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Aspects Of Regional-Specific Characterization Of The Epidemiology And Risk Of Major Non-Communicable Diseases In The Adult Rural Population Of Andizhan

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ABSTRACT: : Major chronic non-communicable diseases (cardiovascular diseases, tumors, chronic respiratory diseases) have been among the most widespread diseases in the world for the past few years, and they remain the leading object of science and practice as the main cause of the therapeutic continuum among the population. Therefore, in the current era, preventive and prophylactic medicine, both theoretically and practically, and primarily in relation to major non-communicable diseases, has become an urgent issue and a necessity. According to the World Health Organization, "the annual mortality rate from them is 71%, and economic losses are about 1 trillion per year..."

In the world, special attention is paid to epidemiological scientific research aimed at identifying the regional characteristics of the occurrence of major non-communicable diseases and creating and improving measures for the prevention of their various forms. In particular, the introduction of methods for early detection and prediction of the risk of developing major non-communicable diseases based on "…epidemiological markers" - risk factors, in populations with different characteristics is identified as one of the important tasks. At the same time, scientific research is also actively underway, including in Uzbekistan, to accurately and objectively assess the epidemiological and clinical processes in non-communicable diseases, to improve predictive algorithms - models, taking into account the territorial course of diseases and the "accumulation of risk factors". However, despite the great achievements of medical science, there is no generally accepted methodology for the prevention of major non-communicable diseases.

Western medicine believes that the outcome of prevention (population health) is 50% related to living conditions and lifestyle, 20% to environmental conditions, 20% to genetic factors, and 10% to the healthcare system. Eastern medicine believes that the outcome of prevention is 70% related to thinking, 20% to lifestyle, and 10% to nutrition.

Keywords: major noncommunicable diseases, epidemiological studies, risk factors, overweight, coronary heart disease, hypertension, myocardial infarction, metabolic syndrome, diabetes mellitus

XULOSA: Asosiy surunkali yuqumsiz kasalliklar (yurak qon tomir kasalliklari, o‘sma kasalliklari, surunkali respirator kasalliklar) so‘ngi bir necha yillar davomida dunyo miqyosida keng tarqalgan kasalliklar qatorida turib, ular axoli orasida terapevtik kontinuumga olib keluvchi asosiy sababchi sifatida fan va amaliyotni yetakchi ob’ekti bo‘lib saqlanib qolmoqda. Shuning uchun hozirgi davrda preventiv va profilaktik tibbiyotni, xam nazariy va xam amaliy jihatdan eng avvalo asosiy yuqumsiz kasalliklarga nisbatan, ilmiy – ijodiy tafakkurlash dolzarb masala bo‘lib qolgan va zaruriyatga aylangan. Jahon sog‘liqni saqlash tashkilotining ma’lumotiga ko‘ra «,,,ulardan har yili o‘lim ko‘rsatkichi 71% ni tashkil etadi va iqtisodiy talofatlar yiliga 1 trln atrofida bo‘ladi...»

Jahonda asosiy yuqumsiz kasalliklar kelib chiqishining xususiyatlari va ularni turli shakllarining profilaktikasi tadbirlarini yaratib takomillashtirishga qaratilgan epidemiologik ilmiy tadqiqotlarga aloxida e’tibor berilmoqda. Ayniqsa, asosiy yuqumsiz kasalliklarning rivojlanish xavfini «…epidemiologik markerlar» - xatar omillar asosida erta aniqlanish va bashoratlash usullarini joriy etish, turli xususiyatli axoli populyatsiyalarida, muhim vazifalardan biri sifatida belgilanmoqda. Shu bilan birga, yuqumsiz kasalliklarda epidemiologik – klinik jarayonlarni chin va ob’ektiv baholash, kasalliklarning xususiy kechish xamda «xatar omillarini to‘planish» xususiyatlarini xisobga olgan xolda bashoratlash algortim – modellarini takomillashtirish bo‘yicha ilmiy izlanishlar xam faol borilmoqda, jumladan, O‘zbekistonda xam,. Ammo tibbiyot fanining ulkan yutuqlari bo‘limiga qaramasdan asosiy yuqumsiz kasalliklarni profilaktikasining umumtan olingan metodologiyasi mavjud emas.

