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EMOTIONAL DISORDERS OF ELDERLY AND SENILE PEOPLE WITH CHRONIC CEREBRAL ISCHEMIA DEPENDING ON ETHNICITY

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The aim of the study was to study the ethnic and age characteristics of emotional disorders in the elderly and senile people of Yakutia suffering from chronic cerebral ischemia.

The study included 522 patients with chronic cerebral ischemia aged 60 to 89 years, who were divided into three groups by ethnicity (Evens, Yakuts and Russians) and into two age groups (elderly and senile age). Ethnic and age-related features of emotional disorders in persons suffering from chronic cerebral ischemia were revealed, while many patients had a combination of both anxiety and depressive symptoms. With the aggravation of the stage of chronic cerebral ischemia, more pronounced symptoms of anxiety disorders were noted. Emotional disorders prevailed in elderly and senile Russians, less pronounced in elderly Evens. There were no gender differences among them.

Keywords: ethnicity, elderly and senile age, chronic cerebral ischemia, emotional disorders.

Introduction. Currently, depression is one of the most frequently reported mental disorders. The prevalence of depression among the elderly and senile reaches, according to various sources, from 10 to 30%, the frequency of its development is high in comparison with the younger population [7-11]. According to WHO, about 15% of the population over the age of 60 suffer from mental or neurological disorders, while depression occurs in about 7% of the elderly population of the planet [14]. A feature characteristic to depression at a later age, according to some sources, is an increase in the number of atypical presentation of depressive states [2,3]. Anxiety disorders are one of the most common mental disorders; their increase is noted at a later age [6]. This is due to a progressive decrease in the adaptive capabilities of an aging organism when interacting with physical and social factors [3,4]. The study of ethnic characteristics of emotional manifestations at a later age is important in connection with the widespread prevalence of cerebrovascular diseases among them to determine cognitive capabilities.

The aim of the study was to research the ethnic and age characteristics of emotional disorders in the elderly and senile people of Yakutia suffering from chronic cerebral ischemia.

Materials and methods. The study involved 522 patients aged 60 to 89 years who were under inpatient treatment in the neurological department of the Geriatric Center of the Republican Hospital No. 3 with the participation of neurologists and therapists. Patient or guardian consent to the study was obtained according to the protocol of the Ethical Committee of the Yakut Scientific Center for Complex Medical Problems. The average age of patients was 72.7 ± 7.2 years, in men - 72.9 ± 7.2, in women - 72.6 ± 7.2 years. For a more detailed study, all patients were divided into 2 age groups: elderly people aged 60-74 years and senile - ages 75-89.

The diagnosis of chronic cerebral ischemia (CCI) corresponded to the classification of vascular brain lesions of the Institute of Neurology of the Russian Academy of Medical Sciences (1985). The main criteria for diagnosis was an instrumentally confirmed lesion of the cerebral vessels with the corresponding clinical presentation of the stages of CCI according to the classification of E.V. Schmidt - CCI I and CCI II.

The exclusion criteria were the following diseases:

- identified malignant neoplasms or surgeries regarding this pathology in past medical history;
- diseases of the blood system, including anemia;
- angina pectoris of the 4thfunctional class, acute myocardial infarction,presence of congestive heart failure of the III and IV functional classes;
- Alzheimer's disease and vascular dementia;
- stage 3 and more severe chronic renal failure according to M.A. Ratner;
- acute inflammatory pathology of the articular apparatus;
- chronic obstructive diseases of the bronchopulmonary apparatus with respiratory failure (RF) of stages II-III and manifestations of chronic pulmonary heart disease;
- peripheral artery disease of the lower extremities stages III-IV according to Fontaine.

Such strict exclusion criteria are justified by the fact that the manifestations of the above diseases come to the forefront, changing the clinical presentation and the course of chronic cerebral ischemia.

In addition, all patients were divided into three ethnic groups, differing in lifestyle, dietary characteristics, and the nature of their main occupations:

The 1st observation group consisted of 174 patients of Even nationality (representatives of indigenous minorities of the North) living in the Arctic zone. In the subgroup CCI I - 87, CCI II - 87 people.

Group 2 - 177 equally urban and rural Yakut patients (CCI I - 90, CCI II - 87),

Group 3 - 171 patients of Russian nationality, mostly living in an urban environment (CCI I - 86, CCI II - 85).

Gender ratio analysis of the studied persons is presented in Table 1. There is a predominance of female patients in all groups, except for the Yakut group with CCI II, which to some extent can be explained by the longer average life expectancy of women. According to the State

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Statistics Committee of the Republic of Sakha (Yakutia), the average life expectancy for men is 60.6 years, for women -72.2, the difference is 11.6 years.

