

PREVENTION OF STROKE DURING SCREENING AMONG HOSPITAL DOCTORS

¹Majidova Ya.N., ²Yunusova R.T., ³Sharipov F.R.

¹Tashkent Pediatric Medical Institute,

^{2,3}Ministry of Health of the Republic of Uzbekistan

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Abstract. *The results of a screening conducted to study the risk factors for the development of cerebrovascular diseases and stroke are presented. When identifying the degree of risk of development, a special questionnaire was used, which included амбулаторная шкала the Fedin outpatient scale, the Mini COG test, and also took into account cholesterol and blood sugar indicators, blood pressure, body mass index, and carotid artery auscultation. A low risk of developing CVD and stroke was found in 48 %, moderate - in 36%, and high-in 16 % of the examined patients.*

Keywords: *CVD, stroke, risk factors, screening.*

Relevance of the problem. Cerebrovascular diseases (CVD) are the most important medical and social problem of modern neurology, as they provide the highest rates of morbidity, mortality and disability in almost all countries of the world. According to the conducted studies, about 5 million people die annually from cerebrovascular diseases (CVD) [4].

In Uzbekistan, more than 60 thousand cases of stroke (acute cerebrovascular accident) are registered annually. At the same time, disability after a stroke is 83.8%, and the percentage of hospital deaths is 17.3%.

The modern concept of risk factors for the development of a disease includes a set of various biochemical, clinical, behavioral, and other properties that are characteristic of a particular person or population. In addition, risk factors also include external influences-indicators that indicate an increased risk of developing specific pathologies [1-3].

The etiology of CVD is extremely complex and involves a complex interaction between numerous factors. According to WHO, there are more than 300 risk factors associated with stroke, which are grouped into four categories:

the main modifiable risk factors (high blood pressure, atherosclerosis, smoking, inactivity, obesity, unhealthy diet, diabetes);

other modifiable factors (social status, mental disorders, emotional stress, alcohol abuse, certain medications);

unmodifiable risk factors (age, heredity, nationality, gender);

"new" risk factors (hyperhomocysteinemia, inflammation, abnormal blood clotting).

A significant "rejuvenation" of arterial hypertension (AH) and atherosclerosis has become a characteristic feature today. The manifestation of diseases of atherosclerotic origin began to occur frequently even at the age of 30-40 years [5]. The state of chronic psychoemotional stress, which is characteristic of significant categories of the population, is no less pathogenetic, which, combined with eating disorders and a disorderly lifestyle, as well as unfavorable environmental factors, leads to the early development of changes typical of brain aging (weakening of protein biosynthesis in brain neurons, impaired cell membrane permeability, destabilization of neurotransmitter systems, etc. D.) [6]. It is difficult to overestimate the importance of identifying

and correcting modifiable risk factors. Information about unmodifiable factors is also extremely important, as it allows identifying individuals with an increased probability of cerebrovascular diseases in the population and directing efforts to their active prevention.

Purpose of the study. To study факторов риска the risk factors for CVD and stroke among doctors with помощью screening.

Material and methods: A single – stage epidemiological study was conducted- continuous screening among doctors (men and women aged 29-80 years).

As a result of screening, a cohort of 64 people was formed, including 17 men (27%) and 47 women (73%). By age decade (29-39, 40-49, 50-59, 60-69, 70-79, 80) Men and women surveyed were distributed relatively evenly (Table 1). The detection of RF was carried out during the screening of the population using a special questionnaire. При During the examination, in addition to general clinical and neurological methods for assessing the condition of patients, the outpatient A. I. Fedin chemical therapy scale was used.

ХИМА. I. Fedin's outpatient CHEM scale (2016) is divided into subscales: "general cerebral and asthenic syndromes", "cranial nerves", " motor system (in the absence of paresis of the extremities)", "speech and other cognitive functions", "affective disorders", which allows us to evaluate each of these syndromes in points and conduct tests. general assessment of the severity of neurological disorders.

For the screening assessment of the level of cognitive functions, the Mini-COG test (a screening questionnaire for determining cognitive impairments) was used. It consists of memorizing 3 subjects and a clock drawing test. If less than 3 points are scored, this is a reason to assume dementia. In other words, many patients with clinically significant cognitive disorders score more than two points. Therefore, for greater sensitivity of the test, it is recommended to consider result of less than 4 points as indicating the need for a more in-depth examination [7].].

