DYNAMICS OF HEALTH INDICATORS OF THE POPULATION OF THE REPUBLIC OF KARAKALPAKSTAN

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ANNOTATION

The article is devoted to the study of the spatio-temporal dynamics of the health indicators of the population living in the region. It has been established that the influence of environmental factors in all cases is complex. A quantitative relationship was found between the complex of environmental factors and the degree of severity of its components and the state of health of the Republic of Karakalpakstan population.

Keywords: South Aral Sea region, population health, soil pollution, chemical indicators, disease prognosis, respiratory diseases, congenital anomalies, ischemic heart disease, hypertension, gastric ulcer, esophageal cancer, cholelithiasis, environmental factors.

INTRODUCTION

The health of the population always occupies one of the first places in the system of life values of any state. Preserving public health and reducing morbidity, the most important socio-economic tasks facing the state and health care, in the solution of which the experience of many sciences is used: ecology, medicine, demography, hygiene.

The main environmental factors that form the incidence of the population were: quality of atmospheric air, quality of drinking water, quality of soil, quality of medical care, level of social development, and indicators such as air pollution from stationary sources, air pollution from vehicles were used as assessment criteria, the proportion of non-standard drinking water samples by sanitary and chemical indicators, the proportion of non-standard drinking water samples by microbiological indicators, the coefficient of soil pollution by heavy metals, the coefficient of soil contamination by radioisotopes, the introduction of mineral fertilizers, pesticide load, soil degradation, the provision of the population with medical personnel, the level of unemployment , provision of the population with housing, change in average wages, and as the most general and significant (territorially and substantively), in relation to which all other integral indicators are considered "the state of the ecological and economic situation" (Kucheryavenko, 2002).

The high incidence rate of the population of Karakalpakstan, including the classes of diseases and nosologies attributed by the World Health Organization (WHO) to the indicator in relation to the environment, dictates the need to improve sanitary and hygienic and epidemiological methods and approaches, taking into account the specifics of the territory [1, 10; 2, 408].

Insufficient development of algorithms, methods and criteria related to the sequential consideration of aspects of the impact of risk factors on human health in a specific area to justify permissible exposure levels, management and technological solutions to eliminate or reduce the level of harmful factors and optimize control of exposure levels determined the relevance of the study and served as the basis for setting a goal and tasks of this work.

Considering the dynamics of the overall morbidity of the population living in the Republic of Karakalpakstan, it can be noted that the main maximum indicators fell on the period from 2003 to 2006 (Figure 4.1). The highest peak was reached in 2005 (1053.1 per 1000 people).
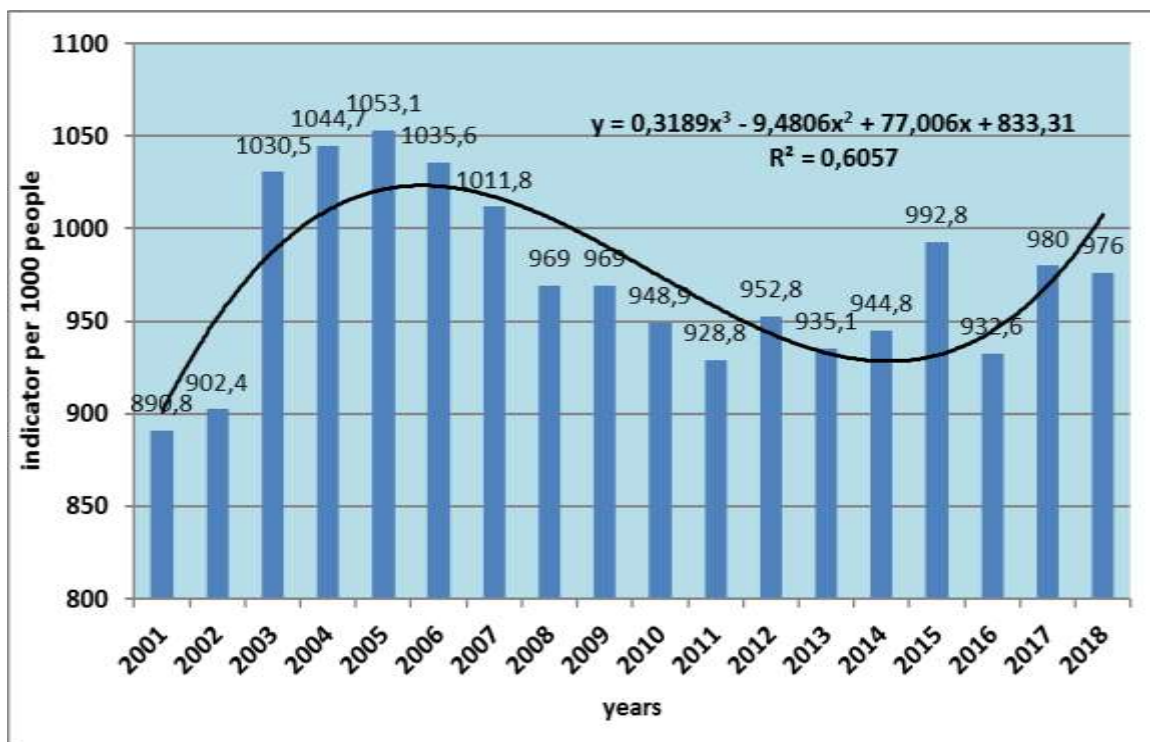
Figure 4.1. Dynamics of the general morbidity of the population of the Republic of Karakalpakstan (2001-2018)

Since 2006, there has been a decrease in the level of general morbidity until 2011 (928.8 per 1000 people) and the level is stabilizing until 2014.

