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GENDER FEATURES OF PSYCHOEMOTIONAL STATUS IN CARDIOVASCULAR PATHOLOGY

DOI 10.25789/YMJ.2018.64.07

ABSTRACT

The article analyzes the psycho-emotional state of persons with cardiovascular disease, depending on gender and the socio-hygienic factors. The study analyzed the results of 140 people with cardiological diagnosis of various etiologies in terms of situational and personal anxiety, depression, hostility, and aggressiveness. The psychodiagnostic examination included Beck Depression Inventory, State-Trait Anxiety Inventory, and Buss-Durkee Hostility Scale. Among the surveyed there were 68 women (mean age = 43.7 years) and 72 men (47 years). The analysis showed that at the age of 41 to 50 years we found the highest indicators of situational and personal anxiety, and aggression. Significant depressive symptoms are more often noted between the ages of 31 and 40 years. Among women we've found significantly higher rates of anxiety and depression. There were no significant differences in indicators of hostility and aggression. A combination of high hostility and low aggressiveness is noted, which indicates a tendency to contain and suppress aggressive manifestations and may be a predictor of psychosomatic pathology. The main social risk factors in cardiovascular pathology affecting the psycho-emotional state of the subjects include the level of education, dissatisfaction with the state of health, financial situation, nutrition, lack of proper diet and sleep disorders in the nature of their aggression.

Keywords: anxiety, depression, hostility, aggressiveness, cardiovascular diseases, gender.

Introduction. According to WHO, cardiovascular diseases (CVD) are the leading cause of death worldwide. The study of risk factors of these diseases receive great attention, among them a significant place is given to psychosocial factors. Researchers have found connection of CVD with affective disorders such as anxiety and depression, which most often have the nature of comorbidity [7 - 9, 13, 14]. Depression is considered an independent risk factor in the pathogenesis of CVD and can both provoke a somatic disease and also be a factor worsening the prognosis of cardiovascular events. It is noted that chronic emotional stress and socioeconomic status are interrelated and largely determine the integral risk of cardiovascular diseases [3]. Studying the phenomenon of hostility, J.C. Barefoot et al. confirmed that it is this trait that is stable over time and helps to predict cardiovascular and overall mortality, including that associated with high blood pressure [12]. Regarding the effect of hostility on CVD current research data are ambiguous and require additional testing.

Research objective - study of the gender characteristics of psycho-emotional status of persons with cardiovascular pathology.

Materials and methods. Within the framework of research at Yakut Science Center of Complex Medical Problems "Effect of Metabolic Syndrome to Development of Coronary Arteries Atherosclerosis Residents of Yakutia", a medical, social and psychodiagnostic examination of the population was conducted during field trips from 2013 to 2016 in different areas of the Sakha (Yakutia) Republic. A one-stage medical examination of the population was carried out with participa-

tion of a cardiologist, a neurologist, and a therapist. With the help of a questionnaire developed by the YSC CMP, data on the social status and living conditions of the population were obtained.

From the surveyed test data of 140 people with verified cardiological diagnosis were selected, of which 68 were women (48.6%) and 72 - men (51.4%). The age of the subjects ranged from 18 to 61 years. The average age of men was 47 ± 9.98 , women – 43.7 ± 9.51 . The ethnic composition of the selection was represented mainly by indigenous people – Yakuts -52.1% and low-numbered peoples of the North 25%, and other nationalities composed in total 22.9%.

For the psychodiagnostic study, the Beck Depression Inventory (BDI), the Spielberger-Hanin Scale of Situational (SA) and Personal Anxiety (PA) Scale (State-Trait Anxiety Inventory), and Buss-Durkee Hostility Scale, which differentiates aggression and hostility, have been used.

Statistical processing of the research results was carried out using the IBM SPSS Statistics 23 software package with the calculation of the Pearson correlation coefficient and significance of differences for independent samples – Student's *t*-test. The significance of the statistical differences was taken at a value of $p < 0.05$.

Results and discussion. The cardiovascular pathology in the examined group was mainly represented by hypertension - 72.8% of subjects, 5% were diagnosed with coronary heart disease and 22.2% - other CVD. The distribution of CVD in age groups showed that more than 70% of patients were in the range from 40 to 60 years.

