increase are characterized.

Research has shown that at the beginning of 2021 in Ternopil there were 223,8 thousand inhabitants (21.5 % of the total population of Ternopil region). Compared to 2001, the population decreased by 3,9 thousand people, or 1.7%. In 2020, for the first time in Ternopil, the number of deaths exceeded the number of newborns – a natural increase, thus, fell below zero and became negative (-1.5). The slight increase in the number of Ternopil residents, which has been observed in the last two years, was solely due to internal migration. One of the reasons for this is the high level of unemployment in rural areas of the region, from where migration to the regional center takes place in order to find employment and improve the quality of life.

Over the last ten years, there has been a negative trend towards increasing the demographic burden on the working population of persons of working age and post-working age, and at the beginning of 2021 these figures were, respectively, 246 and 432 persons per 1,000 working population.

In recent years, there has been a fairly marked decline in the overall birth rate. In 2020, it was at the level of 9 ‰, which is a quarter (25.6 %) less than in 2014. The total fertility rate at the beginning of 2021 was at the level of 11 children per 10 women, which is not enough for simple reproduction of the population cities; the current level of this indicator in Ternopil provides for the replacement of generations by only 52.2 %.

Over the last twenty years, mortality rates in Ternopil, as well as in Ternopil region as a whole, have been constantly changing and until 2005 had a steady upward trend, then the mortality rate stabilized at 8.3-8.6 ‰, and since 2007 The indicator started to gradually decrease (to 7.7 ‰), but since 2011 the growth trend has been observed again. This increase in mortality is still observed. In 2020, this indicator reached the maximum mark for the entire observation period (2001-2020) – 10.6 ‰. It is noteworthy that the death rate in Ternopil has always been lower than in the Ternopil region as a whole. This is due to a number of factors, primarily the fact that in the age structure of the population of Ternopil is much smaller share of the elderly (12.5 %) than in the region as a whole (15.6 %), which have the highest mortality rates.

Improving the demographic situation in Ternopil is possible under several conditions: increasing real incomes and overcoming poverty; reducing unemployment and shadow employment, reforming the social assistance system in order to strengthen its targeting of socially vulnerable groups, improving the quality and accessibility of preventive and medical care, stimulating the birth rate, spreading healthy living standards, etc. The complexity of solving the demographic problems that have developed in Ternopil is due to the significant inertia of demographic processes, and therefore the longer their solution is delayed, the larger they will become.

Given the current demographic situation in Ternopil, it is important to predict the number and gender and age structure of the population in the future. Therefore, in the medium and long-term forecasting of the qualitative and quantitative composition of the city’s population, it is necessary to identify priority measures to mitigate negative demographic trends, as well as to study the dynamics of the working population, because this age group will be the main labor force, further socio-economic development of Ternopil.

Key words: demographic situation, population size, depopulation, population aging, fertility, mortality.

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Zakir EMINOV, Macid MASIMOV, Ayshen MAMMADOVA

MEDICAL AND GEOGRAPHICAL PROBLEMS OF NON-COMMUNICABLE DISEASES IN THE WORLD AND AZERBAIJAN

The article compares the medical and geographical problems of the spread of non-communicable diseases in the world and in Azerbaijan. Cardiovascular diseases are the first among all causes of death, especially ischemic heart disease and cerebrovascular diseases as the first two causes of death. The first two places on the causes of death in our republic between 1999 and 2019 have been studied based on the facts of diseases of the circulatory system and neonatal diseases from non-communicable diseases, change in the ratio of causes of death. Thus, the impact of the 44-day Karabakh war on September 27, 2020 and the infection with the Covid-19 virus in our country was analyzed. It was learned from the statistical data that the increase in all causes of death was observed, in particular, the increase in mortality rates associated with diseases of the circulatory system is reported. Within 1 year, the number of deaths increased from 32,471 to 41,228 (8,757 people). Determination of indicators for assessing the localization of the disease among the population and ways to raise their awareness are identified.

Keywords: non-communicable diseases, cardiovascular, infectious, medical-geographical, causes of death.