According to researchers, the structure and dynamics of certain nosological forms of diseases in the Republic of Karakalpakstan are subject to a steady increase in indicators: congenital anomalies, ischemic heart disease, hypertension, gastric ulcer, esophageal cancer, cholelithiasis, diseases of the peripheral nervous system (Agadzhanyan et al., 2000 ; Kurbanov et al., 2004).

As a result of air pollution, according to experts [2], the health status of the population has deteriorated markedly in a number of indicators. Particular attention in the structure of morbidity is drawn to the growth of such ecologically caused diseases as diseases of the respiratory system, digestion and oncological pathology.

It is well known that the indicators of public health in relation to the state of the environment, recommended by the WHO Regional Office for Europe in the framework of the "Health for All" strategy, include allergic diseases [3]. Respiratory diseases occupy one of the leading places in the structure of morbidity in the population of the Southern Aral Sea region: their contribution to the morbidity of the entire population is 38.9%, of the child population - 46.4% [4]. As you know, the respiratory system is "borderline", that is, it is in direct contact with the external environment and is one of the first to respond to changes in external conditions - dustiness of the surface air layer, chemical pressure on the body from drinking water and food, which weakens adaptive capabilities a person [1, 2].

According to Kazakh scientists [5], a comprehensive examination of the respiratory organs in children from the Aral Sea region made it possible to identify new diseases, with the peculiarities of the course of chronic diseases of the upper and lower respiratory tract, as well as for the first time to diagnose interstitial lung injuries leading to deep functional and cytomorphological changes in the lung tissue, which is a consequence of the unfavorable situation and the pollution of the air basin with dust and salt particles.

One of the reasons that caused a high increase in the incidence of the population in recent years, may be the high level of air pollution in Karakalpakstan. The system for monitoring the quality of atmospheric air and drinking water in the Southern Aral Sea region does not sufficiently meet the modern requirements for assessing the risk to public health, since it does not allow determining the level of the impact of pollution on the human body. In this regard, the need has matured to create a unified system for monitoring air pollution, drinking water and soil throughout the South Aral Sea region from the standpoint of assessing the risk to public health.

Analysis of long-term factual data on the incidence of respiratory organs among the population of Karakalpakstan shows (Fig.4.2) that the incidence rate of respiratory organs among the population of three zones (northern, central and southern) peaked in 2013, 2014, and in subsequent years somewhat stabilized at high level. Among the districts of the Republic of Karakalpakstan, a high incidence of morbidity was observed in the Amu Darya, Turtkul, Shumanai and Nukus districts. Note that until 2007, the incidence rate of the population living in the northern regions of Karakalpakstan was slightly lower than in the central and southern regions. Since 2008, there has been an upward trend in the incidence rate in the population from the northern regions, which has stabilized to the present (Figure 4.2). As for the residents from the central and southern territories of Karakalpakstan, the polynomial trends of this nosology are also directed upward.
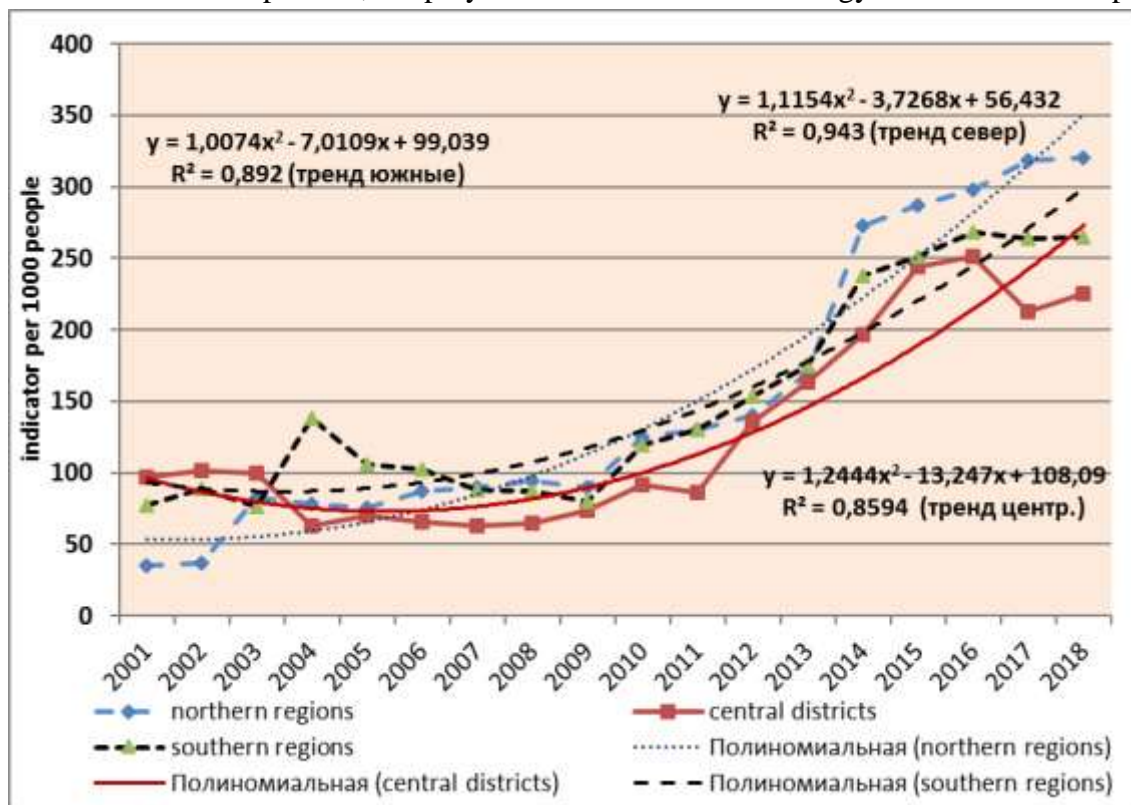