Analysis of the psychodiagnostic examination data depending on age showed that high rates of SA (35.4%, of the number surveyed of the corresponding age) and PA (47.9%) are more often recorded between the ages of 41 and 50 years. Severe depressive symptoms occur between the ages of 31 and 40 years (29.4%). High rates of hostility were noted at the age of 18 to 30 years (43.7%), and aggressiveness in the period from 41 to 50 years (8.3%).

Among the entire examined high SA was registered in 25.7%, and moderate in 55% of respondents. High PA was noted in 40% of subjects, and moderate in 48.6% (Table 1). Depending on the gender, statistically significant differences were noted for SA ($t = 2.19$, $p = 0.03$) and PA ($t = 2.77$, $p = 0.006$) with the prevalence of indicators among women, which is consistent with the data of many studies.

Many authors note that the prevalence of anxiety in CVD is higher than depression rates. Thus, in the study of Antonysheva O.V. high SA was detected in 43.5%, and PA in 55.5% of persons with arterial hypertension (AH) [1]. In the work of Kiseleva M.G., it is indicated that in chronic CVD, outside the acute form, anxiety magnitude is 25% [5]. The data obtained by us, on average, correspond to the data of earlier studies and characterize a rather high frequency of PA among the studied group.

An analysis of correlations showed that with an increase in the level of SA & PA, there was a significant increase in the degree of depression ($r = 0.40$, $p < 0.01$; $r = 0.53$, $p < 0.01$), hostility ($r = 0.19$, $p < 0.05$; $r = 0.27$, $p < 0.01$), aggression ($r = 0.18$, $p < 0.05$; $r = 0.22$, $p < 0.05$).

Table 1

Distribution of anxiety levels among respondents, n (%)

Anxiety level	Both genders		Men		Women	
	SA	PA	SA	PA	SA	PA
Mild	27 (19.3)	16 (11.4)	15 (20.8)	11 (15.3)	12 (17.6)	5 (7.3)
Moderate	77 (55)	68 (48.6)	46 (63.9)	40 (55.5)	31 (45.6)	28 (41.2)
Expressed	36 (25.7)	56 (40)	11 (15.3)	21 (29.2)	25 (36.8)	35 (51.5)
Total	140 (100)	140 (100)	72 (100)	72 (100)	68 (100)	68 (100)

0.01). The increase in the level of SA & PA correlates with the level of education ($r = -0.19$, $p < 0.05$; $r = -0.28$, $p < 0.01$). High SA was also associated with poor nutrition ($r = 0.24$, $p < 0.05$), and PA with lack of employment ($r = 0.17$, $p < 0.05$).

In men, the increase in SA was associated with a low financial position ($r = 0.32$, $p < 0.05$), low nutrition rating ($r = 0.32$, $p < 0.05$), with frequent use of alcohol ($r = 0.27$, $p < 0.05$), and also negatively correlated with the number of children ($r = -0.30$, $p < 0.05$). Indicators of SA positively correlated with ethnicity, i.e. for the migrant population, high indicators were more characteristic ($r = 0.31$, $p < 0.05$); with age SA indices decreased ($r = -0.27$, $p < 0.05$). Among women SA had a negative correlation with ethnicity (high rates were more characteristic for the Yakuts ($r = -0.24$, $p < 0.05$); it also correlated with an increase in the level of education ($r = -0.24$, $p < 0.05$).

PA among women was also associated with the level of education ($r = -0.27$, $p < 0.05$); among men, no significant correlations were found.

Thus, in the structure of anxiety, the most significant social factors are low financial standing and the associated lack of nutrition, and among women - high level of education. In the studies of Gafarov V.V. it was noted that in women with higher and primary education with a high level of PA, there was a tendency to more frequent development of hypertension [10], which is also seen in our study, because our selection is dominated by individuals with hypertension.

Mild depression by the Beck Depression Inventory was observed in 27.9% of subjects, moderate depression - 19.3%, expressed - 12.8%, severe depression was not diagnosed (Table 2). According to literature data the frequency of depressive disorders at various cardiovascular pathologies varies from 18 to 60% [4]. Thus, according to the data of the "Co-ordinate" program in patients with hypertension severe depression occurs in 27.6%, an increase in the level of depressive disorders - in 52% of patients [6]. Our data, especially in men, are may be due to the fact that men ignore the experienced difficulties due to the assigned social role. In the case of gender distribution, significant differences were found in the studied groups, depression rates

were significantly higher among women ($t = 2.39$, $p = 0.018$), which also corresponds to the literature data.

