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Issue **Article**

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ISSUES IN THE STUDY OF THE HISTORY OF HEALTHCARE IN KARAKALPAKSTAN

Abstract: *This article provides a scientific and theoretical analysis of the formation and development history of the healthcare system in the territory of Karakalpakstan. The study examines scientific literature and articles on the topic, highlighting their content and essence based on periodization. The author provides a comparative analysis of the chronological approach to works written during the Soviet era, as well as the new methodological principles applied in historical and medical research today. The article examines the source bases of historical and medical research, periodization criteria, and scientific approaches, providing methodological recommendations for future research.*

Key words: *Karakalpakstan, history of healthcare, medicine, healthcare, physician training, historical sources, environmental factors.*

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Introduction

The last quarter of the 19th century and the first years of the 20th century were an important stage in the history of our country, and along with economic and social transformations in the Lower Amudarya region, some changes were observed in the field of healthcare. The study of the history of medicine during this period includes several pressing issues.

Historical sources related to the medicine of this period, depending on their essence and structure, can be divided into four main groups:

1. Notes of travelers and doctors who arrived before the invasion of the Russian Empire;
2. Literature of the colonial period;
3. Literature created during the Soviet period;
4. Literature written after Uzbekistan gained independence.

The first group of studies includes the works of M.I. Ivanin, G.I. Danilevsky, and N.G. Zalesov. They came to the Khiva Khanate and wrote diaries and books about what they saw.

G.I. Danilevsky,[1] noting what he saw during his trip to Khiva, notes that there was a lack of sufficient knowledge and resources to fully determine the impact of the khanate's climate on the human body. Therefore, he writes that he will have to limit himself to some general observations. Due to the lack of long-term research, it was impossible to accurately assess the impact of climate on physical condition, Danilevsky concludes.

He also notes that the climate of the khanate is generally favorable for the health of the local population, and despite the lack of proper medical guidelines, the mortality rate is not high.

[2] In his book, N.G. Zalesov describes the need of the Kyrgyz and Karakalpak populations for medical services during a five-day stay on the banks of the Aibogir. He noted that people with disabilities, the blind, the wounded, men, women, the elderly, and children—representatives of all strata of society—flocked to the mobile pharmacy and asked for various medications.

N. Zalesov noted that the majority of patients who sought treatment, approximately three-quarters suffered from severe forms of syphilis or even worse from the consequences of improper mercury treatment. This situation indicates a lack of medical care in the region and the prevalence of diseases such

as syphilis. It also reflects the serious complications of mercury therapy.

M.I. Ivanin provides information on diseases prevalent among the Khivans and the epidemic that broke out in the Khiva Khanate in 1829[3]. He noted that the most common diseases were fever and malaria, especially during the summer, which is attributed to the excessive consumption of melons.

The second group of sources includes scientific research, reports, official government papers, and expedition materials from the colonial period.

This historical document provides the governor with comprehensive information regarding civil administration and socio-economic life within the Turkestan region. In particular, it describes in detail the organization of hospitals and pharmacies in the region, the training of doctors and medical workers, the sanitary and hygienic condition, and the measures taken against various infectious diseases. This information serves as an important scientific basis for determining the state of the healthcare system in the Lower Amudarya region at that time, its development paths, and the problems encountered.

I. Yavorsky's monograph “Опыт медицинской географии и статистики Туркестана”[4] is a valuable source for studying the history of healthcare in the Amu Darya region in the late 19th and early 20th centuries. This dissertation analyzes the medical-geographical characteristics of the Turkestan region, specifically the Amu Darya region. The work examines the impact of factors such as the region's climate, geographical location, and sanitary conditions on public health. I. Yavorsky's work “Долина Аму-Дарьи в её верхнем течении (медико-географический очерк)”[5] helps to identify environmental and social factors affecting the health of the population of the Amu Darya region. Furthermore, this source provides an understanding of medical knowledge, sanitary and hygenic concepts, and healthcare practices of that period. Overall, Yavorsky's dissertation is one of the most important sources for studying the history of healthcare in the Amu Darya oasis.

I.S. Avdakushyn's work “Санитарный обзор Амударьинского отдела с 1887 по 1891 г.” Asari[6] is one of the most important sources reflecting the sanitary and epidemiological situation in the Lower Amu Darya region at the end of the 19th century. It analyzes the sanitary situation in the region, the prevalence of diseases, the level of medical services, and factors affecting public health.

