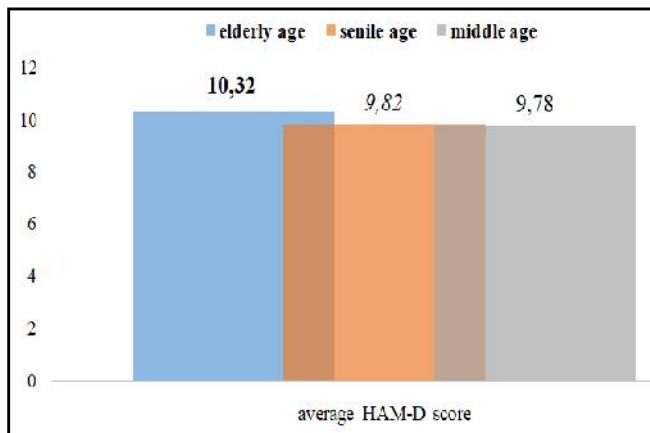


Figure 3. Average HAM-D score in patients with CHF in the study groups

The average score in this group was 9.78 ± 5.23 . In the elderly patients, the average values of HAM-D were also relatively high and corresponded to mild depression, amounting to 10.32 ± 4.55 points. In the group of elderly patients, the average score was 9.82 ± 4.57 points, which corresponds to the borderline state. It is worth noting that in the group of senile age, there was a significant variation in the results of the survey. There were both patients with normal indicators and patients with moderate depressive disorders. The study results showed that with an increase in the FC of CHF, there is a significant increase in the severity of ADD in points, which indicates that both processes have a mutual potentiating effect on each other (Table 2). In patients with CHF of elderly and senile age, a kind of "vicious circle" is formed, in which the restriction of physical activity associated with CHF affects the social health of the patient and causes the development of ADD, which in turn progresses and affects the patient's motivation and adherence to treatment. Evaluation of the correlation between the severity of ADD and the indicators that characterize the severity of CHF (CSAS, Test with a six-minute walk (TSW), Quality of Life (QL), and Ejection fraction (EF)) showed that there was a noticeable or strong direct correlation between the indicators in the middle and senile age group, which indicates that ADD is a marker of the severity of CHF in patients of these age groups. In the elderly group, the correlation was less pronounced (Table 3).

DISCUSSION

Elderly patients are characterized by the presence of heterogeneous depression, in which the biological factors of the development of anxiety-depressive disorders give way to psychosocial factors with age.

Table 1. The prevalence of depression, depending on the severity

degrees	Middle age n=32		Elderly age n=69		Senileage n=38	
	II	III	II	III	II	III
easy	5(25%)	3(25%)	8(23,5%)	9(25,7%)	5(26,3%)	5(26,3)
average	2(10%)	4(33,3%)	9(26,4%)	13(37,1%)	3(15,7%)	6(31,57%)
heavy	1(5%)	2(16,7%)	1(2,9%)	2(5,9%)	1(5,2%)	1(5,3%)

Table 2. The severity of DR in patients in the study groups, depending on the FC of CHF

	Middleage n=32	Elderlyage n=69	Senileage n=38
FC 2	7,7±1,7*	9,53±4,54*	8,79±4,33
FC 3	13,25±1,62	11,09±4,48	10,84±4,64

*- statistically significant concerning the indicators of patients with FC 3 at p<0.05.

Table 3. The results of the evaluation of the correlation analysis between the severity of ADD and the CHF (TSW, QL, EF, CSAS) in patients

Groups	Indicators			
	TSW	QL	CSAS	EF
MiddleageHAM-D	-0,68	0,783	0,52	-0,501
ElderlyageHAM-D	-0,29	0,718	0,416	-0,379
SenileageHAM-D	-0,345	0,731	0,467	-0,321

CHF also plays a significant role in the formation of anxiety-depressive disorders. According to the results of the COMPASS study conducted in the Russian Federation (RF), more than 30 and 60% of patients in the general medical network had depressive spectrum and depressive disorders, respectively. Among older patients with CHF, the prevalence of these disorders was significantly higher (1,2). ADD has a negative effect on the clinical course of CHF in elderly patients. The presence of severe depressive disorders significantly increases the likelihood of repeated hospitalizations and deaths (10,11). In the study of E. G. Poroshina and et al. (4,5), during two years of observation in 209 patients with CHF, depression was found to be a risk factor for death, regardless of the functional class of CHF, left ventricular ejection fraction (LVEF), and peak oxygen consumption.

In recent years, CHF has been the focus of attention of scientists engaged in the study of the problem of depression. Thus, it was found that depression increases the likelihood of developing CHF by 1.5–2.6 times over 4.5–14 years (6,7). The depression presence in patients was associated with a 2-fold increase in the frequency of hospitalization and a 29% increase in total treatment costs. According to Nouamou I. (2016) (9), the frequency of re-hospitalization of patients with a high score on the CES-D depression scale was 31.6% after 3 months, 54.8% after 6 months, and 25% after 12 months. While in patients without signs of depression — 35.7%, 27.8%, and 16.1%, respectively. Until now, the relationship question between the symptoms of depression and a violation of the systolic function of the left ventricle remains insufficiently studied.

CONCLUSION

Thus, the presence of ADD affects the physical component of QL, which is proved by reliable results obtained using both the MLHFQ scale and the CSAS. At the same time, the influence of the severity of CHF on the mental component was revealed when using HAM-D as a tool for determining ADD. FC CHF, according to NYHA, affects the physical side of QL, while the study subjects have a deterioration in their mental state.

It follows that the presence of ADD in elderly and senile patients is one of the leading factors affecting QL and the course of the disease.

Conflict of interests and contribution of authors

The authors declare the absence of apparent and potential conflicts of interest related to this article's publication and report on each author's contribution.

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