The data presented in Table 2 demonstrates that older persons (60-74 years old) of Yakut and Russian nationality were statistically significantly more common in the CCI I subgroup, unlike the Evens, who did not have significant differences in age. CCI II was registered significantly more often among representatives of the Yakut nationality at the age of 60-74 years.

To assess emotional disorders, the Hospital Anxiety and Depression Scale (HADS) was used, which consists of 14 statements and contains 2 subscales: I - assessment of the level of anxiety, II - assessment of the level of depression. When interpreting the data, the total indicator for each scale was taken into account: 0-7 points - the norm; 8-10 points - subclinical anxiety/depression; 11 points and higher - clinical anxiety/depression.

Statistical processing of the results of the study was carried out using the SPSS 22.0 application software package. To describe the quantitative data, the mean value with standard deviation, median and interquartile range were calculated. Qualitative attributes are presented in the form of frequency tables containing absolute values and the relative proportion of the attribute. To study the conjugation of qualitative characteristics, the classical Pearson $\chi 2$ criterion was calculated. To compare the mean values of the studied parameters, the Mann-Whitney paired test was used. In all statistical tests used, the $p < 0.05$ value was taken as the threshold level of significance.

Table 1

Distribution of patients with chronic cerebral ischemia depending on gender and ethnicity

CCI I	Evens		Yakuts		Russians	
	n	%	n	%	n	%
Men	27	31.1	28	31.1	25	29.1
Women	60	68.9	62	68.9	61	70.9
	χ^2=25.04; p<0.001		χ^2=25.69; p<0.001		χ^2=30.14; p<0.001	
CCI II						
Men	37	42.5	47	54.1	23	27.1
Women	50	57.5	40	45.9	62	72.9
	$\chi 2$=3.89; p=0.049		$\chi 2$=1.3; p=0.29		$\chi 2$=35.79; p<0.001	

Table 2

Distribution of patients with chronic cerebral ischemia by age

CCI I	Evens		Yakuts		Russians	
Age	n	%	n	%	n	%
60-74	42	48.3	61	67.8	54	62.8
75-89	45	51.7	29	32.2	32	37.2
	$\chi 2$=0.21; p=0.65		$\chi 2$=22.76; p<0.001		$\chi 2$=11.26; p<0.001	
CCI II						
60-74	46	52.9	58	66.7	40	47.1
75-89	41	47.1	29	33.3	45	52.9
	$\chi 2$=0.58; p=0.45		$\chi 2$=19.33; p<0.001		$\chi 2$=0.59; p=0.44	

Table 3

Emotional disorders in the elderly

Scale	Me (Q_1-Q_3)			
	Evens	Yakuts	Russians	p
	CCI I			
Depression (score)	4.0 (3.0-6.0)	4.0 (2.0-5.0)	5.0 (4.0-7.0)	0.001
Anxiety (score)	4.0 (2.0-6.0)	3.0 (1.0-5.0)	4.0 (2.0-5.0)	0.065
Overall score	8 (8.0-10.0)	7.0 (4.0-9.0)	9.0 (7.75-9.0)	0.009
Scale	CCI II			
Depression (score)	4.0 (3.0-5.0)	4.0 (4.0-5.0)	5.0 (4.-6.0)	0.001
Anxiety (score)	4.0 (3.0-4.0)	4.0 (4.0-4.0)	5.0 (4.0-5.0)	0.028
Overall score	8 (5.0-10.0)	8.0 (7.0-10.0)	10.0 (8.0-10.5)	0.046

Results and discussion. To analyze the severity of emotional disorders, anxiety and depressive manifestations were assessed. A study of the emotional sphere according to the Hospital Anxiety and Depression Scale was conducted separately for the elderly and senile people. The analysis of emotional disorders in the elderly is presented in Table 3. In the subgroup of CCI I, it was shown that in old age the level of anxiety by ethnicity did not differ much, and the level of depression in Russians was statistically significantly higher than in Evens and Yakuts (p=0.001). Emotional distress in the form of anxiety was more common in Even and elderly Russians, but there were no significant differences. The overall score of emotional disorders was significantly higher among Russians compared to other ethnic groups (p=0.009).

Russians also had a statistically significantly higher level of depression in the group of patients with CCI II among people aged 60-74 years than the Evens and Yakuts (p=0.001), and the level of anxiety was higher in Russians (p=0.028). Thus, the overall score of emotional disorders was higher in elderly people of Russian nationality (p=0.046).

Among the elderly (Table 4) Russians and Evens had a higher level of depression in the CCI I subgroup compared to Yakuts, with statistical reliability (p=0.004). The level of anxiety was significantly higher in Russians compared to Evens (p=0.005). The overall score of emotional disorders in this subgroup was higher among Russians compared to other ethnic groups, but there were no significant differences.

