IJDIAS International Journal of Discoveries and Innovations in Applied Sciences
| e-ISSN: 2792-3983 | www.openaccessjournals.eu | Volume: 1 Issue: 5

Indicator of Spatial Time Dinamics of Population Health of the Republic of Karakalpakstan

Tadjibaeva M. K.
Nukus State Pedagogical Institute

ABSTRACT:

Ecologically caused changes in the health status of the population can manifest themselves both in the form of the appearance of new, previously unknown "ecological" diseases, which occurs very rarely and is a consequence of the emergence of extreme situations in the environment, and in the form of certain shifts in the "background" level of mortality, reproductive health and other indicators of health, and the resulting adverse effects are defined as "environmentally related" or "environmentally dependent" diseases.

KEYWORDS: Karakalpakstan, health status, environment, water factor, monitoring, nosology

There are a large number of works devoted to the study of the influence of drinking water quality on the health of the population [1, 2, 8, 12]. Recent studies show that the quality of drinking water has a significant impact on the health of the population [8, 14]. The influence of the environment on the health of the population is judged by the correlation coefficients between the severity of the factor and the indicator of the quantitative characteristics of health. In environmental studies, the practice of isolating and even absolutizing the role of some while underestimating other factors and denying the complexity of the impact of the environment as a whole has been strengthened.

Contaminated water plays an important role in the occurrence of infectious diseases. The most significant in the development of diseases of the digestive system and the genitourinary system is the combination of chemical ingredients (nitrogen group, sulfates, total hardness), which manifested itself in an increase in the correlation coefficient. Large-scale measures to prevent the impact of unfavorable factors on public health and the environment can be expressed in the effective use of territorial differentiation with varying degrees of environmental stress and contamination of the surveyed areas [1, 8, 14]. For this purpose, at the initial stages of the implementation of these developments in the practice of ranking the territory, it is necessary to collect and evaluate the actual data of regional parameters of the environment and the state of health of the population [2, 5, 10, 12].

