

SPREAD OF MYOCARDIAL INFARCTION AMONG THE POPULATION OF THE KHOREZM REGION

<https://doi.org/10.5281/zenodo.10202060>

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Annotation: *In this article, based on data from 2012-2022, the distribution and the most frequent risk factors of myocardial infarction among the urban and rural population of the Khorezm region are studied.*

Keywords: *Heart attack, myocardium, smoking, stenocardia, diabetes.*

INTRODUCTION

Myocardial infarction is a focus of ischemic necrosis (necrosis) of the heart muscle, which occurs due to acute circulatory disorders in the coronary artery. Myocardial infarction is one of the most common forms of coronary heart disease (CHD). The condition poses a threat to human health and life, it is the main cause of death among the adult population in developed countries. The most common symptoms of myocardial infarction are recorded in men (about 5 times more often than in women), and 70% of all sick people are 55-65 years old. A heart attack is manifested by extremely unpleasant signs: sharp pains behind the sternum, shortness of breath, cold sweat, a feeling of fear. Nevertheless, with timely identification of risk factors, diagnosis of a heart attack and timely assistance in case of an attack of myocardial infarction in the clinic, it is possible to avoid tragic consequences. Assessment of the health status of the population is a prerequisite for scientifically sound management of the health system [1].

To develop scientifically sound recommendations for improving the organization of medical care to the population, it is necessary to study the incidence with the identification of the dependence of the level of pathology on social factors, to conduct an in-depth analysis. In recent years, there has been a tendency in the country to increase the incidence of circulatory diseases from 2454 per 100 thousand people in 2021 to 2523 in 2022 [2]. Currently, myocardial infarction occupies the first place in the structure of causes of mortality among the population [3]. Among diseases of the circulatory system, myocardial infarction is the leading cause of premature mortality, primary disability and increased costs of inpatient treatment in all countries of the world, which determines the socio-economic significance of the problem of myocardial infarction [4-6]. The research of trends in the incidence of acute myocardial infarction (AMI) is devoted to the work of a number of authors [7-9].

The purpose of this work is to study the epidemiology of myocardial infarction (MI) in the Khorezm region, which can be attributed to a typical agricultural one, for the period

2012-2022. Based on the data of the IM register in the Khorezm region, the morbidity and mortality from MI were studied depending on age, gender, and risk factors for the period from 2012 to 2022.

Materials and methods. Khorezm region refers to agricultural regions with a population of 1020000 people. About half a million people live in the major cities of the region. Most of the population is engaged in food production and lives in rural areas. Contamination of the territory with industrial toxicants is insignificant. In recent years, pesticide contamination has also decreased in rural areas. At the same time, it should be mentioned about the social and domestic problems of rural residents, associated, in particular, with excessive alcohol consumption among the male half of the population. The incidence of MI from 2012 to 2022 increased by 11.3% (from 1.27 to 1.43 per 1000 population) both in urban (11.0%; from 1.60 to 1.76 per 1000 population) and in rural populations (11.2%; from 1.00 to 1.16 per 1000 population).

When comparing the incidence of MI separately among men and women, it is clearly seen that in both urban and rural populations, the incidence among men is significantly higher than among women. However, rural men suffer from IT much more often than male citizens. Thus, the average incidence of MI over 9 years in rural men was 2.10 ± 0.13 , and among urban men - 1.72 ± 0.10 ($p=0.048$), while among urban women the incidence of MI significantly exceeds that among rural women (respectively 1.00 ± 0.04 and 0.58 ± 0.05 , $p=0.03$). When analyzing the frequency of MI development depending on age, it was found that there were no significant differences in the frequency of cases of MI both between groups of men in the city and village, and among women in the city and village in groups similar to age. At the same time, a significantly high incidence of MI among men of both urban and rural populations under the age of 70 years has been established.