This work is valuable from the perspective of the methodology for collecting and processing medical and sanitary statistics of its time, providing information on the prevalence of diseases in the region at that time, as well as their causes and consequences. Through the author's observations and analysis, the relationship between the lifestyle, sanitary culture, and medical service needs of the population in the Lower Amu Darya can be seen. The data and statistics presented in the work provide an understanding of the development of medicine in the region, the state of sanitation and hygiene, and efforts to strengthen public health.

Also, the work of I.S. Avdakushin is of great importance not only in a medical but also in a socio-economic context. It examines the lifestyle of the region's population, its economic activities, and their impact on health.

Riza-kuli Mirza emphasizes that smallpox and malaria are widespread among the local population of the Amu Darya department, and that the methods of their treatment and the livestock treatment are veterinary in nature[7]. He also provides information about medicinal plants sold in the markets.

A.E. Alektorov pays special attention to the emerging diseases and issues of medical care in the Kazakh steppe, providing information on their sanitary and hygienic condition, the variety of diseases, and the methods used to treat them[8]. He concluded that syphilis is less common in densely populated areas than in the nomadic population.

Andreev's work “Санитарные заметки по поводу полевой поездки на Алай 1886 г.” contains valuable information about the state of the region's healthcare system at that time, existing problems, and their solutions[9]. The sanitary and hygienic data collected during Andreev's expedition to the Alay Mountains provide an understanding of the lifestyle of the region's population, the spread of diseases, as well as medical institutions and their activities.

L. Kostenkos works reveal important information about the social and economic situation of the population of Khiva at that time[10]. The author notes that along with poverty, the cleanliness and orderliness of the population's clothing attract attention. This indicates the existence of specific social norms and rules of conduct in Khiva society. In particular, the fact that there is almost no begging, despite economic difficulties, gives ideas about the fact that diligence and honesty are respected.

The causes of this condition were various diseases (pox, syphilis, eye diseases), as well as the consumption of opium and hashish. These factors affected not only the face but the entire body, worsening the overall health of the population. Kostenko emphasizes beauty in children, noting that this state disappears with adulthood. This indicates the strong influence of socio-economic conditions, especially health and nutrition, on human appearance and life expectancy.

During the Soviet period, the first studies were conducted in the 1920s–30s. In the studies of N. Milovanov[11], V. Ignatov[12], D. Loginov[13], V. Vertegov[14], and N. Moskovkin[15], there is a small amount of data indicating that the common people did not have access to medical care before the Soviet era. Since these works were influenced by Marxist-

communist ideology, an objective assessment of the medicine of the earlier periods was not given.

I. Alkin studied the economic and geographical features of Central Asia and provided information on medicinal plants brought to the region[16]. According to him, human nature is influenced by the geographical environment, including climate, the marshy nature of the territory, and others. Various diseases (malaria, goiter, rhinitis, etc.) arise, but these diseases cannot be considered products of the "natural" environment alone. In human society, especially at its current stage, diseases are a product of the social environment, and the influence of natural conditions on morbidity changes in accordance with changes in this environment.

In his scientific works, P.P. Ivanov studied materials illuminating the past and lifestyle of the Karakalpak people, emphasizing their methods of healthcare and sanitation[17, 18]. In his opinion, he concludes that the widespread spread of diseases among the local population was driven not only by the inability to follow hygiene rules necessary due to poverty, but also by the lack of elementary hygiene knowledge among the majority of people.

In the 1940s, a collection of articles dedicated to the medicine of Karakalpakstan was published for the first time[19]. This collection also includes the scientific work of P.P. Krivnov, “Развитие народного здравоохранения в Кара-Калпакской АССР” The article examines the development of the public healthcare system within the territory of the Karakalpak Autonomous Soviet Socialist Republic (ASSR)[20]. This publication provides important information about the state of medicine in the region at that time and its directions. The publication of the collection was a unique event in the history of medicine in Karakalpakstan and laid the foundation for future research in this field. P.P. Krivnov's article is particularly noteworthy for its analysis of the state of the healthcare system at that time and its proposals for its improvement.

In the research of the 1950s and 1960s, it was particularly important for local historians to pay attention to this topic. During this period, scientific and practical research intensified, encouraging historians in the regions of Uzbekistan, including Karakalpakstan, to study regional problems, particularly those related to the history of medicine.