G‘arb tibbiyoti hisoblaydiki, profilaktikaning natijasi (axoli salomatligi) 50% ga – hayot sharoiti va tarzi bilan, 20% ga – atrof muhit xolati bilan, 20% - ga – irsiy omillar bilan va 10% - ga – sog‘liqni saqlashni tashkil etish

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February, 2026

tizimi bilan bog‘liq bo‘ladi. Sharq tibbiyoti esa, profilaktikani natijasi 70% ga fikrlash usuli bilan, 20% ga – hayot tarzi bilan va 10% ga – ovqatlanish tarzi bilan bog‘liq bo‘lib ko‘rinadi deb xisoblaydi.
Kalit so'zlar: asosiy yuqumsiz kasalliklar, epidemiologik ilmiy tadqiqotlar, xatar omili, ortiqcha tana vazni, yurak ishemik kasalligi, gipertoniya kasalligi, miokard infarkti, metabolik sindrom, qandli diabet.

Introduction. In the current era of the “third renaissance”, the issue of developing modern approaches to improving the control system over major noncommunicable diseases (NCDs), the development of its theoretical and scientific foundations remains an international priority. Even though the trend of NCDs has not only stabilized, but has become increasingly relevant and is predicted to take on a pandemic character in the near future.

The use of artificial intelligence (AI) in medical practice, in particular in NCDs, is already a fact, its new and promising direction in health care, as a “unique tool” that shows great potential in the prevention, diagnosis and therapy of NCDs, has been proven in recent years in research [11; 14; 13; 17; 10; 6; 16; 5; 7].

According to the results of a survey of doctors, the integration of AI into medical practice “helps the doctor as an additional tool” (28%), “fundamentally changes medicine” (5%), “fundamentally changes medicine, but the role of doctors will remain central” (67%) [3].

According to WHO, metabolic syndrome and obesity are responsible for up to 44% of CVD and 23% of CVD [15]. According to V.S. Krysanova and P.A. Kelekshaev (2020), approximately 4.72 million deaths (on average per year) are associated with metabolic syndrome and obesity [1].

A meta-analysis for Russia from 1980 to 2016 (333 causes of death and 84 risk factors were included in the analysis) confirmed that 48.5% of deaths in Russia in 2016 were caused by metabolic risk factors [9]. Metabolic syndrome is a risk factor for cardiovascular diseases, cancer, CVD, and neurological disorders [8]. Obesity also attracts attention by increasing financial costs: in some countries, 8% of the health system budget is spent on obesity-related diseases. Patients with obesity are twice as likely to receive medication compared to patients without obesity.

70% of the costs of NCDs, 23% of the costs of HCC, and 9% of the costs of cancer are associated with the presence of obesity [12]. The increase in costs associated with obesity and obesity (up to 31.8% in healthcare costs and 68.1% in costs associated with reduced productivity) has also been noted in other studies and reviews [18; 2; 3; 4].

The negative epidemiological situation with non-communicable diseases, according to the presented data, has worsened and become more serious due to the lack of adequate management and control systems. In this regard, it is important to change and improve the preventive system for controlling the risk of NCDs, based on epidemiological results and conclusions and with priorities at the regional/territorial population level, and this area is receiving attention as a relevant scientific topic worldwide.

The general conclusion can be summarized as follows: the development of a customer-centric system for digital prevention is a relatively new concept, although this approach is gaining momentum worldwide.

The purpose of the study is to improve the screening and control system for major non-communicable diseases in the rural population of Andijan in a special epidemiological study.

Material and methods

Object of research a representative sample of 2,446 rural residents was taken from the Pakhtaabad district of Andijan region.

Subject of the study general clinical-laboratory, biochemical and screening methods for venous blood and serum of the population, as well as instrumental methods for the epidemiology of AKI.

Research methods. The study used epidemiological, general clinical, laboratory, biochemical, instrumental, and statistical research methods.

Results

In the surveyed rural population, the main non-communicable diseases (NCDs) are mainly confirmed and observed in 5 types: cardiovascular diseases (CVDs), respiratory diseases (RHDs), chronic kidney diseases (CKDs), diabetes mellitus (DM) and cancer diseases (CNDs). Table 1 and Figure 1 describe the epidemiology

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February, 2026

and risk of NCDs in the rural population. They show that the prevalence of NCDs is 10.9% in adults; the low-risk population is 10.5%, and the high-risk population is 11.1% [X2 = 0.548; P>0.05; RR= 1.102; 95% CI = 0.852 – 1.425].

