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Gender differences in self-reported social functioning of patients with chronic coronary artery disease and affective disorders

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ABSTRACT

Aim. To determine gender differences in self-reported social functioning of patients with comorbidity of affective disorders (ADs) and chronic coronary artery disease.

Materials and methods. Self-reported social functioning of 248 cardiac patients (194 men (78.2%) and 54 women (21.8%)) with chronic coronary artery disease (CAD) and ADs was studied using the Social Adaptation Self-evaluation Scale (SASS). The average age of patients with chronic CAD in men was (57.2 ± 6.5) years, and in women (59.3 ± 7.1) years, $p = 0.04$. Qualitative and quantitative indicators were investigated using the Mann – Whitney test, Wilcoxon test, and T-test; $\chi 2$ (Pearson's goodness-of-fit test) was used to estimate the frequencies.

Results. ADs were represented by chronic mood disorders (45%), first-time depressive episodes (DEs) (24%), recurrent DEs (24.5%), as well as bipolar II disorder (BD II) (6.5%). ADs in 42.4% of patients were associated with psychosocial stressors (mainly, loss), $p = 0.02$. Men statistically significantly more often (37.1%, 72/194) than women (16.7%, 9/54) demonstrated limited communication with others as a result of projection mechanisms, a high level of hostility, passive aggressiveness and lack of initiative, typical of patients with ADs, $p = 0.003$.

Conclusion. Social functioning of patients with ADs and chronic coronary artery disease was complicated irrespective of gender. Women were single and bereaved of their children more often than men. Due to the low level of communication outside family and professional setting, most of the patients maintained communication mainly with the family. However, due to ADs, they were not able to feel support from family members and rarely initiated communication with other people (men did it statistically significantly more often than women).

Key words: affective disorders, chronic coronary artery disease, self-reported social functioning, gender differences.

Conflict of interest. The authors declare the absence of obvious or potential conflicts of interest related to the publication of this article.

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Conformity with the principles of ethics. All patients signed an informed consent to participate in the study. The study was approved by the local Ethics Committee of Mental Health Research Institute of TNRMC (Protocol No. 6 of 21.06.2017).

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Гендерные различия самооценки социального функционирования пациентов с хронической ИБС и аффективными расстройствами

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РЕЗЮМЕ

Цель исследования – определение гендерных различий самооценки социального функционирования пациентов при коморбидности аффективных расстройств (АР) и хронической коронарной болезни.

Материалы и методы. С помощью шкалы самооценки социальной адаптации изучена самооценка социального функционирования 248 больных (мужчин – 194 (78,2%) и женщин – 54 (21,8%)) кардиологического стационара с хронической ишемической болезнью сердца (ИБС) и АР. Средний возраст пациентов кардиологического стационара с хронической ИБС у мужчин составил (57,2 ± 6,5) года, у женщин – (59,3 ± 7,1), $p = 0{,}04$. Качественные и количественные показатели исследованы с помощью критериев Манна – Уитни, Вилкоксона и Т-критерия, для оценки частот использован $\chi 2$ (критерий согласия Пирсона).

Результаты. АР представлены хроническими расстройствами настроения (45%), впервые возникшими депрессивными эпизодами (ДЭ) – 24%, рекуррентными ДЭ – 24,5%, а также биполярными аффективными расстройствами II типа 6,5%. АР у 42,4% пациентов было связано с психосоциальными стрессорами (преимущественно утратами), $p = 0{,}02$. Мужчины статистически значимо чаще (37,1%, 72/194), чем женщины (16,7%, 9/54), более ограниченно общались с окружающими в результате механизмов проекции, высокого уровня враждебности, пассивной агрессивности, безынициативности, характерными для больных АР, $p = 0{,}003$.

Заключение. Социальное функционирование пациентов с АР и хронической ИБС затруднено независимо от пола. Женщины чаще мужчин являются одинокими и пережившими утрату детей. В связи с низким уровнем общения вне семьи и профессиональной деятельности большая часть пациентов поддерживала общение преимущественно в семье. Однако в силу АР, не способны почувствовать поддержку и со стороны членов семьи, они редко инициируют такие пациенты общение с другими людьми (мужчины статистически значимо чаще, чем женщины).

Ключевые слова: аффективные расстройства, хроническая ишемическая болезнь сердца, самооценка социального функционирования, гендерные различия.

Конфликт интересов. Авторы декларируют отсутствие явных и потенциальных конфликтов интересов, связанных с публикацией настоящей статьи.