Introduction. Non-communicable diseases (NCDs) belong to the group of non-infectious diseases characterized by chronicity and deep socio-social attachment. NCDs resulting from common risk factors such as tobacco use, harmful use of alcohol, unhealthy diet, physical passivity are the major cause of disease burden and premature mortality in most countries. In this group
of diseases, 4 main pathologies predominate: cardiovascular diseases, cancer, chronic obstructive pulmonary diseases and diabetes. In modern times, the most important health problem in the world, which leads to death and disability, negatively affects the quality of life and occupies the largest share in health costs, are non-infectious diseases. Usually the causes of death can be grouped into 3 categories: contagious (infectious and parasitic diseases, maternal, perinatal and nutritional conditions), non-infectious (chronic) and injuries (traumas).

Purpose of the study. The main purpose of the study is to assess the medical and geographical problems of the spread of non-communicable diseases in the world and Azerbaijan, to determine the indicators of the localization of diseases among the population, to study different features in comparison and to identify ways to educate the population.

Interpretation of the study. Currently, non-communicable diseases are the main cause of untimely death in the world. According to the World Health Organization (WHO), 40 million people die each year from non-communicable diseases, which is equivalent to 70% of all deaths. Of these, 15 million people are between the ages of 30-69. As in most countries, non-communicable diseases dominate the main causes of morbidity and mortality in Azerbaijan. The share of non-communicable diseases in the structure of the disease exceeds 50%, including diseases of the circulatory system-18%, respiratory diseases and diabetes-15%, and malignant new derivatives-2.7% [2].

86% of deaths in European countries and 79.5% in Azerbaijan fall to the share of four primary diseases. Among the causes of death in the first place are vascular diseases with 59.8%, in the second place with 12.5% of malignant neoplasms, and in the third stage with 2% of respiratory diseases.

According to experts, the cause of the majority of non-communicable diseases in Azerbaijan, i.e. 93%, is related to tobacco use, excess weight, unhealthy diet, low physical activity and genetic factors. Among adults, 62.7% had one or two risk factors for non-infectious diseases, and in 32.4%-three or more risk factors. In our country, the prevalence of hypertension among persons over the age of 28 is 39.4%, in Europe-above 40%. The rate of morbidity with diabetes is 100 thousand people per 2,053 of the population of the Republic and 3,560 people in Europe.

According to the World Health Organization (WHO), deaths from non-communucable diseases were 31 million in 2000, 38 million in 2012 and 40.7 million in 2019. Experts predict that by 2030 it will be 52 million. In 2019, there were 54 million deaths worldwide, of which 74% were due to non-communicable diseases, 19% due to infectious diseases, and 7% due to trauma (injuries) [7].

Figure 1

Causal grouping of deaths in the world in 2019

- 40,7 million people (74%)
- 10.7 million people; 19%
- 4 million people; 7%

- Non-communicable (chronic) diseases
- Infectious diseases (infectious and parasitic diseases and hereditary, perinatal and nutritional conditions)
- Traumas

Mortality due to non-communicable diseases took the first place, amounted to 40.7 million people. The number of deaths due to infectious diseases and injuries was 10.7 million and 4 million, respectively. The number of deaths from non-communicable diseases continues to increase every year. 77% of non-communicable diseases (NCDs) related deaths (31.4 million people) occurred in low-and middle-income countries. In high-income countries, the figure was 9.3 million. In 2019, 36.8% of deaths associated with non-communicable diseases (NCDs) were among people aged 30 to 70 years (15million people). A large percentage (85%) of these deaths occurred in countries with low and medium incomes (12,8 million people). In high-income countries, deaths from non-communicable diseases occurred between the ages of 30 and 70 to 2.2 million people. In low and middle income countries, 40.8% of NCD deaths (12.8 million
people) are people between the ages of 30-70, while this indicator is 23.6% in high-income countries [1].

**Figure 2**

Dynamics of deaths from non-communicable diseases in the world

**Figure 3**

Deaths due to NCDs in 2019

Percentage of NCD-related deaths by

- High-income countries: 23%
- Low and middle-income countries: 77%

Mortality-related deaths between the ages of 30 and 70

- High-income countries: 15%
- Low and middle-income countries: 85%
In 2019, there were 55.4 million deaths worldwide. 40.7 million of these deaths are associated with non-infectious diseases, especially cardiovascular, cancer and chronic respiratory diseases. About half of deaths from non-communicable diseases are due to cardiovascular diseases, cancer, chronic respiratory tract diseases. 43.9% (17.9 million) of NCD deaths are related to cardiovascular diseases, 22.8% (9.3 million) to cancer, 10% (4.1 million) to asthma and chronic lung diseases, and 3.6% (1.5 million) to diabetes. It accounts for more than 80% of deaths associated with the four major noncommunicable diseases (NCD) [7].