Russians also had higher levels of depression and anxiety among senile people in the CCI II subgroup with statistical reliability compared to other ethnic groups (p=0.002 and p=0.004) and, accordingly, the overall score of emotional disorders was significantly higher among representatives of Russian nationality (p=0.007).

Comparing disorders of the emotional sphere depending on gender, we did not receive significant differences between elderly and senile people. Disorders accompanied by anxiety, melancholy, dis-

Table 4

Emotional disorders in senile people

Scale	Me (Q_1-Q_3)			
	Evens	Yakuts	Russians	p
	CCI I			
Depression (score)	5.0 (3.0-7.0)	4.0 (3.0-6.0)	5.0 (4.0-6.0)	0.004
Anxiety (score)	3.0 (1.0-5.50)	4.0 (2.50-4.50)	5.0 (4.0-7.0)	0.005
Overall score	8 (7.0-10.0)	8.0 (7.0-10.0)	10.0 (9.0-10.0)	0.005
Scale	CCI II			
Depression (score)	3.0 (3.0-5.0)	4.0 (4.0-5.0)	5.0 (4.-6.0)	0.002
Anxiety (score)	3.0 (3.0-4.0)	4.0 (4.0-4.0)	5.0 (4.0-5.0)	0.004
Overall score	6 (5.0-10.0)	8.0 (7.0-10.0)	10.0 (8.0-10.5)	0.007

somnia, hypochondriac symptoms with the appearance of anxiety suspiciousness, fixation on exaggerating the degree of deterioration of well-being, do not depend on gender (depression χ^2=8,367, p= 0.869 and anxiety χ^2= 5.43, p=0.942). Although according to other literature sources, anxiety and depression were most common in older women compared to men of the same age [1,12,13].

According to our observations, the prevalence of anxiety-depressive disorders affects the stage of CCI in different ways. Thus, the level of anxiety increases with the stage of CCI (χ^2=21.428, p=0.044), and the frequency of depression is not affected by CCI stage (χ^2=8.019, p=0.888).

Neurological examination in subgroup CCI I revealed common manifestations of clinical disorders: vegetative symptoms, asthenic manifestations in the form of increased fatigue and general weakness, irritability, mood decline, sleep disorders in the form of difficulties falling asleep, multiple awakenings, restless sleep and early morning awakening. In the CCI II subgroup, in contrast to the patients of the CCI I subgroup, more pronounced anxiety disorders were observed in the form of predominantly passive behavior, anxiety suspiciousness and a tendency for anxiety fears, hypochondriac disorders.

In addition, the following subjective neurological symptoms affect the severity of emotional disorders: unsteadiness of gait (χ^2 = 38.624, p = 0.002 in Yakuts; χ^2 = 27.236, p = 0.040 in Russians), speech impairment (χ^2 = 26.816, p = 0.045 in Russians). A more detailed analysis of the scales reveals a link between anxiety and sleep disturbance (χ^2=20.963, p=0.048 in Russians), between depression and instability when walking (χ^2= 24.395, p=0.041 in Yakuts). The development of emotional disorders is influenced by extrapyramidal syndrome (χ^2 = 30.682, p = 0.022 in Russians), an oral automatism reflex (χ^2 = 28.293, p = 0.042 in Russians), sensory disorders (χ^2 = 42.215, p = 0.001 in Yakuts).

It is known from literary sources that emotional disorders, in particular depression and anxiety, significantly reduce "compliance", and have a great influence on the clinical prognosis of many somatic diseases of late age [1,5]. In our study, emotional background disorders are closely related to neurological symptoms and syndromes, the spectrum of this relationship is variable depending on ethnicity.

Conclusion. Thus, ethnic and age-related features of emotional disorders were revealed in people suffering from chronic cerebral ischemia, while many patients had a combination of both anxiety and depressive symptoms. With the aggravation of the stage of chronic cerebral ischemia, more pronounced symptoms of anxiety disorders were noted. Emotional disorders, such as changes in the emotional background, irritability, fatigue, sleep disorders were more often detected in representatives of Russian nationality, both elderly and senile. These emotional symptoms were detected in elderly Evens as well - to a lesser extent, obviously associated with the specific, traditional way of life of rural residents.

Our study confirmed the high prevalence of anxiety-depressive disorders in elderly and senile people suffering from chronic cerebral ischemia. This allows us to conclude that it is necessary to include a scale of emotional disorders in the algorithm of neurological examination, which makes it possible to significantly increase the detection of anxiety-depressive disorders in elderly and senile people with chronic brain ischemia. Since mild forms of mental disorders are often overlooked in primary health care and boarding houses with round-the-clock stay of the elderly.

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