Источник финансирования. Исследование выполнено в рамках государственного задания (тема «Комплексное исследование клинико-психопатологических закономерностей и патобиологических механизмов формирования и прогредиентности социально значимых психических и поведенческих расстройств с разработкой инновационных методов ранней диагностики, персонализированных стратегий терапии и профилактики» № АААА-А19-119020690013-2).

Соответствие принципам этики. Все пациенты подписали информированное согласие на участие в исследовании. Исследование одобрено локальным этическим комитетом НИИ психического здоровья, Томский НИМЦ (протокол № 6 от 21.06.2017).

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INTRODUCTION

In recent decades, the issue of comorbidity has been actively studied [1–5]. Cardiovascular diseases (CVD) and depression are two common health problems worldwide [1, 3, 6, 7]. Depression is about twice as common in women as in men and has the strongest association with coronary artery disease (CAD) [8]. On average, it is more severe in women than in men and has an earlier age of onset [8, 9].

About half of women under 60 years of age with a history of myocardial infarction (MI) suffer from severe depression [9, 10]. Young women are more likely to die from MI than men. Stress-induced myocardial ischemia is more common in girls than in boys and is capable of leading to chronic dysregulation of neurohormonal systems under stress [10]. This can begin at an early age, creating the basis for an increased cardiovascular risk in women many years before the onset of CAD.

In the third National Health and Nutrition Study (NHANES III), a history of major depression or attempted suicide was associated with an almost 15-fold increase in risk of coronary artery disease in women and a 3.5-fold increase in this risk in men. In a prospective mental health study in women under 40 with depression, the risk of CAD was six times higher than in women of the same age without depression; although depression was not associated with CAD in men or the elderly [11]. Overall, scientific evidence supports a stronger relationship between depression and CAD in younger women.

Depression was also associated with deterioration in quality of life (QoL) in short-term and long-term studies [11]. Less attention was paid to the socio-psychological factors of depression development and the issues of its impact on the functioning of patients. In the study of depressive disorders (DDs), medical aspects were usually studiedstudied, such as diagnosis, clinical presentation, therapy, prevention, and rehabilitation of persons with those disorders [6, 11–15], whereas an integrated approach to the study of depression implied the study of clinical and biological, psychological, and socio-cultural factors for the onset and course of DDs, as well as self-evaluation of the quality of life [16–18]. Surovtseva et al. [18] found that the degree of decrease in self-evaluated QoL and social functioning of patients with ADs was determined by a complex of biological, psychological, and social factors.

There were enough studies on the relationship between depression and QoL deterioration. However, gender differences were studied insufficiently in self-reported social functioning in cases of comorbid depression and chronic coronary disease.

The aim of the study was to determine gender differences in the self-reported social functioning of patients with comorbidity of AD and chronic coronary artery disease.

MATERIALS AND METHODS

In a cardiology hospital, 290 patients with chronic CAD were diagnosed with ADs. To study self-evaluation of social adaptation, the Social Adaptation Self-evaluation Scale (SASS, M. Bosc et al., 1997) was used. Of 290 patients with chronic CAD and ADs, 248 individuals completed the self-evaluation scale of social adaptation, of which 194 (78.2%) people were men and 54 (21.8%) were women. The average age of men was (57.2 ± 6.5) years, and the average age of women was (59.3 ± 7.1) years, $p = 0.04$.

Statistical data processing was performed using the Statistica 8.0 software. Parametric indicators were assessed using the T-test for dependent and independent groups (with normal distribution of features), nonparametric indicators were evaluated according to the Mann – Whitney and Wilcoxon criteria; chi-square (Pearson's goodness-of-fit test) was used for frequency estimates. Data were given as absolute and relative numbers, n (%), the median and interquartile range, Me $(Q_1–Q_3)$.

RESULTS

The nosological framework of mood disorders in patients with chronic CAD was characterized by the prevalence of chronic affective disorders (45%). The first-onset depressive episodes (DEs) accounted for 24% of cases, recurrent DEs – for 24.5%. Bipolar II disorders were registered in 6.5% of cases [7, 13].

When analyzing the contribution of external factors to the development of ADs in patients with chronic CAD, it was found that 42.4% of patients suffered from psychogenic stressors of varying severity (mainly, loss). Thus, among patients with ADs and chronic CAD who had lost a child or were childless, there were 18.5% of women (10 / 54), and only 6.7% of men (13 / 194) ($p = 0.02$). 35.9% of patients associated the occurrence of mood disorders with health deterioration. In 18.1% of patients, ADs developed autochthonously (Table 1).