Table 1

Description of the epidemiology and risk of major noncommunicable diseases (NCDs) in rural populations

№	Main non-communicable diseases studied		Village population surveyed (n=2446)							
			abc	%	Danger		χ^2	P	RR	95%CI
					Low (n=1453)	High (n=993)				
1	Cardiovascular diseases		267	10,9	(10,5)	(11,4)	0,548	>0,05	1,102	0,852-1,425
			432	17,7	(17,4)	(18,0)	0,153	>0,05	1,043	0,845-1,288
2	Respiratory diseases		184	7,5	(7,7)	(7,1)	0,333	>0,05	0,913	0,671-1,243
			90	3,7	(3,3)	(4,1)	0,953	>0,05	1,234	0,808-1,884
3	Chronic kidney diseases		9	0,4	(0,27)	(0,5)	0,838	>0,05	1,833	0,491-6,844
			42	1,7	(1,9)	(1,4)	0,935	>0,05	0,728	0,381-1,389
4	Diabetes		46	1,9	(1,7)	(2,0)	0,161	>0,05	1,128	0,626-2,032
			277	11,3	(10,4)	(12,5)	2,657	>0,05	1,233	0,958-1,585
5	Tumor diseases		114	4,7	(4,1)	(5,3)	1,723	>0,05	1,287	0,882-1,876

Note: percentages in parentheses, CHD – ischemic heart disease, AG – arterial hypertension, COPD – chronic obstructive pulmonary disease, CPAP – community-acquired pneumonia, BL – glomerulonephritis, PN – pyelonephritis, T1D – type 1 diabetes mellitus, T2D – type 2 diabetes mellitus.

The prevalence of AG is observed at 17.7%; those in the low-risk group - 17.4%, those in the high-risk group - 18.0% [X2 = 0.153; P>0.05; RR= 1.043; 95% CI = 0.845 - 1.288].

From the analysis of the obtained data, it is clear that the frequency of detection of OSOK in the examined population is 75%; the population with OSOK in the low-risk group was confirmed with a prevalence rate of 7.7% and high-risk groups - 7.1% [X2 = 0.333; P>0.05; RR= 0.913; 95% CI = 0.671 - 1.243].

CTCP is confirmed and recorded at a detection frequency of 3.7%; low-risk groups - 3.3% and high-risk populations - 4.1% [X2 = 0.953; P>0.05; RR = 1.234; 95% CI = 0.808 - 1.884].

Glomerulonephritis is observed in this population with a frequency of detection of 0.4%; those in the low and high risk groups are detected in accordance with the prevalence rates of 0.27% and 0.5% [X2 = 0.838; P>0.05; RR= 1.833; 95% CI = 0.491 – 6.844].

Pyelonephritis is characterized by a registration rate of 1.7%, including those in the low and high risk groups are confirmed with prevalence rates of 1.9% and 1.4%, respectively [X2 = 0.935; P>0.05; RR= 0.728; 95% CI = 0.381 – 1.189].

The following analytical data (Table 1 and Figure 1) are devoted to the prevalence rates of diabetes mellitus in the adult population of the village.