At the age of 70 years and older, the incidence of MI among women was significantly higher than among men, both in urban and rural populations. These important facts, which warn against incorrect conclusions when analyzing indicators regardless of age, and, consequently, the structure of the population, once again confirm the need to apply the principles of scientific validity in the study of the initial epidemiological situation. According to the Khorezm Register, the main immediate causes and conditions for the development of IM have been established. So, at rest, without any aggravating factors, MI occurred in 55.8% of cases, unusual physical activity-in 11.63%, severe nervous tension-in 4.27%, emotional conversation-in 0.98%, during sleep- in 7.85%, due to alcohol abuse-in 0.84%, other reasons-in 19.35%. 9.1% of people applied for medical help before one hour, 30.1% from one to 3 hours, from 3 to 6-12%, from 6 to 12 - 11.3%, from 12 to 24 - 8.7% and more than a day - 28.8%.

According to the Khorezm Register, smoking preceded the development of MI in 58.30% of cases among men and 34.27% among women, hypertension - in 31.83% and 24.6%, respectively, diabetes mellitus – in 3.07%, 6.6%, angina pectoris - in 31.45%, 19.94%. These data once again convince that poor awareness of patients about the

disease, the lack of adequate preventive measures on the part of medical professionals play an important role in the development of the disease and its prevention.

The total mortality from MI for the period from 2012 to 2022 averaged $13.75 \pm 2.16\%$ ($7.71 \pm 1.42\%$ among men and $6.04 \pm 2.06\%$ among women). The main direct causes of mortality were acute and chronic heart failure (53.9%), cardiogenic shock (8.9%), secondary ventricular fibrillation (20.0%), primary fibrillation (8.53%), thromboembolic complications (2.53%), myocardial ruptures (6.11%). Lethality is an indicator that depends on many facts and, above all, on the individual status of patients (age, severity of MI, the presence of concomitant diseases, the time of seeking medical help and the time of hospitalization). A more independent indicator is the mortality from MI. The register data allowed us to determine the total mortality from MI, which for the study period averaged 18.43 per 100 thousand population. It is of interest to analyze the mortality rate depending on gender and age. At the age of 21-30, there was no mortality from MI, from 31 to 40 years among men was 2.52 ± 0.08 , among women -1.26 ± 0.06 , total -1.89 ± 0.12 , from 41 to 50 years - respectively $14,05 \pm 1,60$, $1,13 \pm 0,5$, $7,46 \pm 2,77$, from 51 to 60 years - $50,35 \pm 2,78$, $10,96 \pm 2,03$, $28,81 \pm 2,90$, from 61 to 70 years - $109,4 \pm 9,16$, $34,58 \pm 5,62$, $65,20 \pm 7,86$, over 70 years old - $122,9 \pm 12,60$, $84,79 \pm 10,50$, $98,59 \pm 13,53$.

When comparing mortality rates in groups of the same age and gender between urban and rural populations, it was found that at the age of 41-50 years, mortality among urban men was 3.5 ± 1.08 , in rural areas - 55.3 ± 7.17 , from 51 to 60 – respectively 69.03 ± 11.20 and 97.7 ± 10.64 , from 61 to 70 years - 97.05 ± 10.57 and 214.3 ± 14.62 and older than 70 years $294,4 \pm 23.00$ and 164.98 ± 17.10 . In the female population from 61 to 70 years old in the city -54.33 ± 9.88 , in rural areas -60.1 ± 7.16 , over 70 years old – 190.2 ± 17.10 , 103.8 ± 10.52 , respectively. Thus, the overall mortality rate without taking into account age and gender lacks a reliable clinical and epidemiological picture of MI and only when analyzed by age and gender allows you to reproduce an accurate picture and draw reliable conclusions. Thus, the mortality rate in the male population remains extremely high, especially in older age groups. This indicator is especially high in rural areas (it exceeds the same indicator in the city at the age of 41-50 years by more than 15 times ($p < 0.001$), at the age of 51 to 60 years – by 1.5 times ($p < 0.05$)), which certainly indicates the insufficient quality of medical care for patients with MI in rural areas.

Conclusions: The incidence of MI, estimated according to the register, increased by 11% over the period 2012-2022 in both urban and rural populations. Stratified by age and gender, the incidence rates of MI between the male population in the city and the village, as well as in the female population, do not differ significantly. At the same time, the incidence among men over the age of 70 is significantly higher than among women, and vice versa among men over the age of 70. Among the factors provoking the development of MI, smoking, hypertension, angina pectoris, diabetes mellitus are the most significant.

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