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Demographic Factors and Disease Patterns in Surkhandarya Region: Implications for Population Health

*Faktor Demografi dan Pola Penyakit di Wilayah Surkhandarya:
Implikasi terhadap Kesehatan Penduduk*

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Abstract

This study aims to examine the role of demographic factors in the structural and territorial formation of labor resources and changes in the age and sex structure of the population in Surkhandarya region, Uzbekistan. The analysis includes an assessment of the most common diseases observed in the region's population and their implications for population health. Data from Table 2.2 reveal a shift in the proportion of men and women over the last decade, with men gaining the upper hand in recent years. The birth rate is influenced by various factors, including natural-biological, demographic, socio-economic, cultural, and educational levels. The Surkhan oasis, as an ancient inhabited area, has unique population dynamics and attitudes towards the birth process. Mortality rates varied across cities and districts, with a higher incidence observed in diseases related to the circulatory and respiratory systems. The findings underscore the high demographic potential and health challenges faced by the Surkhandarya region. In January-March 2023, there were 3,300 deaths recorded, with a death rate of 4.8 per thousand inhabitants. These results highlight the need for targeted interventions to address population health issues and promote well-being in the region.

Highlights:

- Shifting demographics: Analyzing changes in the age and sex structure of the population in Surkhandarya region.
- Disease patterns: Examining the most common diseases observed, particularly those related to the circulatory and respiratory systems.
- Implications for population health: Assessing the impact of demographic factors and disease patterns on the overall health and well-being of the region's population.

Keywords: Demographics, Population health, Surkhandarya region, Disease patterns, Mortality rates

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Introduction

The main factor in the regeneration of the population of any area is the demographic processes of the population of this area. Indicators such as the age-sex composition of the population, birth, death, marriage and family relations are demographic factors. These factors are the main influencing processes in the formation of labor resources [1].

The dynamics of the number of labor resources, the age sex composition are mainly related to the characteristics of population reproduction. Increased reproduction of the population (predominance of births over deaths) leads to an increase in the number of labor resources [2]. It is known that population regeneration takes place on the basis of two demographic processes - birth and death. Although birth is a biological process, the socio-economic environment has been of primary importance in its occurrence [3].

The continuous continuation of material production depends on the re-establishment of the life process-labor resources, labor power, which is regularly renewed, and it takes place only if there are sufficient conditions. At the moment, the constant reproduction of labor resources determines the socio-economic development of the country or region as the demographic basis of the formation of the labor market [4].

Discussion

The age structure of the population is considered an important demographic indicator, and it has a specific effect on the socio-economic development of the region. The age structure of the population determines the number, composition and quality of labor resources, which serves to develop plans for the development and placement of social sectors [5].

The age structure of the population is the division of the population into age groups for the purpose of studying socio-economic and demographic processes [6]. Population age groups and demographic processes are formed in an interdependent manner. The high proportion of young people (ages 0-9, 10-19, 20-29) in the population has a positive effect on demographic processes such as marriage and birth. will be higher [7]. In cases where the birth rate is low, there is a higher proportion of the elderly (60 years and older) in the population and more deaths.

Age groups	Years										
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Total population	100	100	100	100	100	100	100	100	100	100	100
0-9	20,8	20,9	20,9	21,1	21,4	21,8	22,1	22,3	22,4	22,6	22,9
10-19	23,2	22,1	21,3	20,3	19,5	18,5	17,8	17,1	17,0	16,9	16,8
20-29	20,4	20,8	21,0	21,3	21,1	21,0	20,8	20,6	20,0	19,3	18,6
30-39	13,6	13,7	13,9	14,1	14,4	14,7	15,1	15,5	15,8	16,0	16,2
40-49	10,5	10,5	10,5	10,5	10,5	10,5	10,5	10,6	10,6	10,6	10,6
50-59	6,7	7,0	7,3	7,6	7,8	8,0	8,0	8,0	8,1	8,1	8,0
60-69	2,3	2,4	2,6	2,8	3,0	3,3	3,6	3,8	4,1	4,4	4,7
70 yosh <	2,5	2,5	2,5	2,4	2,2	2,1	2,1	2,1	2,1	2,1	2,1

Table 1. Changes in the age structure of the region's population (percentage) The table was calculated based on the data of the regional statistics committee.

Based on Table 1, it is known that during 2010-2020, the share of people under the age of 0-9 increased by 2.1%, and the share of people under the age of 10-19 increased by 6. We can see that it has decreased by 4%. In 2020, the share of people under the age of 20-29 decreased by 1.8% compared to 2010, the share of people under the age of 30-39 is 2.6%, and the share of people under the age of 40-49 is 2.6%. We can see that the share of those with 0.1 percent, and the share of those under 50-59 years of age increased by 1.3 percent. growth process was observed.