Among noninfectious diseases (NCDs), cardiac and vascular diseases stand in the first place among all causes of death, especially ischemic heart disease and cerebrovascular diseases constitute the first two causes of death. In 2019, 44% of deaths from noncommunicable diseases (17.9 million) worldwide were due to cardiovascular diseases. Of these deaths, 8.9 million were due to heart attack (ischemic heart disease) and 6.2 million were due to stroke.

It is estimated that the number of deaths due to this will be 22.2 million in 2030, and cardiovascular disease will continue to be the number one cause of death in the world for a long time. Deaths from this disease are increasing in developing countries, with a tendency to decline in developed Western countries. The gratifying thing in cardiovascular diseases is that they are “preventable” on a large scale.

According to the Statistics Committee of the Republic of Azerbaijan, the first two places in our country on causes of death between 1999-2019 were taken by diseases of the circulatory system and neonatal diseases from non-communicable diseases. The number of deaths from diseases of the circulatory system in 1999 was 25181, while in 2009 it reached 32072, and in 2019 – 32471. In 20 years this figure has increased by 7,290 people.

In 1999, this disease accounted for 54% of all deaths in the country, and over the past 20 years this figure has reached 58%. At the same time, recurrent deaths rose from 11% to 16% of all deaths, respectively. Thus, although the number of cancer deaths in 1999 was 5,214, in 2009 it increased to 6,910, and in 2019 to 8,819. The number of deaths from endocrine system diseases, nutritional and metabolic disorders has also increased during this period. At the beginning of the transition, the figure was 1,080 (2.3% of all deaths), but eventually rose to 1,497 (3.2% of all
Mortality from some infectious and parasitic diseases and diseases of the respiratory system has shown a declining trend. Accordingly, the decrease during this period was 1,166 people in infectious and parasitic diseases (3.9% to 1.2% of all deaths) and 2,855 people in deaths caused by respiratory diseases (3 out of 9.4% of all deaths). Deaths from injuries and injuries were relatively stable, with 4.7% of all deaths in 1999 and 5% in 2019 [1].

In 2019, the share of 4 major diseases in deaths caused by non-infectious diseases in the world

<table>
<thead>
<tr>
<th>Disease Type</th>
<th>1999</th>
<th>2009</th>
<th>2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cardiovascular diseases</td>
<td>6,909</td>
<td>5,820</td>
<td>5,820</td>
</tr>
<tr>
<td>Cancer</td>
<td>1,710</td>
<td>1,520</td>
<td>1,520</td>
</tr>
<tr>
<td>Asthma and chronic lung diseases</td>
<td>1,166</td>
<td>1,076</td>
<td>1,076</td>
</tr>
<tr>
<td>Diabetes</td>
<td>1,100</td>
<td>865</td>
<td>865</td>
</tr>
<tr>
<td>Other NCDs</td>
<td>9,485</td>
<td>9,715</td>
<td>9,715</td>
</tr>
</tbody>
</table>

Figure 6

Number of deaths due to the main causes in the Republic of

- Those who died for all reasons
- Due to diseases of the circulatory system
- Due to recurrents
- Due to diseases of the respiratory system
- Due to diseases of the endocrine system, nutrition and metabolic disorders
- Due to some infectious and parasitic diseases
- Due to diseases of the digestive system
- Due to traumas, poisonings, etc.
In 2020, the proportion of deaths in Azerbaijan has changed, as in the rest of the world. One of the main reasons was the “Coronavirus” (COVID-19) pandemic, but the second reason for the change in these indicators in our country was the start of the Second Karabakh War on September 27, 2020. More than 3,000 children of our people were killed in the 44-day war. There has been a greater increase in mortality among people from both pandemic and war anxiety and stress. The increase in the indicators of mortality, especially associated with diseases of the circulatory system, is huge. So, for 1 year there was an increase from 32471 to 41228 people (8757 people). For comparison, deaths related to diseases of the circulatory system between 1999 and 2019 increased by 20 people in 7290 years, reaching 25181 people from 32471, which is less than the increase in the next 1 year. Mortality due to some infectious and parasitic diseases increased noticeably, in 1 year it increased from 662 to 5875 people. This increase, as we mentioned above (5213 people) has also shown remarkable increase in the impact of the virus infection Covid-19 and deaths caused by traumas and poisonings in the conditions of the “Patriotic War” in our republic [1].