One of the leading researchers of this period, Ya. Dosumov[21], whose works contain extensive information regarding medical institutions, the activities of doctors, and the health of the population in the Lower Amudarya region. S. Kamalov's[22] research also provides a comprehensive understanding of the socio-economic history of the region, including the state of the healthcare system at that time. The scientific works of U. Shalekenov [23] and R. Kosbergenov[24] also serve as an important source for studying the history of medicine of this period. Their research is aimed at highlighting how healthcare has developed under the influence of socio-political and economic factors, especially in local conditions. The scientific activities of these historians largely rely on the existing scientific schools and directions of that time, but their research, based on local sources, made a significant contribution to clarifying the history of healthcare in Uzbekistan specifically in the Lower Amudarya region.

Scientific research dedicated to studying the history of healthcare in the lower reaches of the Amu Darya in the late 19th and early 20th centuries has undergone a unique evolution over time. After the first general descriptions, by the second half of the 20th century, this problem began to become the focus of attention for certain researchers.

The 70s of the last century was an important period when several special scientific works were carried out on this topic. Research dedicated to studying the history of healthcare in the Lower Amu Darya region in the late 19th and early 20th centuries deepened, revealing many new aspects. Research conducted during this period revealed the complexity of the healthcare system, focusing on specific socio-economic factors in contrast to the initial general data. Especially Ch. Abdirov's research in this direction is of particular importance.

His early works, such as “Вопросы культуривирования возбудителя лепры человека и крыс” were dedicated to the etiology of regional diseases and the medico-biological foundations of their control, laying the foundation for subsequent scientific considerations. Ch. Abdirov's works “Факторы эпидемиологии, иммунобиологии лепры и организация борьбы с ней (по материалам Каракалпакской АССР)” and “Группы крови и лепра человека (Иммунобиологические исследования в Каракалпаки)” provide an extensive analysis of epidemiological, immunobiological and organizational issues of the fight against leprosy in Karakalpakstan. These works illuminate not only the effectiveness of the medical system of that period but also the scientific foundations of the factors behind the spread of diseases and the measures taken against them.

In addition, Ch. Abdirov and A.F. Kovalenko's article “Этапы развития здравоохранения Каракалпакии (к 50-летию Каракалпакской АССР)” systematically examines the stages of the healthcare system of the Karakalpak ASSR. This article provides important information about the unique ways of training medical personnel and providing medical care to the population in the region during its time. The work of these researchers is of great theoretical and practical importance, especially for understanding how the specific socio-economic conditions in the Lower Amudarya region have influenced the healthcare system[25, 26,27,28].

It should be noted that in the 1970s, several specialized scientific works were conducted on this topic. In addition to Ch. Abdirov, the research conducted by R. Babanazarov is of particular importance[29]. He thoroughly studied the growth of medical culture in this region, existing medical institutions, their activities, and the influence of socio-economic factors in this field.

At the same time, researchers of this period did not overlook the influence of regional customs and traditions on medical practice. The works of researchers such as M.K. Nurmukhammedov, T.A. Zhdanko, and L.S. Tolstova played an important role in revealing the specifics of the healthcare system in the Khorezm region, Karakalpakstan, and adjacent territories[30, 31, 32]. In their research, not only state-organized medical institutions but also the role of folk medicine were emphasized. This further enriched the history of healthcare during this period and expanded the scientific approach.

This branch of historiography, along with studying the history of healthcare in the Lower Amudarya region, also includes the study of the unique anthropological and cultural characteristics of the region's population. The close interconnection of these two directions is essential for a proper understanding of the healthcare system's activities.

In this direction, a special place is occupied by A.I. Yarkhov's work “Антропологический тип каракалпаков” dedicated to the study of the anthropological characteristics of the Karakalpaks[33]. This study was aimed at determining the physical structure and racial affiliation of the region's population, and this information serves as an important source for analyzing socio-demographic and healthcare processes in the future. Anthropological data also help to understand the lifestyle of the population of the region, including the specifics of susceptibility to diseases and methods of combating them.

N. Risnazarov, in his work “Черты наших предков” referred to the results of medical research conducted in the middle of the 20th century and expressed important scientific considerations[34]. In particular, the unusual results obtained in 1965 for ABO blood groups are noteworthy. The researcher believes that this situation can be related to two main directions: one is genetic changes related to the formation of a new generation, and the second is related to infectious diseases spread in different regions.