Statistical analysis of the data was carried out using STATISTICA 8.0 software. Data were analyzed in the general cohort (from 29-80 years) and in groups divided by age (29-39, 40-49, 50-59, 60-69, 70-79, 80 and older) and gender. Arithmetic mean and standard square deviations were used to describe the age of the population and the number of risk factors in the groups. The differences were recognized as significant at $p < 0.05$.

Results and discussion: The average age was 50.5 ± 11.2 years. Thus, this population sample was mainly represented by working people.

Table 1. Distribution of patients by gender and age.

| Age, years | All patients (%) | Men (%) | Women (%) |
|---------------|------------------|---------|-----------|
| 29-39 years | old 7 (10) | 1 (1,5) | 6 (8,5) |
| 40-49 years | 22 (34) | 7 (11) | 15 (23) |
| 50-59 years | 28 (44) | 8 (13) | 20 (31) |
| 60-69 years | 3 (5) | 1 (1.5) | 2 (3,5) |
| 70-79 years | 3 (5) | -3 | (5) |
| Over 80 years | of age 1 (2) | -1 | (2) |
| Total | 64 (100) | 17 (27) | 47 (73) |

Screening involves, based on the results obtained, determining the degree of risk of developing CVD (Table 2)..

Table 2. OLimiting the risk of developing CVD.

| | Examination method | Low | Medium | High |
|----------|--|---|---|--|
| 1 | Study of patients ' complaints on the outpatient scale Fedina A. I. | Less than 10 points (mild symptoms) | 10-20 points. (Moderate symptoms). | More than 20 points. (Severe symptoms.) |
| 2 | Study of cognitive functions on the Mini COG test | 3 points (1 point) Standard. | 2 points (2 points) Moderate cognitive decline. | 0-1 score (3 points) Severe cognitive decline. |
| 3 | Auscultation of the carotid artery in the area of its bifurcation in the neck. | 1 point Decrease in pulsation insignificant | 2 points Moderate decrease in pulsation | 3 points Pronounced decrease in pulsation |
| 4 | Determination of cholesterol in the blood by express method. | 5.2-5.5 (1 point) | 5.5-7 (2 points) | Above 7 (3 points) |
| 5 | Determination of blood sugar by express method. | 5-6 (1 point) | 6-7 (2 points) | Above 7 (3 points) |
| 6 | Measurement of blood pressure. | 130-140 (1 point) | 140-160 (2 points) | 160 and above (3 points) |
| 7 | Body mass index measurement. (BMI) | 25-29 (1 point) | 30-35 (2 points) | 35-40 (3 points) |
| 8 | Determination of the risk of developing cerebrovascular diseases. | 16 points | 22-32 points | 38 points |

1. Low-risk assessment criteria.

1. The presence of weakly expressed symptoms of cerebral complaints according to the outpatient clinic Fedin's feces.2. Poorly expressed (or lack thereof) cognitive functions on the Mini-COG test. 3.Slight pulsation of the carotid artery. 4. Slightly elevated blood cholesterol levels. 5.Slightly elevated blood sugar levels. 6.Slight increase in blood pressure. 7.Slight change in body weight.

2. Criteria for assessing the average risk.

1. The presence of moderate symptoms of cerebral complaints according to the outpatient Fedin scale.2. Moderate cognitive functions according to the Mini-COG test. 3.Moderatedecrease in carotid artery pulsation. 4.Moderately high blood cholesterol. 5. Moderately elevated blood sugar levels. 6.Moderateincrease in blood pressure. 7.Moderate change in body weight.

3.High-risk criteria.

1. The presence of severe symptoms of cerebral complaints on the outpatient Fedin scale. 2.Pronounced cognitive functions according to the Mini-COG test. 3.Marked decrease in carotid

artery pulsation. 4. High blood cholesterol. 5. Elevated blood sugar levels. 6. Marked increase in blood pressure. 7. Marked change in body weight.

The results of gender-sensitive risk factor assessment are shown in Table 3.

