

Gender Characteristics Of The Prevalence Of Hypertensive Crise Among The General Population Age 18-89 And Its Dynamics In 1989-2020

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ABSTRACT: The analysis of the literature data on the use of modern organizational technologies for the prevention of hypertension is carried out. The basic principles and stages of diagnosis of this pathology, risk groups for the development of arterial hypertension, and features of the organization of preventive programs are considered. The basic principles of the application of the blood pressure selfmonitoring system in organizations and public places are considered.

Key words: arterial hypertension, prevention of cardiovascular diseases, organizational technologies, self-monitoring of blood pressure, patient education, hypertension, prevention, scientific basis, screening, territory

Login. Many researchers have confirmed that the death rate from cardiovascular diseases has been increasing and is characterized by sharp changes since the end of the 20th century.

Based on the analysis of epidemiological studies conducted, researchers such as G.Ya. Maslennikova, Oganov R.G. (2018), Ye.V. Akimova et al. (2006), M.M. Kayumova et al. (2023), N.V. Pogosova et al. (2018), A.M. Akimov (2023) convincingly confirm that such trends are observed in most countries due to social and economic changes and psychosocial factors, most of which are recorded in relatively economically active age groups [8., 9, 7., 10., 1].

A.M. Akimov (2023) confirmed the importance of the type of work among the risk factors in the Arctic region, indicating its importance in maintaining the health of the population. The author indicated that in this region, high labor intensity, relatively long work hours, few days off, and minimal social and household welfare are among the risk factors [1].

Therefore, the need to conduct and/or continue epidemiological studies to develop a comprehensive program for the prevention of cardiovascular diseases in specific geographical and ecological regions, for example, in the Arctic, is also recommended by other researchers [5., 2., 3., 4., 12., 13., 15].

We believe that these opinions contain scientific logic and promising topics. Because over the years, the scope of certain diseases is expanding, while others are narrowing, and their accurate, mainly epidemiological studies and analysis are considered an extremely important scientific and practical direction. The reason is that the "new foundations" of medicine are built on the basis of such information and conclusions.

Until the beginning of the new century, for example, the idea that the Northern population, the indigenous population, did not suffer from diabetes was "dominant" in scientific sources.

According to data provided by the WHO, international migration has been showing a steady growth trend in recent years [14].

Therefore, the development and improvement of screening and prevention programs in this established migrant population (MAP) is an urgent issue or will become even more urgent in the future. The existing research leads or encourages this conclusion.

According to data published by the Federal State Statistics Service of Russia (2025) and A.S. Andreeva, I.S. Ivanova, Varshaver Ye.A. (2024), the migration flow in the Russian Federation averages 0.5 million people annually, and in most cases, the arrivals are from the CIS countries [11, 8].

Purpose of the study - The aim of the project is to develop regional scientific foundations for innovative prevention of hypertensive cases in Uzbekistan based on the 31st annual screening, taking into account scientific characteristics, and to implement new technologies that have improved treatment and control measures.

Material and methods

As an object of research A population of 3,001 people (1,421 men and 1,580 women) was selected from the unorganized population aged 18-89 in Andijan region using a 10% random sample based on a table of random numbers and involved in AG monitoring from 1989 to 2020.

As a subject of research Venous blood and serum of patients were taken for biochemical analysis; international criteria for diagnosing AB and GH and analyzing risk factors for comorbid diseases, as well as full statistical modeling indicators were obtained, which serve as a scientific justification for regional prevention.

Research methods. Epidemiological, general clinical, instrumental (cardiac echocardiography, ECG, UTT, anthropometric measurements, tonometry), biochemical, pharmacoepidemiological, pharmacoeconomic, pharmacosurveillance, and statistical methods were used.

Results

Table 1 and Figure 1 describe the characteristics of the frequency of hypertensive crisis among the population aged 18-89 and its 31-year description of changes.

Table 1

Prevalence of hypertensive crisis among the population aged 18-89, dynamics in 1989-2020

Year of screening, population screened	Types of hypertensive crisis						RR	95 %III		χ^2	
	HC-I type		P ₁	HC -II type		Total HC		max	min		
	n	%		n	%	n					%
I sc (n=1944)	153	55,4	<0,05	123	44,6	276	68,49	1,60	2,13	1,21	6,45
P ₂	<0,05			<0,05		<0,001					
II sc (n=1057)	52	40,9	<0,05	75	59,1	127	31,51	1,45	2,07	1,23	4,16
GenP (n=3001)	205	50,9	>0,05	198	49,1	403	100,0	1,04	1,26	0,86	0,12

They show that hypertensive crisis (HC) in the general population, aged 18-89 years, is mainly recorded in 2 types: hypertensive crisis types I and II (HC type I, HC type II). Type I HC (50.9%) is more frequently diagnosed than type II (49.1%) with a non-significant difference of 0.8% [RR=1.04; 95% CI=1.26–0.86; $\chi^2=0.12$]; (P>0.05).

HC I and II diabetes mellitus were confirmed by screening with frequencies of 55.4% and 44.6%, respectively, and total diabetes mellitus was confirmed with frequencies of 68.49% [RR=1.60; 95% CI=2.13–1.21; $\chi^2=6.45$]; (P<0.05).

According to the II screening, i.e., at the age of 31, in this population (aged 18-89), HC I and II diabetes were detected at frequencies of 40.9% and 59.1%, respectively (P<0.05), and total diabetes was detected at a rate of 31.31% [RR=1.45; 95% CI=2.07–1.23; $\chi^2=4.16$].