According to N. Risnazarov, the probability of the spread of infectious diseases affecting ABO gene frequencies is even higher. This situation indicates that the epidemiological situation in the region has a direct impact on the genetic composition of the population. It is known that epidemics are were widespread in regions such as the Lower Amu Darya, where socio-economic and environmental conditions are unique, and they have had a serious impact on public health. This, in turn, can lead to changes in gene frequencies.

Based on this, N. Risnazarov formulated the preliminary conclusion that epidemic diseases have a significant impact on the concentration of gene frequencies. However, he emphasizes that a final solution to this issue and the drawing of final conclusions can only be achieved through general and in-depth research in close cooperation with microbiologists and epidemiologists. This collaboration allows for a more complete coverage of the history of healthcare in the Lower Amudarya region by synthesizing genetic, epidemiological, and historical data.

In the 80s and 90s of the last century, the research of M. Tleumuratov and A. Tureev should be noted. M. Tleumuratov's works are dedicated to the arrival of Europeans in the region and the changes that occurred[35]. M. Tleumuratov particularly emphasizes the development of the healthcare sector as a result of the increase in medical literacy among indigenous peoples and the gradual spread of European medicine. His research shows that with the introduction of new methods of medicine, the attitude of the population to health has changed and the level of access to medical services has increased.

However, the complexity and contradictions of this process are more clearly illuminated by A. Toreev in his research[36]. In his opinion, the medical services of that period served more the colonial policy, and the majority of the population was not provided with adequate medical care. This perspective adds a new layer to the scholarly debate by highlighting the unequal distribution of medical care and the fact that a large portion of the population was marginalized.

Furthermore, K. Ayimbetov's memoir “Xalıq danalığı”[37] provides valuable information about folk medicine and traditional treatment methods in the city of Chimbay, while A. Dosnazarov's work “Esten shıqpas ma’writler”[38] is enriched with brief but meaningful reflections on the history of medicine in the region.

It is known that medicinal plants were widely used in folk medicine. The book “Лекарственные растения Каракалпакии” by A. Bakhiyev, K. Butov, and S. Dauletmuratov, who researched medicinal plants used in folk medicine in Karakalpakstan, was published in 1983. According to researchers, 343 species of medicinal plants belonging to 239 genera and 78 families grow in the territory of Karakalpakstan, which is more than 30% of the total flora of Karakalpakstan[39]. A book on medicinal plants in Karakalpakstan was also published in the co-authorship of S. Dauletmuratov and K. Uteniyazov. According to them, more than 80 species of medicinal plants growing in Karakalpakstan are widely used in scientific medicine[40].

During the years of independence, significant achievements have been made in the field of studying the history of healthcare in the Lower Amu Darya region in the late 19th and early 20th centuries. The discovery of new archival materials, the deepening and expansion of existing research, and the study of local medical traditions have opened up new opportunities for this important field of historiography. These studies are important not only for studying the past but also for developing measures aimed at improving the region's healthcare system and strengthening public health today.

In particular, the scientific works of B. Koshanov[41, 42], K. Paluaniyazov[43], M. Karlibaev[44], S. Shodmonova[45, 46], A. Kodirov[47], A. Elmuratov[48], O. Ismailov[49], M. Turimbetova[50, 51, U. Karimullaeva[52], and A. Abdullaev[53] are the result of research on the historical development of medicine in our country during the period of independence.

In the study of the history of medicine and healthcare in Central Asia during the colonial period, M. Mahmudov's doctoral dissertation titled "Становление и развитие медицины и здравоохранения в Средней Азии (1867–1924 гг.)" is of particular importance[54]. In this study, issues such as the state of medicine during the Russian Empire, the establishment of new hospitals, and the activities of medical specialists are comprehensively examined. At the same time, the development of local medical traditions and their impact on the new system were also studied.

K. Allambergenov studied the history of the plague epidemic in Akkamysh in 1923–1924. In his research, the causes of the emergence of plague in Karakalpakstan from the early years of the 20th century to the end, its elimination, prevention measures, and its history are covered with historical information[55, 56].

In addition, it is necessary to note the articles of some authors. Scientific articles by B. Koshanov, and S. Nurzhanov[57], O. Ismailov[58, 59], D. Ziyoeva[60], S. Shodmonova[61], R. Urazbaeva[62, 63], G. Seydametova[64, 65], K. Yakubov[66], A. Majidov[67], Kh. Jumanazarov[68], M. Tureniyzov[69], M. Kamalova[70, 71], Z. Kurbanova, and M. Davletyarov[72] analyze information on this topic. In recent years, a number of researchers, including F. Karimov[73], M. Makhmudova[74], Sh. Abdurahimova[75], A. Badalov[76], Kh. Jumanazarov[77], R. Patkhiddinov[78], and others successfully defended their dissertations on the history of medicine in our country.

