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## **HIGH CHOLESTEROL LEVELS IN CORONARY HEART DISEASE WERE RECORDED IN THE MEDICAL POPULATION OF FERGHANA VALLEY**

Nazarova Gulchehra Usmanovna

Candidate of Medical Sciences, Associate Professor

Andijan State Medical Institute

(Orcid 0000-0003-4369-8800)

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### **Abstract**

Ischemic heart disease (IHD) is one of the most common cardiovascular diseases worldwide. In this study, on the example of Fergana, Andijan and Namangan regions, epidemiological features of IHD, which depend on cholesterol levels in the population of doctors, were studied. The study involved 1,497 medical workers. The results showed that hypercholesterolemia is one of the important risk factors in IHD development. The high prevalence of hypercholesterolemia has been found to be associated with occupational stress and workload, especially in young and middle age groups. Also, the correlation between cholesterol levels and IHD has been statistically confirmed. The results obtained are important in strengthening preventive measures, reducing occupational risk factors and protecting the health of medical workers.

**Keywords:** Fergana, Namangan, Andijan regions, ischemic heart disease, population of medical workers, hypercholesterolemia, normaxolesterolemia.

### **Introduction**

The disease that develops as a result of atherosclerotic pull or thrombosis of the coronary arteries, which supply blood to the heart muscle, is considered ischemic heart disease (IHD) and is one of the main non-infectious diseases that is considered one of the main causes of disability and death all over the world. According to the World Health Organization as a whole, cardiovascular diseases



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cost more than 17-18 million human lives per year, and a significant proportion fall on the contribution of ischemic heart disease.

Atherosclerosis is a chronic disease caused by the accumulation of cholesterol in the walls of the artery, which is also one of the main pathogenetic causes of IHD. Many clinical studies have proven that high cholesterol and corresponding triglycerides increase the risk of coronary diseases.

According to the World Health Organization (who): ischemic heart disease accounts for more than 50% of cardiovascular diseases worldwide, about 9 million people die every year due to it, while in European countries: in 6-8% of the adult population, it is observed, and after 40 the risk increases sharply. According to WHO and National Statistics, cardiovascular disease accounted for 55-60% of the total causes of death in Central Asian countries: in Uzbekistan, IHD was detected in 5-7% of the adult population, and cardiovascular diseases accounted for up to 60% of the total number of deaths.

Cardiovascular disease has also been increasing among medical practitioners in recent years. The main reasons for this are: work stress, long working hours, low physical activity, improper nutrition. Dyslipidemia has been found in 30-40% of medical personnel in some studies.

The following factors influence the spread of cardiovascular disease among the population of the Fergana Valley: urbanization, low physical activity, improper high-calorie diet, stress factors, in some local studies hypertriglyceridemia has been found to be around 30-35% and IHD 10-15%.

### **The purpose of the study:**

To study the epidemiology and Risk Factors of cardiac ischemic disease in the population of Fergana Valley Medical staff, to determine and evaluate the epidemiology of cholesterol-dependent risk factors of cardiac ischemic disease in the population of Fergana Valley Medical staff and its cardiac ischemic disease as a risk factor, is defined as one of the tasks of the study.

**As the object of the study**, 1,497 doctors of the three regions of the Fergana Valley were obtained: -531 (35.5%) from the Andijan region, -308 (20.6%) from the Namangan region, and – 658 (44.0%) from the Fergana region.



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## **Research Results**

On the example of the population of doctors of the Fergana Valley, the characteristics of the mutual distribution of different levels of IHD and cholesterol (Xs) (GX, NX – hypercholesterolemia and normaxolesterolemia) were studied, and in scientific research the following results were obtained: in TXP, in 18-74 years old, in cases where ischemic heart disease was confirmed, the determination of GX and NX was consistent – 64.50% and 35.30%; in men – from 69.27% confirmed at detection frequencies from 32.16% [ $\chi^2=3.135$ ;  $P=0.077$ ;  $RR=0.888$ ; 95%  $CL=0.778 - 1.015$ ]. With acute cardiac ischemic disease (OYUIC), the frequency of GX and NX detection in TXP is 32.15% and 21.50%; in male TXP and female TXP – GX and NX prevalence is 26.79% and 22.32%, and 36.40% and 0.85% respectively are recorded [ $\chi^2=2.227$ ;  $P<0.05$ ;  $RR=0.858$ ; 95%  $CI=0,698 - 1,055$ ]. With chronic ischemic heart disease (SYUIC), the prevalence rate of GX and NX in total 18-74-year-old TXP is characterized by confirmation from 32.15% and 21.50% respectively in Hol. In the population of male medical practitioners aged 18-74 years, with SUIC, the frequency of detection of hyper - and normaxolesterolemia is 33.48% and 17.41%, while in the population of women it is consistent – 31.45% and 11.31% [ $\chi^2=1.678$ ;  $P=0.195$ ;  $RR=0.897$ ; 95%  $CI=0.755 - 1.060$ ].