As a result of the prolongation of life expectancy in the century we live, non-communicable diseases are the most important cause of death in the world and in our country, bringing new approaches in the health sector has become urgent. According to experts, the fight against non-infectious diseases and risk factors is possible only through international policies and long-term strategies. Today, there are proven solutions aimed at preventing tobacco and cigarette use, poor nutrition, physical inactivity and alcohol consumption in order to prevent deaths associated with non-communicable diseases.


Based on the above objectives, reducing deaths caused by chronic diseases and improving the quality of life is one of the most important tasks facing countries of the world as well as the health of Azerbaijan [1].

The wide application of effective measures recommended by the WHO to combat NCD ensures sustainable economic growth through the reduction of premature deaths in the economically active population group, prevention of disability and productivity loss, improving the quality of life and supporting the development of human resources, expanding income opportunities of the
population, strengthening the social protection of socially vulnerable groups, it will contribute to the achievement of strategic goals such as improving the quality of basic services in healthcare and creating equal opportunities to access them.

**Conclusion:** As a result of the research work, there has been an increase in the dynamics of the causes of death associated with non-infectious diseases in recent years. As in most countries, non-communicable diseases dominate the main causes of morbidity and mortality in Azerbaijan. In European countries, 86% of deaths and 79.5% in Azerbaijan account for four primary diseases. Among the causes of death in the first place are vascular diseases with 59.8%, in the second place with 12.5% of malignant neoplasms, and in the third stage with 2% of respiratory diseases. In particular, it should be noted that in 2020, the number of deaths due to diseases of the circulatory system increased from 32,471 to 41,228 (8,757) in one year.

**References:**
Abstract:

Zakir EMINOV, Masid MASIMOV, Ayshen MAMMADOVA. MEDICAL AND GEOGRAPHICAL PROBLEMS OF NON-COMMUNICABLE DISEASES IN THE WORLD AND AZERBAIJAN

The main purpose of the article is to evaluate the medical and geographical problems of the spread of non-communicable diseases in the world and Azerbaijan, to determine indicators for localization of diseases among the population, and to study different features in their comparison and to identify ways to educate the population. According to the Statistics Committee of the Republic of Azerbaijan, the first two places in our country on the causes of death between 1999 and 2019 were occupied by diseases of the circulatory system and recurrences from non-communicable diseases. The number of deaths from diseases of the circulatory system was 25,181 in 1999, 32,072 in 2009 and 32,471 in 2019. This number has increased by 7,290 people in 20 years.

In 2019, there were 55.4 million deaths worldwide. 40.7 million of these deaths are associated with non-communicable diseases, especially cardiovascular, cancer and chronic respiratory diseases. About half of deaths from non-communicable diseases are due to cardiovascular diseases, cancer, chronic respiratory tract diseases. 43.9% (17.9 million) of NCD deaths are related to cardiovascular diseases, 22.8% (9.3 million) to cancer, 10% (4.1 million) to asthma and chronic lung diseases, and 3.6% (1.5 million) to diabetes. It accounts for more than 80% of deaths associated with the four major noncommunicable diseases (NCDs). Among non-communicable diseases (NCDs), cardiovascular disease is the leading cause of death among all deaths, especially ischemic heart disease and cerebrovascular disease. In 2019, 44% (17.9 million) of deaths worldwide due to non-communicable diseases are due to cardiovascular diseases. Of these deaths, 8.9 million were due to heart attack (ischemic heart disease) and 6.2 million were due to stroke.

While in 1999, 54% of all deaths in the country were due to this disease, over the past 20 years this indicator has reached 58%. At the same time, deaths caused by recurrences increased from 11% to 16% of all deaths, respectively. Thus, although the number of cancer deaths in 1999 was 5,214, in 2009 it increased to 6,910, and in 2019 to 8,819. The number of people who died from endocrine system diseases, malnutrition and metabolism disorders has also increased during this period. At the beginning of the transition, the indicator with 1080 people (2.3% of all deaths) increased to 1497 (3.2% of all deaths). It is compared that the medical and geographical problems of non-infectious diseases spread in the world and in Azerbaijan, cardiovascular diseases are in the first place among all causes of death, especially ischemic heart disease and cerebrovascular diseases are the first two causes of death.