ISSN NO: 2770-2936
February, 2026

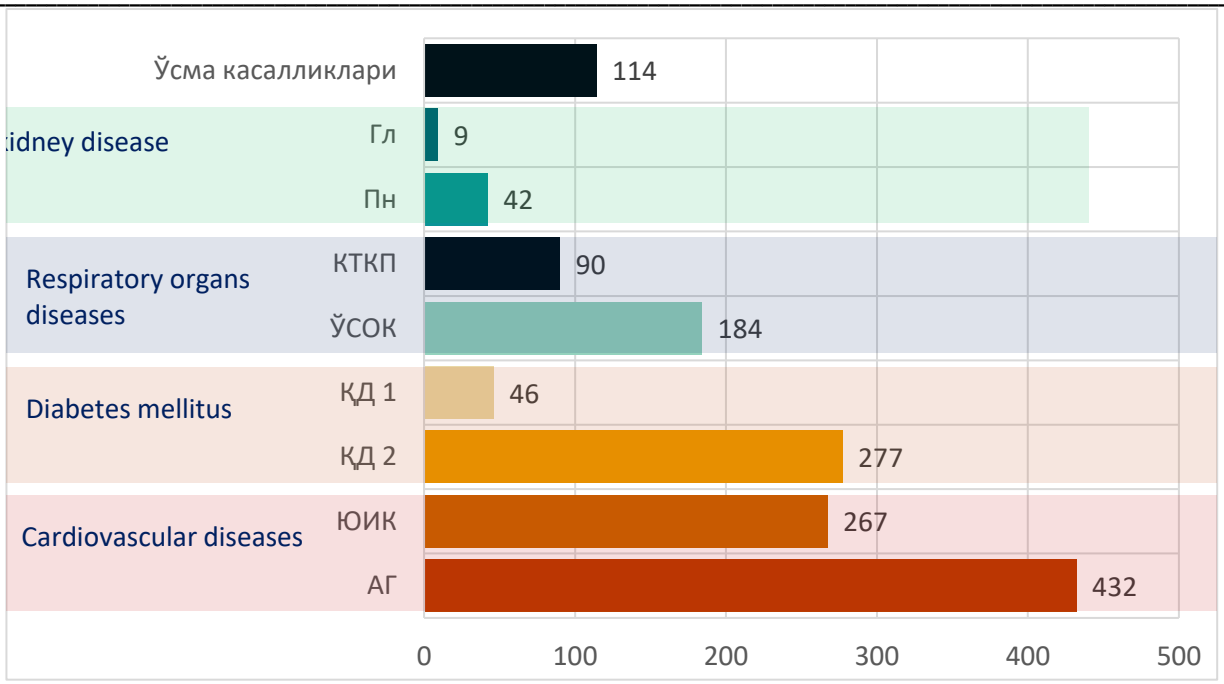

Figure 1. Description of the epidemiology and risk of major non-communicable diseases (NCDs) in the rural population

It was confirmed that QD – 1 is confirmed at a detection frequency of 1.9%, low and high risk groups – 1.7% and 2.0% [X2 = 0.161; P>0.05; RR= 1.128; 95% CI = 0.626 – 2.032].
The detection frequency of QD2 is described as 11.3%, 10.4% and 12.5%, respectively [X2 = 2.657; P>0.05; RR= 1.233; 95% CI = 0.958 – 1.585].
The detection frequency of tumor diseases is 4.7%; the detection rates of low and high risk groups are described as 4.1% and 5.3% [X2 = 1.723; P>0.05; RR= 1.287; 95% CI = 0.882 – 1.876].
It can be concluded that among the AJC, the highest prevalence rates are recorded for UIC, diabetes mellitus, and NAC. The lowest frequencies are confirmed for BSC (R<0.001).

Conclusion

In the rural population aged 18–89 years, multiple risk factors are identified with the following prevalence rates: 2 risk factors – 22.9%, 3–4 risk factors – 46.4%, 5–6 risk factors – 17.0% and 7–9 risk factors – 2.2%. Multiple non-communicable diseases (polypathy) are characterized by 9 different components in the general population, men and women: “NCD + NCD” – 3.7%, 1.6% and 2.1%; “NCD + QD2” – 4.6%, 1.6% and 2.7%; “NCD + BSK” – 0.7%, 0.0% and 0.7%; “NCD + AG” – 3.5%, 1.4% and 2.1%; "YUIK + QD2" - 2.2%, 1.2% and 1.0%; "YUIK + OSOK" - 1.4%, 0.7% and 0.7%; "YUQK + NAK + QD2" - 1.0%, 0.6% and 0.4%; "YUQK + NAK + BSK" - 0.1%, 0.0% and 0.1%; "YUQK + NAK + QD2 + BSK" - 0.0%, 0.0% and 0.0%; "YUIK + AG + OSOK + QD2" - 0.2%, 0.1% and 0.1% [X2 = 2.418; P>0.05; RR= 5.019; 95% CI = 0.522 – 48.187].

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February, 2026

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February, 2026

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