Table 1

Association of mood disorders with external psychogenic factors

Parameter	Quantity, *n* (%)
Factors were not specified	9 (3.6)
Mood disorder developed autochthonously	45 (18.1)
Mild and moderate psychogenic factors	68 (27.4)
Severe and critical psychogenic factors	37 (15)
Factors of health deterioration	89 (35.9)
Total	248 (100)

The study of marital status revealed that 17.1% (33 / 194) of men and 53.7% (29 / 54) of women were single (Table 2).

Table 2

Marital status of men and women with ADs and chronic CAD, *n* (%)

Parameter	Men, *n* = 194	Women, *n* = 54
Married	161 (82.9)	25 (46.3)
Single, incl.:	33 (17)	29 (53.7)
– divorced	18 (9.3)	11 (20.4)
– widowed	14 (7.2)	15 (27.8)

Family relations were assessed as “poor” and “satisfactory” by 24.7% of men (48 / 194) and 31.5% of women (17 / 54), without statistically significant differences ($p = 0.5$).

Almost one-third of men and one-fifth of women had higher education, and about one-third of men and half of women had secondary special and incomplete higher education. About 30% of men and almost 13% of women had secondary education or less (Table 3).

Table 3

Education level of men and women with ADs and chronic CAD, *n* (%)

Education	Men, *n* = 194	Women, *n* = 54
Higher	56 (29)	10 (19)
Secondary special and incomplete higher	67 (35)	27 (50)
Secondary and lower	58 (30)	7 (13)

According to the level of education, men with AD and chronic CAD were distributed approximately equally (by one-third) in the group with higher, secondary special and incomplete higher, and with secondary or lower level education. Among women in this group of patients, persons with secondary special and incomplete higher education prevailed (about half).

56.7% of men (110 / 194) and 66.7% of women (36 / 54) did not work (Table 4).

Table 4

Types of disability in persons with ADs and chronic CAD depending on gender, *n* (%)

Disability	Men, *n* = 110	Women, *n* = 36
Temporary	73 (66.4)	18 (50)
Disability groups 2 and 3	48 (43.6)	3 (8.3)
Retirement age	43 (39.1)	34 (94.4)

Below, the evaluation indicators according to self-report data and the frequency of their presence according to the SASS scale in men and women are presented (Table 5).

The overall mean score on the scale of self-reported social functioning in patients with ADs and chronic CAD corresponded to the level of difficult social adaptation. In men it was 33.9 ± 6.6, and in women it was 34.6 ± 6.5, without the statistical significance of differences ($p = 0.5$).

2.8% (7/248) of patients with ADs and CAD were socially maladapted, 58.1% (144 / 248) had difficulty in social adaptation, 41.5% (103 / 248) had normal adaptation in society, 0.4% (1 / 248) had excellent adaptation, and 2.8% (7 / 248) were impossible to be evaluated.

In men and women with ADs and chronic CAD, the frequency ($p = 0.007$) and the severity ($p = 0.03$) of the conviction that “people from their social environment rarely or never seek communication with them” differed significantly.

Table 5

Differences in self-reported parameters of social functioning between men (*n* = 194) and women (*n* = 54) with ADs and chronic CAD

Parameter	Self-evaluation, score, Me (Q_1–Q_3)		p	Symptom presence, *n* (%)		*p*
	Men	Women		Men	Women	
Employment	–	–	–	110 (56.2)	36 (66.7)	0.2
Interest in employment	2 (1–2)	2 (1–2)	0.9	79 (40.7)	21 (38.9)	0.8
Satisfaction from employment	2 (1–2)	2 (1–2)	0.5	90 (46.4)	24 (44.4)	0.8
Satisfaction from hobbies	2 (2–2)	2 (1–2)	0.2	47 (24.2)	19 (35.2)	0.1
Evaluation of spending leisure time	1 (1–2)	1 (1–2)	0.8	124 (63.9)	37 (68.5)	0.5
Seeking family communication	2 (2–2)	2 (2–2)	0.3	48 (24.7)	9 (16.7)	0.3
Evaluation of family relationships	2 (2–2)	2 (1–2)	0.9	48 (24.7)	17 (31.5)	0.5
Number of relationships outside the family	2 (1–2)	2 (1–2)	0.7	83 (42.8)	21 (38.9)	0.6
Activity in relationships outside the family	1 (1–1)	1 (1–2)	0.7	153 (78.9)	38 (70.4)	0.2
Evaluation of relationships with other people in general	2 (1–2)	2 (1–2)	0.7	64 (33.0)	17 (31.5)	0.8
Importance of relationships with others	2 (1–2)	2 (2–3)	0.3	53 (27.3)	10 (18.5)	0.3
Frequency of seeking communication with the patient from others	2 (1–2)	2 (2–2)	0.03	72 (37.1)	9 (16.7)	0.007
Observance of public rules by the patient	2 (2–3)	2 (2–3)	0.06	13 (7.70)	1 (1.9)	0.3
Involvement in the life of the society	0 (0–1)	0 (0–1)	0.7	50 (77.3)	41 (75.9)	0.8
Pleasure from search for information	2 (1–2)	2 (1–2)	0.2	73 (37.6)	25 (46.3)	0.25
Interest in information	2 (1–2)	2 (1–3)	0.3	60 (30.0)	20 (37.0)	0.4
Difficulty expressing an opinion	2 (2–2)	2 (2–2)	0.4	16 (8.2)	9 (16.7)	0.1
Feeling rejected	2 (2–3)	2 (2–3)	0.2	8 (4.1)	0 (0)	0.3
Importance of physical attractiveness	2 (1–2)	2 (1–2)	0.3	103 (53.1)	24 (44.4)	0.3
Difficulty dealing with income	2 (2–3)	2 (1–2)	0.2	48 (24.7)	18 (33.3)	0.2
Feeling ability to manage their lives	1 (1–3)	1 (1–3)	0.98	104 (53.6)	29 (53.7)	0.99