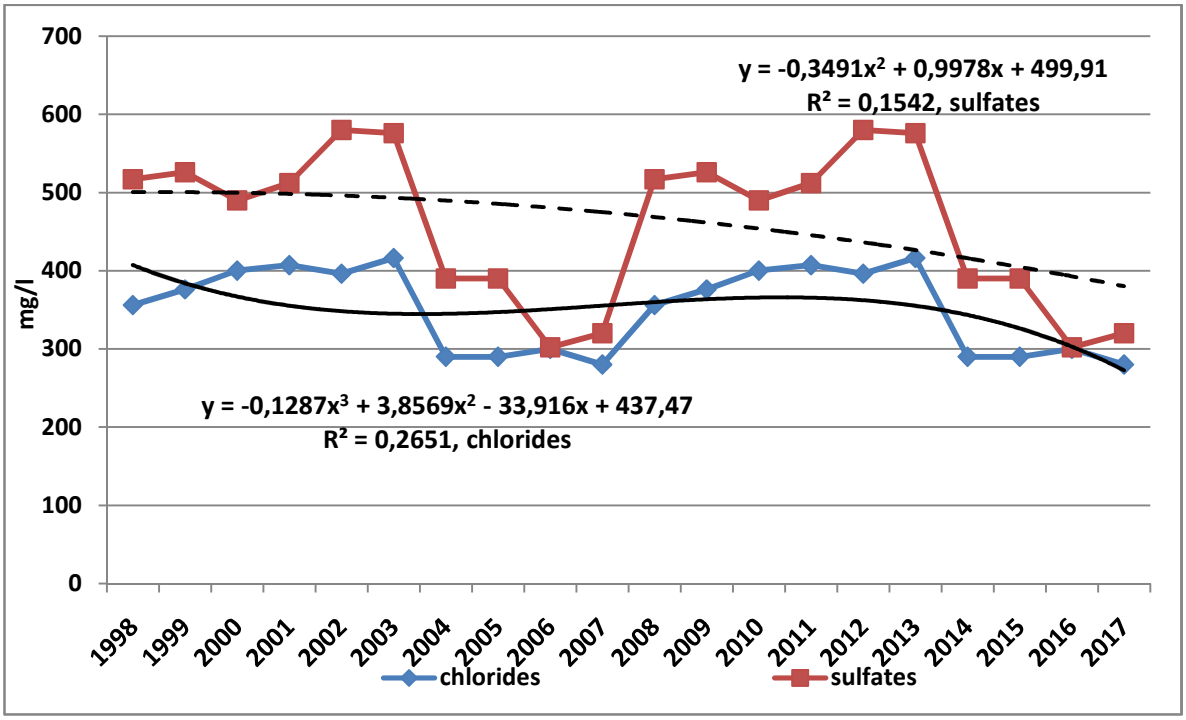

Fig. 3. Dynamics of the content of sulfates and chlorides in drinking water of the Republic of Karakalpakstan (1998-2017)

ISSN 2792-3983 (online), Published under Volume: 1 Issue: 5 in October-2021

It is also well known that the water factor plays a dominant role in the functional activity of all living organisms and occupies one of the most important and significant places in any environmental research, as the main factor that determines the way of life, the conduct of economic activities of people.The main content of such substances as chlorides and sulfates is one of the prevailing ones in the general pollution of water resources in the Republic of Karakalpakstan. In the presented dynamics of the chloride content in water, it can be observed that over the considered period of time there is a cyclical nature (Fig. 3). The lowest rates were recorded in the period from 2004 to 2007. The polynomial trend is directed towards a decrease in this indicator. As for the content of sulfates in water, there is also a cyclical nature of the dynamics. The lowest values can be seen in the period from 2004 to 2008, and also from 2014 to 2017 and at present. The established polynomial trend is directed downward.

Dynamic changes in the parameters of pollution of water supply sources in different regions of the Republic of Karakalpakstan are presented in Table 1.

Table 1 Dynamics of indicators of pollution of water and water bodies in various regions of the Republic of Karakalpakstan (2008-2016) (according to Turdymambetov et al., 2016)

№	Districts	Mineralization,g/l, MPC by UzSSt 950/2000, 1,0-1,5 g/l	Hardness of water, mg.ekv/l, MPC, <10 mg.ekv/l	Number of microelements exceeding MPC
1	Kungrad	1,2-2,6	7-14	7
2	Muynak	1,3-3,0	11-18	7
3	Chimbay	1,0-2,0	8,5-10	0
4	Karauzyak	1,5-3,0	7-17	5
5	Takhtakupyr	1,6-3,0	7-14	4
6	Kegeyli	0,8-1,8	7,3-12	4
7	Shumanay	1,2-2,4	9,8-14	8
8	Kanlykul	1,3-3,2	11-18	5
9	Nukus	1,4-3,0	9,5-16,5	6
10	Khodjeyli	1,3-3,2	9-18	3
11	Amudarya	1,6-3,4	7-14	5
12	Berunian	1,2-2,8	10-18	7
13	Ellikkala	1,2-2,4	8-14	4
14	Turtkul	0,8-2,0	6-10	6

The conducted studies show that the highest level of mineralization in water sources of drinking water supply is recorded in the Muinak, Karauzyak, Takhtakupyr, Kanlykul, Khodjeili and Amu Darya regions. Also, in all areas there is a rather increased degree of water hardness. A higher degree of total water hardness is detected in Munayk, Karauzyak, Takhtakupyr, Shumanai, Kanlykul, Khodjeyli and Beruni districts of the Republic of Karakalpakstan [7, 12]. As for the presence of trace elements exceeding the MPC, Table 1 shows that the absence of such trace elements was noted only in the Chimbay region, the maximum amount is recorded mainly in the northern regions - Shumanai, Kungrad, Muynak regions.

ISSN 2792-3983 (online), Published under Volume: 1 Issue: 5 in October-2021

IJDIAS International Journal of Discoveries and Innovations in Applied Sciences
| e-ISSN: 2792-3983 | www.openaccessjournals.eu | Volume: 1 Issue: 5