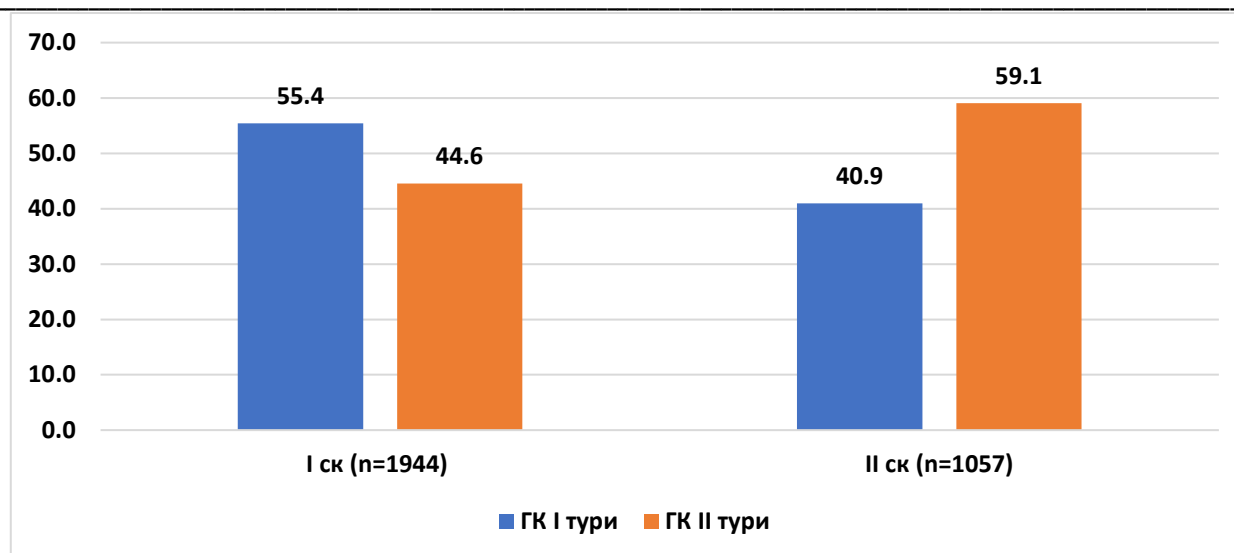


Figure 1. Epidemiological results of hypertensive crisis 31-year description of changes and expression (in the conditions of Andijan region)

The epidemiological characteristics of the 31st year of the 18-89th year of the 19th century are characterized by a decrease in the frequency of HC by 36.98%, and a decrease in the frequency of HC -I and HC -II by 14.5% ($P_2 < 0.05$) and an increase in the frequency of HC -II by 14.5% ($P_2 < 0.05$) ($P_2 < 0.01$).

The prevalence of HC in the 18-89th year of the 19th century, the expression of changes in the epidemiological characteristics of the 31st year of the 19th century are presented in Table 9.2 and Figure 9.2, and in the data in Table 9.3 and Figure 9.3 with explanatory figures (presented in the appendix).

They confirm that in the general population of men aged 18-89, in valley conditions, HC -I and II types are confirmed with a frequency of 49.5% and 50.5%, respectively, i.e., 1.0% [$RR=2.45$; 95% $CI=1.97-3.04$; $\chi^2=48.0$].

In men, type I HC was detected at frequencies of 45.0% and 54.0%, respectively, according to I- and II-screening, i.e., it was detected with an increase of 1.9% ($P_2 > 0.05$). Type II HC was detected with frequencies of 55.0% and 46.0%, respectively, according to I- and II-screening. The change in the frequency of detection at 35 years was expressed as a decrease of 9.0% ($P_2 > 0.05$). Type II HC was detected with a difference of 10.0% compared to type I HC [$RR=2.80$; 95% $CI=1.92-4.08$; $\chi^2=117.6$; ($P_1 < 0.05$)]. According to the results of the II-screen, in this male population, type I HC is confirmed at a higher frequency than type II HC, with a difference of 8.0% [$RR=2.52$; 95% $CI=1.96-3.29$; $\chi^2=6.1$; $P_1 < 0.05$].

The 31-year epidemiological screening further confirmed that in the general population of women, aged 18-89, HC types I and II were detected more frequently, with a prevalence of 51.0% and 49.0%, respectively, with a difference of 2.0% [$RR=2.52$; 95% $CI=2.03-3.13$; $\chi^2=43.7$; $P > 0.05$].

Type I and II HC were recorded at a prevalence of 57.2% and 37.1% ($P_2 > 0.05$) and 42.8% and 62.9% ($P_2 < 0.05$) respectively according to I and II screening. The 31-year changes in type I HC were confirmed by a decrease of 20.1% and an increase of 20.1% in type II HC.

In addition, according to I-screening, type I HC is confirmed at a higher prevalence rate, differing by 14.4% compared to type II HC [$RR=2.54$; 95% $CI=1.96-3.29$; $\chi^2=6.1$; $P_1 < 0.05$].

According to the II-screening data, in the female population aged 18-89, type II GC is observed more frequently than type I HC, with a prevalence rate of 25.8% [$RR=2.52$; 95% $CI=2.03-3.13$; $\chi^2=43.7$; $P_1 < 0.05$]. Thus, it can be concluded that taking into account gender characteristics in the implementation of preventive and therapeutic measures for HC will also increase the effectiveness of the activity from 14.4% to 25.8%.

Conclusion

According to the results of a 31-year prospective pharmacoepidemiological study, the frequency of irregular treatment in the population aged 18-89 years with a pre-hypertensive crisis is 10.8% and the frequency of non-treatment is 3.5%. In men and women, these indicators differ: 65.0% (with a decreasing rate) and 67.0% (with

a decreasing rate), 6.2% (with an increasing rate) and 10.4% (with an increasing rate), and 2.4% and 3.0% (with a decreasing and increasing rate).

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