In the age structure of the population, the group of the population of working age weight is of particular importance. Because this group is the main developer constitutes the output power and is a factor of economic development serves. The formation of the population group of working age is mainly depends on the characteristics of population regeneration. Separately and in some cases immigration and emigration processes in the regions affects the weight of the working-age population. In a number of countries of the world, the proportion of working-age population in the total population is 50-65 is a percentage.

In the formation of labor resources, the age-sex composition of the population serves as the primary demographic

basis. The sexual composition of the population means their, i.e. male and female population it is understood that it will be distributed to women. Usually, the sex ratio of the population is calculated as females per 100 or per 1,000 males and males per 100 or per 1,000 females and expressed as a percentage. In addition, the share of representatives of both sexes in relation to the total population is determined. The sex composition of the population is formed under the influence of three main factors:

1. sex ratio in newborns;
2. gender ratio in death;
3. gender ratio in population migration.

In demography and statistics, there are primary, secondary and tertiary sex ratios. The primary ratio is the ratio of girls to boys in pregnancy. According to scientific sources, there are 125-130 male fetuses for every 100 female fetuses. The secondary ratio is the ratio of boys to girls born alive. Research shows that out of 1000 babies, 488 are girls and 512 one is suitable for boys. Tertiary ratio - the ratio of men and women of reproductive age - is the most important ratio in demographic development.

On the one hand, the gender balance in the population ensures the regular reproduction of labor resources through the processes of marriage, family building, and childbirth, and on the other hand, it is considered a factor in the development of social production areas specific to the activities of men and women. For example, in most industrial production enterprises in our country, there are male-specific jobs, but women have a slight advantage in light and food, education and medicine, and service industries. At this point, it should be noted that men's working life is longer than women's, both legally and physically. Men have a later retirement age than women (according to our legislation, men retire 5 years later), and they have more ability to work (from a physical point of view). As a result, deaths are more common among men than among women. For this reason, the low proportion of men in the population of working age has a negative effect on the activity of labor resources.

Years	% of total population					
	total province		City dwellers		Villagers	
	Male	Female	Male	Female	Male	Female
2010	50,3	49,7	50,0	50,0	50,5	49,5
2011	50,3	49,7	49,8	50,2	50,5	49,5
2012	50,3	49,7	49,9	50,1	50,6	49,4
2013	50,4	49,6	50,0	50,0	50,6	49,4
2014	50,4	49,6	50,1	49,9	50,6	49,4
2015	50,4	49,6	50,1	49,9	50,6	49,4
2016	50,5	49,5	50,2	49,8	50,6	49,4

Table 2. Changes in the gender composition of the population in Surkhandarya region The table was compiled based on the data of the regional statistics committee

Table 2 data shows that in the last decade, we can see that the proportion of men in the population has increased and the proportion of women has decreased slightly. Only in 2011-2012, the proportion of women in the population of the city increased. we can see a slight increase. And in the following years, we can see that men have gained the upper hand.

Birth is the process of having a child in a population group that makes up certain generations. Birth is a biological process, but it changes under the influence of the socio-economic environment [8]. Changes in the socio-economic structure of society determine the birth rate [9].

Birth has a special place in the process of natural reproduction of the population, and it is influenced by factors such as natural-biological, demographic, socio-economic, cultural, educational level [10]. For example, if the climate characteristics of the country are considered as a natural-biological factor, the rapid reaching of adulthood and reproductive (longer birth) of the population are considered as demographic factors, the composition of the population by gender and age is considered. The well-being, cultural and educational level of the population also directly affects the birth rate of the country's population [11].

The Surkhan oasis has been considered as one of the inhabited areas since ancient times, and its population and socio-economic life have developed in a unique way. These factors determined the attitude of the inhabitants of the oasis to the birth process [9].

In the cities and districts of Surkhandarya region, the population mortality rate increased by 0.9 per thousand in Termiz, 0.9 in Altinsoy, 1.1 in Angor, 1.3 in Zharkurgan, 1.6 in Kumkurgan, 1.4 in Sherabod, and 0.1 in Shorchi in 2010-2022. If so, we can see that it decreased by 1.2 per thousand in Boysun 0.7, Muzrabot 0.6, Denov 3.5, Kyziriq 0.8, Sariosiyo 1.5, Termiz 1.6, and Uzun districts.