There were no other statistically significant differences in the severity and frequency of different levels of social adaptation disturbances which would depend on gender ($p > 0.05$).

DISCUSSION

In patients with CAD, depression was the strongest predictor of QoL [17], especially one-year health-related QoL, even after taking into account functional status and clinical variables [11, 17]. The ratio of women and men in the study group was 1:4, which was associated with the predominance of men among patients with CAD. The average age of men was 2 years less than that of women (57.2 and 59.3 years, respectively), $p = 0.04$.

In patients with chronic CAD in the cardiology hospital, chronic affective disorders were often found (45%). DEs were first-onset (24%) and recurrent (24.5%). BD was found in 6.5% of cases. In 91.7% of cases, the depressive syndrome was polymorphic, more often with anxiety (54.8%) [7, 13].

Women were less likely to have a marriage partner ($p = 0.03$). Men were more likely to remarry than women. A third of women and almost a quarter of men were not satisfied with family relationships ($p = 0.3$). Perhaps, in this regard, the patients did not seek communication and support in the family: 24.7% (48 / 194) among men and 16.7% (9 / 54) among women ($p = 0.3$).

About half of men (43.3%, 84 / 194) and a third of women (33.3%, 18 / 54) worked, including working parttime, unofficially, being retired by age or disability. Of the unemployed individuals, more than 60% of men and 50% of women were recognized as temporarily disabled. More than 40% of men and only 8.3% of women belonged to disability groups 2 and 3, which was probably determined by social support for men, as they did not reach the retirement age. Almost 95% of women and only about 40% of men were retired 27.3% of men (30 / 110) and 5.6% of women (2 / 36) did not work, though being of working age and without medical examination restricting employment, mostly with lower secondary education. Perhaps this was explained by a small number of vacancies with a decrease in tolerance to physical activity and restrictions on the labor market for people of pre-retirement age with a low level of education.

53.1% (103 / 194) of men and 44.4% (24 / 54) of women ($p = 0.3$) evaluated their physical attractiveness as "not very important" or "not at all important”. 8.2% (16 / 194) of men and 16.7% (9/54) of women indicated difficulty in expressing their opinion (p = 0.1).

More than half of the patients (78.9% (153 / 194) of men and 70.4% (38 / 54) of women, p = 0.2) showed low activity in initiating interactions with other people according to the self-evaluation scale: (1 (1–1) in men and 1 (1–2) in women, p = 0.7). Relationships with other people were assessed by them as “of little value” or “of no value” (27.3% of men (53 / 194) and 18.5% of women (10 / 54), p = 0.3) Perhaps that was why patients of both sexes maintained relationships with a small number of people 2 (1–2), p = 0.7.

On the whole, they negatively assessed relationships with other people (about one-third of patients: 33.0% (64 / 194) of men and 31.5% (17 / 54) of women, p = 0.8). Men more often (37.1%, 72 / 194) than women (16.7%, 9 / 54) noted that people around them rarely sought communication with them (p = 0.003). This can be explained by mechanisms of projection, high level of hostility, passive aggressiveness, and lack of initiative [18], which are typical for of patients with ADs and lead to objective limitation of communication on the part of people from the environment. Compliance with social rules, good manners, and courtesy was reported as “almost always” by both men and women (p = 0.06). At the same time, only 7.7% (13 / 194) of men and 1.9% (1 / 54) of women confessed to violating social rules (p = 0.3).