An increase in the dynamics of causes of death associated with non-infectious diseases has been observed very recently. Between 1999 and 2019, the first two places in terms of causes of death in our country were studied from non-communicable diseases, the presence of diseases of the circulatory system and recurrences, changes in the proportion of causes of death based on facts. Thus, the impact of the 44-day II Karabakh War on September 27, 2020, and the Covid-19 virus infection impacted change of these indicators, were analyzed in our country. It was learned from the statistical data that the increase in all causes of death was observed, in particular, the increase in mortality rates associated with diseases of the circulatory system is reported. Within 1 year, the number of deaths increased from 32,471 to 41,228 (8,757). Determination of indicators for the assessment of the disease by localization among the population and ways to educate them are determined.

Key words: non-communicable diseases, cardiovascular, infectious, medical-geographical, causes of death

Anotácia:

Закір ЕМИНОВ, Масід МАСІМОВ, Айшен МАМЕДОВА. МЕДІКО-ГЕОГРАФІЧНІ ПРОБЛЕМИ НЕІНФЕКЦІЙНИХ ЗАХВОРОВАНЬ У СВІТІ ТА АЗЕРБАЙДЖАНІ


У2019р.усвітізфіксовано55,4мільйонасмертей.40,7мільйона з цих смертей пов’язані з неінфекційними захворюваннями, особливо серцево-судинними, раковими та хронічними респіраторними захворюваннями. Близько половини смертей від неінфекційних захворювань припадає на серцево-судинні захворювання, рак, хронічні захворювання дихальних шляхів. 43,9% (17,9 млн) смертей від НЗП’язані з серцево-судинними захворюваннями, 22,8% (9,3 млн) – з раком, 10% (4,1 млн) – з астмою та хронічними захворюваннями легенів, 3,6% (1,5 млн) – з цукровим діабетом. На нього припадає понад 80% смертей, пов’язаних із чотирма основними неінфекційними захворюваннями (НЗ). Серед неінфекційних захворювань (НЗ) серцево-судинні захворюванні є основною причиною смерті серед усіх смертей, особливо ішемічна хвороба серця і цереброваскулярні захворювання. У 2019 році 44% (17,9 мільйона) смертей у всьому світі через неінфекційні захворювання пов’язані з серцево-судинними захворюваннями. З них 8,9 мільйона померли від серцевого нападу (ішемічна хвороба серця), а 6,2 мільйона – від інсульту.
Якщо в 1999 році 54% всіх смертей в країні були через це захворювання, то за останні 20 років цей показник досяг 58%. При цьому смертність від рецидивів зросла з 11% до 16% від усіх смертей відповідно. Так, хоча кількість смертей від раку в 1999 році становила 5214, у 2009 році вона зросла до 6910, а в 2019 році – до 8819. За цей період також зросла кількість людей, які померли від захворювань ендокринної системи, гіптрофії та порушення обміну речовин. На початку переходу показник з 1080 осіб (2,3% від усіх померлих) зріс до 1497 (3,2% від усіх померлих). Порівняно, що медико-географічні проблеми неінфекційних захворювань, поширених у світі та в Азербайджані, серцево-судинні захворювання стоять на першому місці серед смерті, особливо ішемічна хворoba серця та тереобронасуллярні захворюванні є першими двома причинами смерті.

Зростання причин смерті, пов’язаної з неінфекційними захворюваннями, спостерігається зовсім недавно. У період з 1999 по 2019 роки перші два місця за причинами смерті в нашій країні вивчалися від неінфекційних захворювань, наявності захворювань системи кровообігу та рецидивів, зміни частки причин смерті за фактами. Так, у нашій країні проаналізовано вплив 44-денної ІІ Карабахської війни 27 вересня 2020 року та вірусної інфекції Covid-19. Зі статистичних даних стало відомо, що спостерігається зростання всіх причин смерті, зокрема, повідомляється про зростання смертності від захворювань системи кровообігу. Протягом 1 року кількість померлих зросла з 32 471 до 41 228 (8 757). Визначення показників для оцінки захворювання за локалізацією серед населення та шляхи їх виховання.

Ключові слова: неінфекційні захворювання, серцево-судинні, інфекційні, медико-географічні, причини смерті