Also listed in the Fergana Valley physician population are features of age-related cross-dispersal of IHDni and different levels of Xs. In TXP with IHD, GX and NX are recorded in compatibility with the following detection frequencies in different age groups: from 18-24 years old – from 2.4% and 0.0%, in 25-44 – from 57.8% and 39.8%, in 18-44 years old – from 60.2% and 39.8, in 45-59 – from 41.1% and 16.7%, in 60-74 – from 25.5% and 16.7%, in 18-74 year olds – from 66.6% and 33.4 [ $\chi^2=1,952$ ;  $p=0,162$ ;  $RR=0,905$ ; 95%  $CL=0,783-1,046$ ]. In TXP with OIHD, GX and NX are characterized by expression in different age groups, in accordance with the frequency of detection: in 18-24 years old – from 0.6% and 0.0%, in 25-44 years old – from 33.1% and 24.1%, in 18-44 – from 33.7% and 24.1%, in 45-59 – from 20.2% and 7.3%, in 60-74 – from 11.1% and from 12.9%, from 45-74-from 31.4% and 20.2% [ $\chi^2=1,157$ ;  $p=0,692$ ;  $RR=0,960$ ; 95%  $CL=0.78-1,180$ ]. In suik, GX and NX are age - related with different



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prevalence rates (table 5.2): in the population of doctors aged 18-24 years – from 1.8% and 0.0%, in 25-44 years – from 24.7% and 15.7%, in 18-44 - from 26.5% and 10.8%, in 45-59 – from 20.8% and 9.4%, in 60-74 – from 14.4% and 3.8%, 45-74 DA – from 35.2% and 13.2% [ $\chi^2=2,271$ ;  $p=0,132$ ;  $RR=0,864$ ; 95%  $CL=0,706-1,059$ ].

In the male physician population of the Fergana Valley, the characteristics of age – related cross – distribution of different levels of IHDni Xs have also been studied: males are found in TXP, Yuk – dependent Hol, GX and NX with disparity frequencies in different ages: in 18-24 – 2.1% and 0.00%, in 25-44 – 58.3% and 39.6%, in 18-44 – from 60.4% and 39.6%; in 45-59-from 28.1% and 24.2%, in 60-74-from 32.0% and 15.6%, in  $\geq 45-74$ -from 60.2% and 39.8% [ $\chi^2=0.002$ ;  $p=0.969$ ;  $RR=1.004$ ; 95%  $CL=0.810-1.245$ ].

In male populations with acute IHD, the frequency of GX and NX initiation is 21.9% and 21.1% (in 45-74-year-olds) as well as 33.3% and 24.0% (in 18-44-year-olds). In 18-24 and 25-44 – year-olds, GX and NX are observed in accordance with the prevalence frequencies of 0.0% and 0.0% and 33.3% and 24.0%. GX and NX in 45-59 – year-olds, in OIHD, are characterized by recording frequencies from 7.8% and 10.2%, and in 60-74-from 14.1% and 10.9%.

In TXP, the frequency with which chronic ischemic heart disease correlates different levels of Xs with age is confirmed as follows: in 18-24 years old – from 21% and 0.0%, in 25-44 years old – from 25.0% and 15.6%, in 18-44 – from 27.1% and 15.6%; in 45-59 – from 20.3% and 14.1, in 60-74 years old – from 18.0% and 4.7%, 45-74 years old – from 38.3% and 18.8% [ $\chi^2=0.160$ ;  $p=0.689$ ;  $RR=0.945$ ; 95%  $CL=0.712-1.253$ ].

The frequency of GX detection in age – related Hol is proven in men-to 33.3%, (in males and middle-aged) and up to 38.3%, or by an increase of more than 2 times (in adults of mature and old age) ( $R<0.01$ ).

In the population of female doctors, separate such analytical conclusions were made: characteristics of age – related prevalence (in%) of different levels of OYUIC and Xs, in women, are confirmed as follows (in accordance with GX and NX): at 18-24 years old – from 1.43% and 0.00%, at 25-44 – from 32.9% and 24.3%, at 18-44 – from 34.3% and 24.3%, at 45-59 – from 27.7% and from 0.6%,



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in 60-74 – from 9.4% and 14.1%, in 45-74-from 37.1% and 19.7% [ $\chi^2=0.603$ ;  $p=0.437$ ;  $RR=0.897$ ; 95%  $CL=0.672-1,196$ ].

In TXP, an analysis of age – related prevalence of different levels of SYUIC and Xs in women confirms the frequency of prevalence of GX and NX as follows: in 18-24 – from 1.43% and 0.00%, in 25-44 – from 24.3% and 15.7%, in 18-24 – from 25.7% and 15.7%, in 45-59 – from 21.1% and 6.6%, in 60-74 – from 12.2 from% and 3.3%, 45-74 DA-from 33.3% and 9.9% [ $\chi^2=2,586$ ;  $p=0,108$ ;  $RR=0,804$ ; 95%  $CL=0,593-1,092$ ].

In women doctors with total SIHD, GX and NX are confirmed by the specific prevalence frequencies depending on different age groups: in 18-24 years old – from 2.86% and 0.00%, in 25-44 – from 57.1% and 40.0%, in 18-44 – from 60.0% and 40.0%, in 45-59 – from 48.8% and 12.2%, in 60-74 – from 21.6% and from 17.4%, 45-74 DA – from 70.4% and 29.6% [ $\chi^2=2,623$ ;  $P=0,105$ ;  $RR=0,852$ ; 95%  $CL=0,691-1,051$ ].

## **Conclusion**

1. In the population of physician employees, changes in cholesterol levels due to occupational psychoemotional risks, stress and workload are high, and in the case of heart ischemic disease Fergana Valley, the main hypercholesterolemia risk factor among doctors against the background of OIC and SYUIC-32.15% (in women – 36.40% and in men – 26.79%) and 32.35% (in women – 31.45% and in men – 33.48);
2. In the population of medical personnel, GX is confirmed as a risk factor at a prevalence frequency of more than 64.0%: with every third OIHD and SIHD, this factor is recorded in TXP, and depending on this age, GX has been observed to increase sharply until the age of 44, and then, on the contrary, a tendency to decrease.
3. The application of the results of the study in practical daily activities increases the early detection of ischemic heart disease in doctors by at least 75%, sharply reduces the incidence and mortality, increases the medical, economic and social effect, creates the possibility of increasing the quality of life in medical workers.



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