Figure 4.2. Dynamics of the incidence of respiratory organs among the population by district differentiation Karakalpakstan (2001-2018)

Further, we analyzed the spatio-temporal differentiation of the incidence rate of the population of the respiratory system, it can be noted that if in the period 1991-1995. on the territory of the northern regions of the republic there were high rates of respiratory diseases (up to 7000 per 100 thousand people), then already by the period from 1996-2000. the level slightly decreased to 5000 per 100 thousand of the population (Fig. 4.3.).

From 2001 to 2003 The indicators of the incidence of respiratory diseases among residents of the northern regions of Karakalpakstan somewhat stabilized at the level of 4000 per 100 thousand of the population.

Analysis of long-term factual data on the incidence of respiratory diseases among the population of the northern regions of Karakalpakstan shows that the incidence rate peaked in 1991-1995. (7483.01), and in subsequent years decreased slightly (1.3 - 1.7 times).
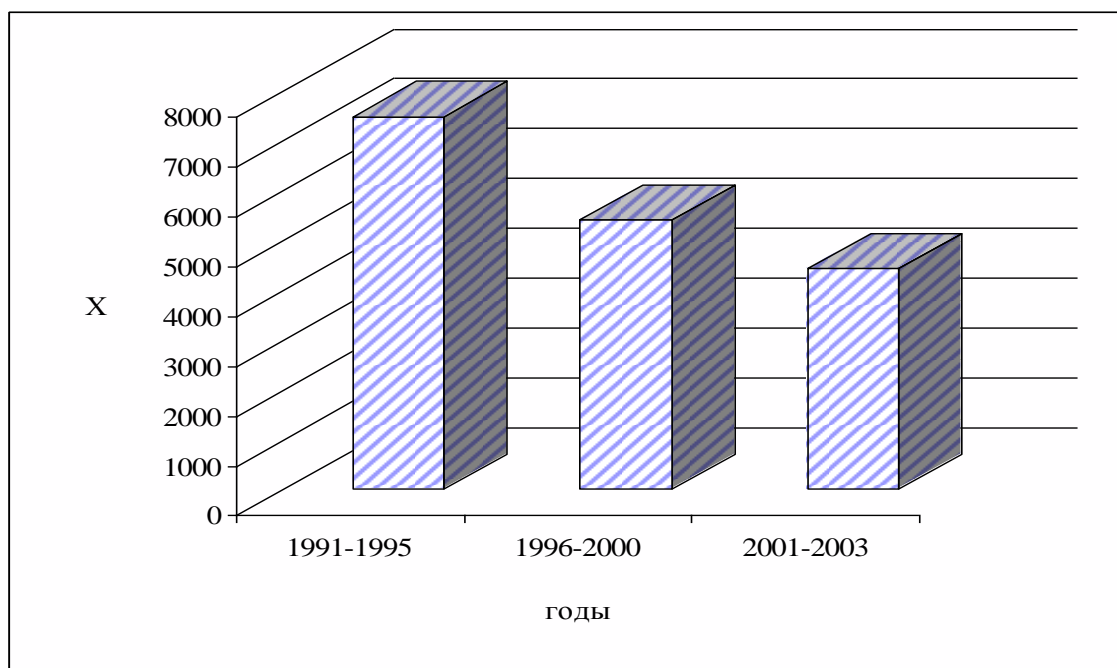

Figure 4.3. The dynamics of the incidence of respiratory organs among the population of the northern regions of the Republic of Karakalpakstan (indicator per 100 thousand population)

The highest in 1991-1995. there were incidence rates among the population of Muinak, Kanlykul and Chimbay districts. In 1996-2000. high incidence rates among the population of Karauzyak, Muinak and Kegeili districts. In subsequent years (2001-2005), the incidence was high among the population of the Kungrad, Karauzyak, Kegeili and Kanlykul districts.

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