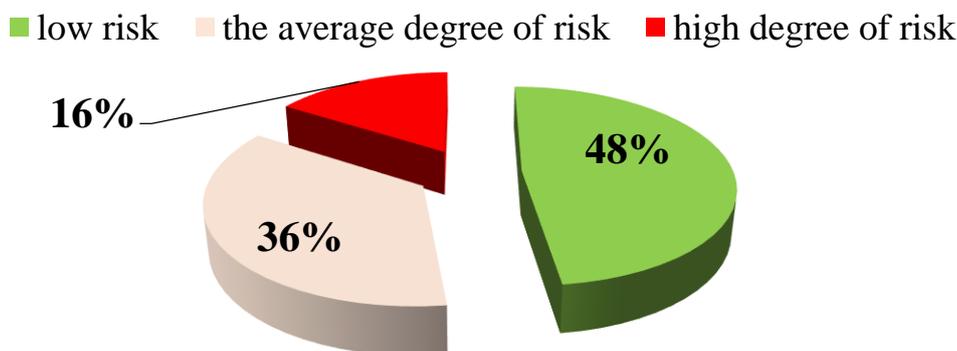
Table 3. Assessment of CVD risk factors among physicians.

| | Evaluation criteria | All patients | Men | Women |
|----------|--|---------------------|------------|--------------|
| 1 | Study of patients complaints on an outpatient scale Fedina A. I. | 7,8±5,6 | 6,6±4,8 | 8,2±5,9 |
| 2 | Learning cognitive functions using the Mini COG test | 1,6±0,7 | 1,6±0,6 | 1,6±0,7 |
| 3 | Auscultation of the carotid artery in the area of its bifurcation in the neck. | 1,1±0,9 | 1,2±1 | 1.1±0.8 |
| 4 | Determination of cholesterol in the blood by express method. | 1,4±0,7 | 1,2±0,7 | 1,5±0,7 |
| 5 | Determination of blood sugar by express method. | 1,4±0,8 | 2±0,9 | 1,2±0,6 |
| 6 | Blood pressure measurement. | 1,1±0,7 | 1,1±0,7 | 1,1±0,7 |
| 7 | Measurement of body mass index. (BMI) | 1,3±0,6 | 1,4±0,7 | 1,2±0,5 |

From the data shown in Table 3, it can be seen that changes in the indicators of the outpatient Fedin scale differed significantly among men and women. Among men, this indicator was 6.6±4.8,8, and among women-8.2±5.9. The average score on the Mini COG test among men was 1.2±1, among women it was 1.6±0.7 points. Auscultation of the carotid artery in the area of its bifurcation in the neck was 1.2±1 bpa in men and 1.1±0.8 bpa in women. Blood cholesterol in both gender groups was 5.5±0.9, which was 1.4±0.7 points. Blood sugar in men and women averaged 5.6±1, which was 1.4±0.8 points. According to the results of measuring blood pressure in men and women, it was 1.1±0.7 points. The BMI index among men was 1.4±0.7 points, and among women 1.2±0.5 points.

It should be noted that the screening conducted among doctors showed that the risk of cerebrovascular diseases is also high among doctors, that is, the part of the population that belongs to the healthy contingent. The results of screening among doctors were as follows: low risk in 48% of those present, medium - in 36%, high-in 16 % of those surveyed (Figure 1).

Figure 1. The degree of risk of cerebrovascular diseases.



Thus, people with a high risk of CVD will be referred for further examination: ultrasound Dopplerography, echocardiography, consultation with a vascular surgeon, an angioedologist, with an assessment of the possibility of performing surgical intervention.

Conclusions: thus, despite the active work of medical and social services, the problem of cerebrovascular diseases remains relevant both in our country and abroad. А трудоспособного населения в возрасте 39–59 лет наблюдалась wide prevalence of risk factors for the development of cardiovascular and cerebrovascular diseases was observed in the working-age population aged 39-59 years. Within men and women, the differences in values on the CHEM Fedin scale were statistically significant. The dynamics of cognitive tests did not reveal statistically significant differences between these groups ($p>0.05$).

It should be noted that the screening conducted among doctors showed that выявлен 48% of those present had a low risk, 36% had an average risk, and 16% had a high-risk. The obtained data indicate the need to continue constant active information and educational work among the entire population and improve the system of identification and dispensary monitoring of persons with risk factors. At the same time, special attention should be paid to the middle-working-age category, in which the first significant jump in the prevalence of CVD risk factors occurs when the 50-year milestone is reached. To solve the tasks set, the use of a special questionnaire is optimal, since it has a number of undoubted advantages over other modern scales.

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