More than three-quarters of patients (77.3% (50 / 194) of men and 75.9% (41 / 54) of women) were not involved in social activities, p = 0.8. Social participation was rated as low or absent in men and women (0 (0–1), p = 0.7).

They had a reduced ability to organize the environment in accordance with their desires and needs according to the self-evaluation data (1 (1–3), p = 0.9). This was typical of more than half of the patients (53.6 (104 / 194) of men and 53.7% (29 / 54) of women, p = 0.99).

One-fourth of men (24.7%, 48 / 194) and one-third of women (33.3%, 18 / 54) indicated that they “often” or “always” found it difficult to manage their income, without the statistical significance of differences depending on gender (p = 0.2). It was likely connected not only with a low income level, but also with difficulties in decision making and self-doubt.

About one-third of men (30.9%, 60 / 194) and women (37.0%, 20 / 54), p = 0.4, denied interest in scientific, technical, and cultural information: according to the self-assessment of the corresponding item in the SASS scale, 2 (1–2) in women and 2 (1–3) in men (p = 0.3). Pleasure from searching for information about various things, situations, and people for better understanding was moderate according to the self-evaluation data (2 (1–2)) (p = 0.2); 37.6% (73 / 194) of men and 46.3% (25 / 54) of women did not experience pleasure from this activity (p = 0.25).

In self-questionnaires, about one-fourth of men (24.2%, 47 / 194) and one-third of women (35.2%, 19 / 54) indicated the absence or reduced pleasure from hobbies (p = 0.1).

In general, more than 60% of patients (63.9% (124 / 194) of men and 68.5% (37 / 54) of women) were not satisfied with spending their free time and rated it as “poor” and “satisfactory” (1 (1–2), p = 0.8). This could be associated not only with restrictions of activity and exercise tolerance, but also with a decrease in hedonism. Similar results in the group of patients with CAD (taking into account the symptoms of depressive disorder, decreased renal function, and cognitive impairment) were obtained by Dorofeeva et al. [19].

CONCLUSION

About half of the patients in the study group were found to have chronic ADs, and the rest – depressive episodes in the framework of mono- and bipolar ADs. In more than 40% of cases, ADs developed due to exposure to severe or catastrophic psychosocial stressors (loss, including children), which was noted more often in women than in men (p = 0.02). More than one-third of patients associated the occurrence of ADs with health deterioration, and one-fifth of the patients had an autochthonous onset of ADs.

Women were less likely to have higher education than men, possibly due to a preference for family values over higher education (during the period of birth and raising children). About half of men and one-third of women worked, including working part-time, unofficially, and being retired by age (95% of women and only about 40% of men) or disability (40% of men and 8% of women). Women were less likely to be married than men (p = 0.04). Men were probably remarried. About one-third of patients of both sexes were not satisfied with family relationships (p = 0.3), one-fourth did not seek communication and support in the family (p = 0.3).

The low significance of relationships with other people was noted by about 30% of men and women, without the statistical significance of the differences. The negative assessment of relationships with others was present in one-third of the patients, irrespective of gender. This probably led to inactivity to initiate interactions with others (over 70% of men and women).

Statistically significant differences (p = 0.003) depending on gender were obtained regarding the conviction that "people around them rarely seek communication with the patients" (37.1% of men and 16.7% of women). This fact could be explained by projection mechanisms, passive aggressiveness (up to 92% of men and women (p = 0.3) reported adherence to social rules), lack of initiative (more than 75% of patients (male and female), p = 0.8, were not involved in social activities). These were behavioral patterns typical of patients with ADs leading to objective limitation of communication on the part of people from the environment.

According to the self-evaluation data, irrespective of gender, the patients had problems not only in sphere of communication, but also in the getting interest and pleasure from searching information (more than one-third of patients, p = 0.25), hobbies (about one-third of patients, p = 0.1), free time (more than 60%, p = 0.5), as well as self-evaluation of their external attractiveness (more than half of the patients, p = 0.3). In patients with ADs and chronic CAD, social adaptation was difficult in almost 60% of cases (irrespective of gender, p = 0.1). Family was almost the only source of support in case of the chronic course of ADs and CAD, which had to be taken into account when planning rehabilitation measures in this group of patients.

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Lebedeva E.V., Nonka T.G. – carrying out of research, statistical analysis and interpretation of data. Schastnyy E.D., Repin A.N. – critical revision of the manuscript for important intellectual content, final approval of the manuscript for publication.

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