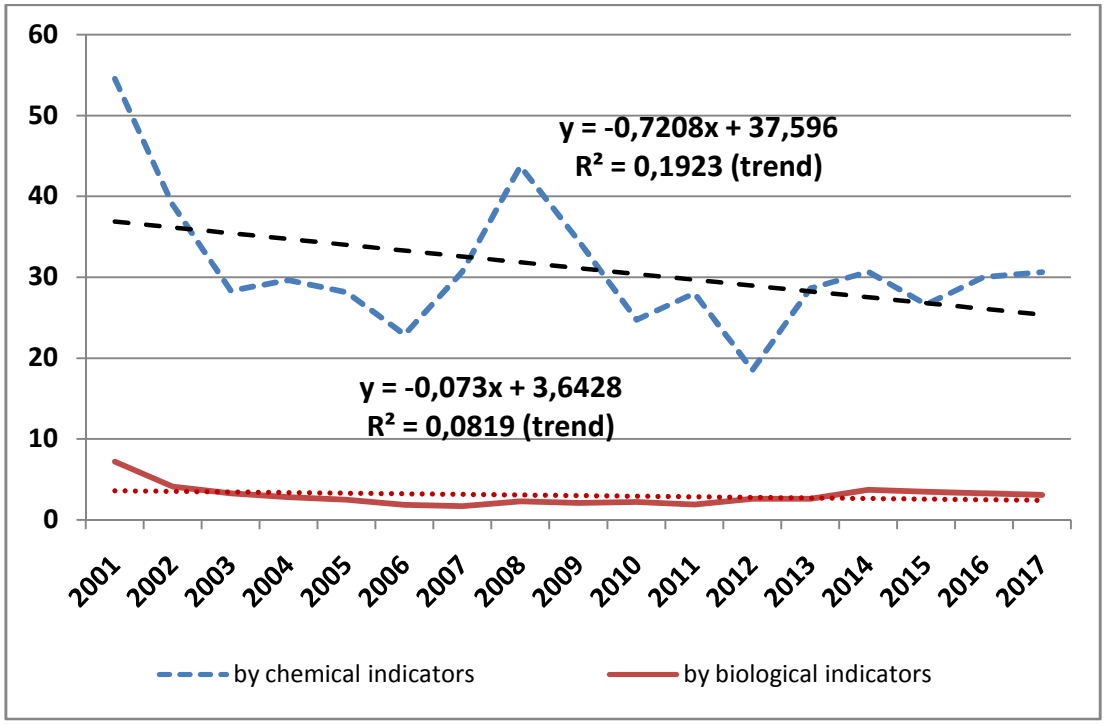

Fig. 4. Indicators of non-standard samples of tap water in the Republic of Karakalpakstan by chemical indicators

The analysis revealed reliable correlations between the levels of some parameters of the composition of drinking water and atmospheric air with the overall morbidity of the adult and child population of Karakalpakstan. So we have identified a correlation with the composition of the atmospheric air, namely with sulfur dioxide, a weak correlation (R = 0.18), with nitrogen dioxide (R = 0.66), with the dustiness of the surface air layer (R = 0.54). The quality of drinking water also correlates with the general morbidity of the population: with chlorides in water (R = 0.43) and with sulfates in water (R = 0.73). The overall morbidity of the child population is closely related to the quality of drinking water (with sulfates in water R = 0.83 and with chlorides in water R = 0.52). A correlation was found with atmospheric air pollution: with nitrogen dioxide (R = 0.58), with dust (R = 0.53). The environment, although composed of individual components, acts as a whole, and the effect of the whole is always greater than the effect of the sum of the individual parts.

Our forecast of the general morbidity of the population in the South Aral Sea region (for 2001-2018) showed that the actual values of the levels of the general morbidity of the population almost completely or closely coincided with the predicted values of indicators for the following classes: respiratory diseases (% deviation = 0.9), diseases of the nervous system (percentage of deviation = 1.5), diseases of the endocrine system (percentage of deviation = 3.5), infectious and parasitic diseases (percentage of deviation = 3.1). The high accuracy of the forecast was achieved in general for the primary morbidity of the population: the percentage of deviation of the actually formed in 2008 indicator from the forecast value was 0.9%. In the course of the research, we paid more attention to taking into account the influence of subjective circumstances on the dynamics of a number of statistical indicators characterizing the incidence of the population, including the use of methods for recording and registering certain forms of diseases, the methodology for detecting diseases at early stages, and the use of stimulating forms of searching for diseases.