In January-March 2023, 3,300 deaths were recorded in the region, and the death rate per 1,000 inhabitants was 4.8 per thousand. 48.5% of those who died were from diseases of the circulatory system, 3.3% from tumors, 2.8% from accidents, poisoning and injuries, 2.1% from diseases of the digestive organs, 20.2% from diseases of the respiratory organs. 0.4% died from infectious and parasitic diseases and 22.7% from other diseases. Analysis of figure 1 shows that the most common diseases observed in the population of the region are diseases related to the circulatory system and respiratory organs. Diseases associated with the respiratory system include emphysema, pneumonia, angina, laryngitis, rhinitis, tonsillitis, pharyngitis, bronchial asthma, bronchitis, pleurisy, tuberculosis.

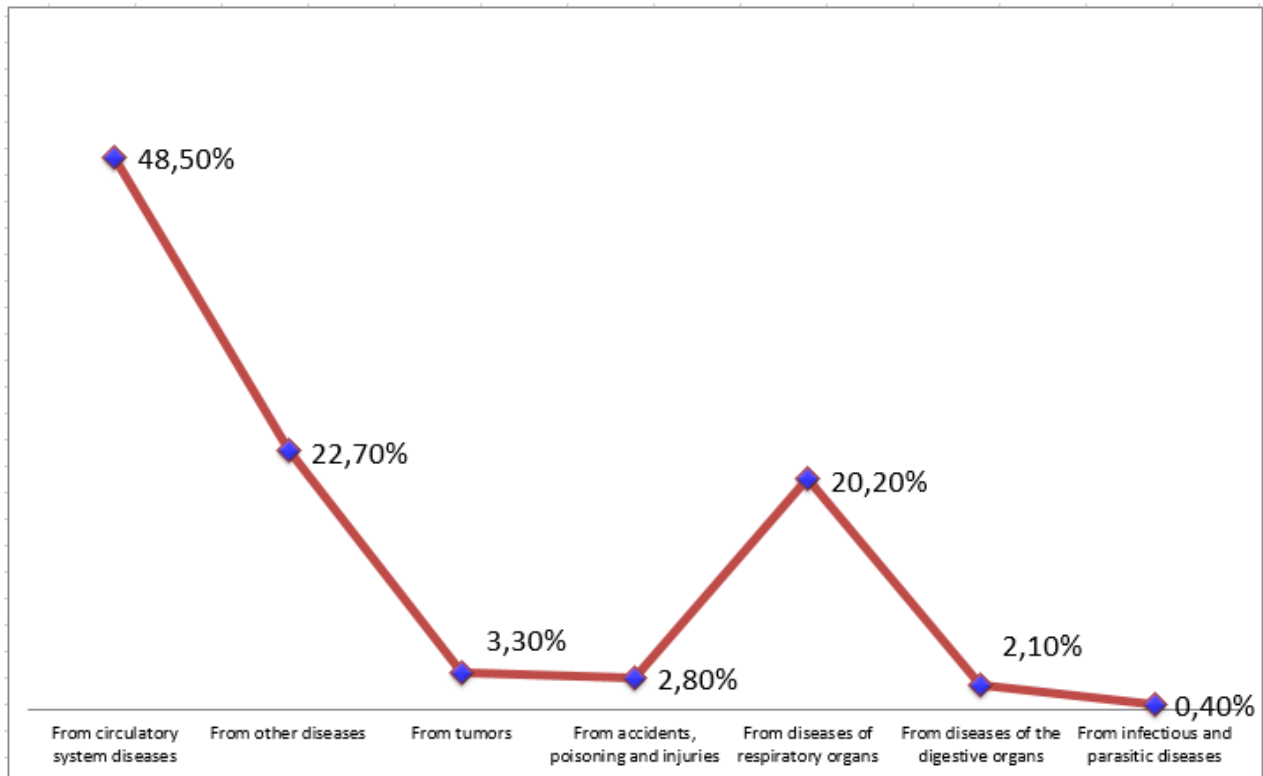


Figure 1. By main causes of death

Conclusion

The Surkhandarya region has consistently demonstrated a high demographic potential over the years, as evidenced by various indicators. However, this high demographic potential is accompanied by significant disease burdens. A notable observation is the recording of 3,300 deaths in the region during the January-March period of 2023, resulting in a death rate of 4.8 per thousand inhabitants. These findings underscore the pressing need for targeted interventions to address the health challenges faced by the population in Surkhandarya. Further research should focus on investigating the underlying factors contributing to the high disease incidence, exploring potential socio-economic and environmental determinants, and developing effective strategies to improve population health outcomes and well-being in the region. Understanding the complex interactions between demographic factors, disease patterns, and population health will contribute to informed policy-making and resource allocation to mitigate the health risks and promote better health outcomes in Surkhandarya and similar regions.

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