



DEVELOPMENT OF MEDICAL GEOGRAPHICAL RESEARCH IN UZBEKISTAN

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Abstract. It is known that although medical geography was formed as a separate scientific discipline in the 20th century, the ideas about it existed even before the initial development of medicine. Medicine has used not only empirical observations, but also the rich experience of related disciplines such as physics, chemistry, biology, geography. It should be noted that to this day there are different views on the definition of the subject of medical geography. This article analyzes the development of medical geography and related research in Uzbekistan.

Keywords: medical geography, nosogeography, nosoecology, social ecology

Introduction. Medical geography studies are of great scientific and practical importance in the territorial study of public health. These studies serve to determine the distribution of diseases, their relationship with natural-geographic, ecological, socio-economic factors. In particular, by analyzing the interaction between population health and the environment, it is possible to effectively plan the health care system in the regions.

The main role of medical geography studies is that they analyze the causes and characteristics of diseases occurring in certain regions from a geographical point of view. For example, in regions with strong ecological problems, an increase in respiratory, cardiovascular or oncological diseases can be observed. This allows identifying dangerous areas and developing preventive measures.

Medical geography also plays an important role in ensuring environmental safety. It determines how factors such as atmospheric air pollution, water quality,



and soil composition affect public health. As a result, scientific recommendations are developed to reduce environmental problems. In this regard, the study of medical geographical research in Uzbekistan is of great importance.

Analysis and results. In Uzbekistan, during the years of independence, special attention was paid to research on medical geography and public health. Initially, the socialization of economic geography was directly influenced by Kh. Tursunov's (1994) study on the impact of the ecological situation of Tashkent on the population and M. Nazarov's (1996) study on the territorial organization of medical services for the population in rural areas. Although these dissertation studies were not related to medical geography, they were very close to the field and played an important role in the "socialization" of economic geography. In fact, by the beginning of the 21st century, two main directions of economic and social geography had formed in the Republic of Uzbekistan. The first direction was agricultural geography, which arose relatively early. It focuses on the theoretical issues of agrogeography, the zoning of agriculture, territorial systems of production, the development of new lands, desert and foothill regions and the development of agriculture on this basis, the use of land and water resources. The second direction - the study of the geography and demographic problems of population settlements, cities and regional issues of the urbanization process - arose somewhat later, but it developed very quickly. The formation of this direction began, first of all, with the activities of N.V. Smirnov.

At the end of the 20th century and the beginning of the 21st century, research on the social geography block of economic and social geography, in particular, such areas as science and scientific research, medicine, tourism and crime geography, was formed in our country. For example, the first candidate and doctoral dissertations on medical geography were defended by N.K. Komilova in 1999 and 2012 (Table 1). In these studies, the territory of the Bukhara region was medically geographically zoned for population health and four nosogeographic regions were divided. These



are the upper, middle or central, lower and western medically geographical regions. The authors took the following principles as the main criteria in implementing this process [1]:

- 1) the generality of the geographical location of the territories;
- 2) the degree of distribution and specialization of disease groups;
- 3) general and infant mortality rates;
- 4) the similarity of natural and ecological conditions;
- 5) the presence of nosogeographical areas of certain diseases;
- 6) the economy of the territory, its sectoral structure;
- 7) the integrity of administrative-territorial units, etc.

When describing the selected medical geographical regions, their area, population size and average density, the main group of diseases characteristic of the regions, and other geoinformatics indicators were widely used.

Table 1

Dissertations on medical geography

№	Full Name of Researcher	Dissertation Topic	Defense Year and Place
1	Komilova Nilufar Karshibaevna	Nosogeographical Situation of Bukhara Region (Territorial Aspects of Population Morbidity)	Tashkent, 1999
2	Khamroev Mukhtor Ozodovich	Social Ecology of Khorezm Region and Geographical Features of Population Health	Tashkent, 2009
3	Komilova Nilufar Karshibaevna	Territorial Analysis of the Medical-Geographical Conditions of Uzbekistan and Problems of Population Health	Tashkent, 2012
4	Turdimambetov Izimbet Rakhmetovich	Socio-Economic Features of Improving the Nosogeographical Situation in the Republic of Karakalpakstan	Tashkent, 2016
5	Ravshanov Aliqul Khudoyberdiyevich	Territorial Features of the Nosogeographical Situation (On the Example of Samarkand and Navoi Regions)	Samarkand, 2020
6	Egamkulov Husniddin Erkaboyevich	Nozoecological Situation of Syrdarya Region and Territorial Features of Population Health (On the Example of Boyovut District)	Samarkand, 2024
7	Zaynutdinova Dilnoza	Socio-Geographical Aspects of Studying the Ecological Condition of Cities (On the Example of	Samarkand, 2024



	Kakhramonovna	Samarkand City)	
8	Utarbaeva Kamila Abutalipovna	Study of the Impact of Harmful Chemical Factors on the Nosogeographical Situation of the Republic of Karakalpakstan	Nukus, 2024
9	Latipov Normurod Faxriddin o'g'li	Ecological Condition of Cities in Navoi Region and Socio-Geographical Aspects of Population Health	Samarkand, 2025
10	Khujamova Sanobar Boltayevna	Nosogeographical Situation of Kashkadarya Region and Socio-Economic Features of Its Improvement	Samarkand, 2026
11	Mirzaliyev Sindor Rajabovich	Medical-Geographical Condition of Urgut District and Socio-Geographical Foundations of Population Health	Samarkand, 2026

The table was compiled by the author based on an analysis of dissertations in the field.

From the analysis of the above table, it is clear that the regional analysis of the medical geographical conditions of Uzbekistan and the problems of public health are widely covered in the works of scientists such as N.K. Komilova, the medical-geographical analysis of the Lower Amu Darya region by I.R. Turdimambetov, M.O.Khamroyev, K.A.Utarbaeva, scientific studies on the nosogeographical situation of the Zarafshan region by A.Ravshanov, D.K.Zaynutdinova, N.F.Latipov, S.R.Mirzaliyev, and the nosogeographical studies of the southern region by S.B.Khujamova. All this makes a great contribution to the development of medical geography, medical landscape science, medical landscape mapping, and medical geoecology in Uzbekistan.

Fundamental, applied and innovative projects carried out in the field are of great importance in the development of medical geographical and nosogeographical research. In particular, the practical projects IL-402104339 “Development of specialized maps based on geographical analysis of the nosogeological conditions of Uzbekistan (for Jizzakh and Syrdarya regions)” (2022-2023), AL-7823051713 “Urboecological situation of Tashkent city in the conditions of global climate change (changes in human ecology and health territorial structure, mapping issues)” (2024-2025) and FL-8323102147 “Geographic problems of human ecology and population health in Uzbekistan in the conditions of global climate change: territorial analysis, forecast, mapping issues” (2024-2027) are of great importance. Members of this



team are among the first in our country to create a “Medical Geographic Atlas of Uzbekistan” using GIS and Macromedia Flash. So far, the first (Jizzakh and Syrdarya regions), second (Tashkent city and Tashkent region), third (Republic of Karakalpakstan and Khorezm region), fourth (Kashkadarya and Surkhandarya regions) parts have been published [2,3,4,5]. These studies have included climate change, the impact of environmental factors on population morbidity, and regional and socio-geographical analyses of diseases.

Conclusion. Medical geography is a science that studies the patterns of geographical distribution of human diseases and the natural and anthropogenic factors that create conditions for the occurrence of diseases. The formation of medical geographical research in Uzbekistan mainly coincided with the last decade of the 20th century and developed as a full-fledged scientific direction in the 21st century.

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