The data of the correlation analysis showed that the increase in the degree of depression was associated with dissatisfaction with the state of health ($r = 0.18$, $p < 0.05$), low material position ($r = 0.20$, $p < 0.05$), and lack of nutrition ($r = 0.19$, $p < 0.05$) and a negative assessment of nutrition ($r = 0.18$, $p < 0.05$). In men, the degree of depression was associated with dissatisfaction with living conditions ($r = 0.28$, $p < 0.05$). Among women, the severity of depression correlated with a negative assessment of nutrition ($r = 0.34$, $p < 0.01$).

Thus, high rates of depression are more associated with low material well-being and the lack of nutrition associated with it.

According to the results of the Buss-Durkee Hostility Scale (Table 3), high hostility was noted in 23.6% of subjects, and aggressiveness in 4.3%, i.e. with a sufficiently pronounced hostility, aggressiveness is very low, besides that in more than half (58.6%) of the results of the subjects are at a level below the norm. Based on the fact that hostility is a cognitive-emotional component, and aggressiveness is more related to the emotional-behavioral component, it can be concluded that subjects with a negative attitude, dissatisfaction with the life situation cannot realize their aggressive tendencies due to excessive self-control and tendency to suppress negative feelings. The presence of negative attitudes towards the world without the possibility of their expression due to emotional control causes internal tension, which creates the basis of psychosomatic pathology.

Depending on gender among indicators of hostility and aggression, no significant differences were found ($t_{\text{ns}} = -0.16$, $p = 0.86$; $t_{\text{ag}} = -2.16$, $p = 0.16$). In their research Akimova E.V. [2] and Gafarov

Table 2

Distribution of depression levels among respondents, n (%)

Depression level	Both genders	Men	Women
Absent	56 (40)	36 (50)	20 (29.4)
Mild	39 (27.9)	15 (20.8)	24 (35.3)
Moderate	27 (19.3)	16 (22.2)	11 (16.2)
Expressed	18 (12.8)	5 (7)	13 (19.1)
Severe	0 (0)	0 (0)	0 (0)
Total	140 (100)	72 (100)	68 (100)

V.V. [10] revealed that the prevalence of hostility among men was 46.4%, and among women - 43.6%, in our study, the rates are lower, but also do not have significant differences depending on gender. Also in the study of S.H. Hosseini it was found that patients with arterial hypertension are characterized by the presence of anger as a personality trait, as well as its suppression [11], which also can be traced in our study.

High hostility was also associated with a low material position ($r = 0.21$, $p < 0.05$), and aggressiveness was correlated with smoking ($r = 0.16$, $p < 0.05$). High male hostility correlated with a short sleep duration ($r = 0.39$, $p < 0.01$), and aggression with late bedtime ($r = 0.30$, $p < 0.05$). Among women, high hostility was associated with low material status ($r = 0.28$, $p < 0.05$) and lack of employment ($r = 0.26$, $p < 0.05$), and aggression correlated with late awakening in the morning ($r = 0.26$, $p < 0.05$). Thus, aggressive tendencies in men were associated with a lack of sleep, and in women, on the contrary, with prolonged sleep, which most likely is derived from a lack of employment.

Conclusions. Among the studied women, significantly higher rates of situational, personal anxiety and depression were found; there were no significant differences with regard to hostility and aggression.

In the study group, there were high rates of hostility combined with low aggressiveness, that may indicate the propensity of the subjects to suppress negative feelings, increased emotional control, which can lead to an accumulation of psychological stress and may be a predictor of psychosomatic pathology.

Main social risk factors in cardiovascular pathology affecting the psycho-emotional state of the subjects include the level of education, dissatisfaction with the state of health, financial situation, nu-

Table 3

Hostility and aggressiveness levels, n (%)

Level	Both genders		Men		Women	
	HS	AG	HS	AG	HS	AG
Below average	11 (7.8)	82 (58.6)	6 (8.4)	39 (54.2)	5 (7.3)	43 (63.2)
Average	96 (68.6)	52 (37.1)	50 (69.4)	29 (40.3)	46 (67.7)	23 (33.8)
Above average	33 (23.6)	6 (4.3)	16 (22.2)	4 (5.5)	17 (25)	2 (3)
Total	140 (100)	140 (100)	72 (100)	72 (100)	68 (100)	68 (100)

trition, lack of diet and sleep disorders in the structure of aggression.

It is necessary to conduct additional research, taking into account the etiology and pathogenesis of cardiovascular diseases, as well as considering a wider range of risk factors.

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