Thus, anthropogenic changes in natural conditions and negative changes in the socio-ecological situation in the Aral Sea region are an irrefutable fact. When developing stabilization measures, measures to mitigate the environmental situation, it is necessary to proceed from priority positions: rationalizing water use, improving the quality of surface waters, reducing chemical loads on the region, improving living conditions for the population. One of the main sources that pose a real threat to the health of the population of the Republic of Karakalpakstan is anthropogenic pollution of the most significant natural environments for the living population - atmospheric air, soil and water sources with various pollutants. In order to develop measures to prevent atmospheric air pollution, the development and distribution of various ecological and protective zones can play an important role, as one of the methods of ecological zoning of the territory.

ISSN 2792-3983 (online), Published under Volume: 1 Issue: 5 in October-2021

Used literatures:

1. Abdirov CH.A., Agadzhanyan N.A., Severin A.Ye. Ekologiya i zdorov'ye cheloveka.- Nukus.- Karakalpakstan, 1993.- s. 43-45.
2. Abdirov CH.A., Kurbanov A.B., Konstantinova L.G. Mediko-ekologicheskaya situatsiya v Karakalpakstane i prognozirovanii zabolevayemosti naseleniya: - Nukus: Karakalpakstan, 1996. - 19 s.
3. Arushanov M. L., Tleumuratova B. S. Dinamika ekologicheskikh protsessov Yuzhnogo Priaral'ya. »/ Gamburg: Pal'marium. - 2012. - 183 s.
4. Gichev YU.P. Zdorov'ye cheloveka i okruzhayushchaya sreda: SOS! / Pod red. A.V. Yablokova. - Moskva. - 2007. - 184 s.
5. Yeshchanov T.B. Mediko-ekologicheskoye rayonirovaniye Respubliki Karakalpakstan v svete sostoyaniya zdorov'ya materi i rebenka // Ekologicheskiye faktory i zdorov'ye materi i rebenka v regione Aral'skogo krizisa: Materialy mezhdunar. seminara. - Tashkent: FAN, 2001. - 11-14 s.
6. Zvinyakovskiy YA.I. Vliyaniye faktorov okruzhayushchey sredy na zabolevayemost' naseleniya // Gigiyena i sanitariya.- 1979. - № 4.- S.7-11.
7. Il'inskiy I.I. Gigiyena sel'skogo vodosnabzheniya v Uzbekskoy SSR. Tashkent, Meditsina, 1989. -110 s.
8. Kurbanov A.B., Yeshchanov T.B., Ibragimov M.YU., Konstantinova L.G., Temirbekov O., Kosnazarov K.A. Gigiyenicheskaya otsenka pestitsidov, primenyayemykh v Karakalpakstan.- Nukus, Bilim.- 2002.
9. Mambetullayeva S.M., Temirbekov O., Pirniyazova D.ZH., Mambetnazarova S.N. K voprosu ispol'zovaniya pestitsidov i ikh vozdeystviye na zdorov'ye naseleniya // Vestnik KKO AN RUz.- 2013.-№ 2.- S. 36-38.
10. Revich B.A. Zagryazneniye okruzhayushchey sredy i zdorov'ye naseleniya // Vvedeniye v ekologicheskuyu epidemiologiyu.- M., 2001.- 264 s.
11. Tleumuratova B.S., Mambetullayeva S.M. Formy transformatsii ekosistem Priaral'ya // Yevropeyskoye nauchnoye obozreniye, 2016, №11-12, s. 21-24.
12. Turdymambetov I.R., Mambetullayeva S.M. Prognozirovaniye zabolevayemosti naseleniya Yuzhnogo Priaral'ya // Zhurnal Problemy osvoyeniya pustyn'.- Ashchgabad.- Turkmenistan.- 2011.- № 3-4.- S.37-41.
13. Shandala M.G., Zvinyatskovskiy YA.I. Okpuzhayushchaya speda i zdopov'ye naseleniya. -. K .: Zdopov'ye, 1988. - 151 s.
14. Yevropeyskoye agentstvo po okruzhayushchey srede (YEAOS), Vsemirnaya organizatsiya zdravookhraneniya (VOZ), (2002): Osnovnyye riski dlya detey ot vozdeystviya opasnostey okruzhayushchey sredy, Informatsionnyy byulleten' 02/2002, Kopengagen i Bryussel', 15 aprelya 2002 g.

ISSN 2792-3983 (online), Published under Volume: 1 Issue: 5 in October-2021