The results of the study show that the study of the history of healthcare in the Lower Amu Darya region in the late 19th and early 20th centuries is a multifaceted and complex process, confirming many unstudied aspects. It is necessary to conduct a deeper analysis of the organizational structures, financial sources, the training system for physicians and nursing staff, as well as the socio-economic and demographic situation of the region during this period. Pharmaceutical activities in the healthcare system of this period, as well as the mechanisms for the preparation and distribution of medicines, have not yet been fully studied.

It is also important to summarize and analyze the collected data on infectious and other diseases prevalent in the region, the causes of their spread, prevention measures, and treatment methods. It is necessary to study the issues of folk medicine of this period and its interaction with official medicine, as well as the struggle of science. As a result, it helps to reveal the peculiarities of the healthcare system in the Lower Amudarya region in the late 19th - early 20th centuries.

References:

1. Danilevskij, G.I. (1851). Opisanie Hivinskogo hanstva. *Zapiski Imperatorskogo Russkogo geograficheskogo obshhestva*. Kn. V. SPb, 1851.
2. Zalesov, N. (1860). Pis`mo iz stepi; Pis`mo iz Hivy; Pis`mo iz Hivy; Pis`mo iz Buhary. *Voennyj sbornik*. T. III. 1858; T. IV. 1858; T. V. 1859; T. XII. 1860.
3. Ivanin, M.I. (1873). *Hiva i reka Amu-Dar`ja.* Soch. M.I. Ivanina / M.I. Ivanin. — Sankt-Peterburg: Tip. tov-va "Obshhestv. Pol`za", 1873. — 64 p.
4. Javorskij, I. (1889). Opyt# medicinskoj geografii i statistiki Turkestana/Dissertacija na stepen` doktora mediciny I. Javorskogo. S.-Peterburg. *Tipografija departamenta udelov, mohovaja*, № 36. 1889, p. 444.
5. Javorskij, I. (1879). *Dolina Amu-Dar`i v ejo verhnem techenii (mediko-geograficheskij ocherk).* Tashkent, p. 25.
6. Avdakushin, I.S. (1892). Sanitarnyj obzor Amudar`inskogo otdela s 1887 po 1891 g., — *«Sbornik materialov dlja harakteristiki Syr-Dar`inskoj oblasti»*, t. II, Tashkent.
7. Riza-Kuli-Mirza. (1875). *Kratkij ocherk Amu-Dar`inskoj oblasti.* SPb.

8. Alektorov, A.E. (1893). Ocherki Vnutrennej kirgizskoj ordy. *Izvestija Orenburgskogo otdela Imperatorskogo Russkogo geograficheskogo obshhestva.* Vyp.2. 1893.
9. Andreev (1888). Sanitarnye zametki po povodu polevoj poezdki na Alaj 1886 g. / *SGTSM po Azii.* Vyp.XXXV. SPb, 1888.
10. Kostenko, L. (1873). Gorod Hiva v 1873 godu; *Voennyj sbornik*. God 16. 1873, №11-12; - 333 p.
11. Milovanov, N.M. (1930). Zdravoohranenie v Karakalpakskoj avtonomnoj oblasti. *Zdravoohranenie v Kazahstane* №2.
12. Ignatov, V. (1935). Kara-Kalpakija na socialisticheskom puti. *Revolucionnyj Vostok*. 1935, №2.
13. Loginov, D.M. (1934). *Itogi i puti hozjajstvennogo i kul`turnogo stroitel`stva KKASSR. Karakalpakija.* Trudy pervoj konferencii Po izucheniu proizvoditel`nyh sil Karakalpakskoj ASSR Tom I. L: 1934.
14. Vertegov, V.I. (1934). *Kul`turnaja revolucija v KKASSR.* Trudy pervoj konferencii Po izucheniu proizvoditel`nyh sil Karakalpakskoj ASSR Tom II. L: 1934.
15. Moskovkin, N. (1932). *Karakalpakskaja ASSR.* M: 1932.
16. Alkin, I. (1931). *Srednjaja Azija. Jekonomiko-geograficheskij ocherk.* M., 1931.
17. Ivanov, P.P. (1940). *Kara-kalpaki/Sovetskaja jetnografija,* IV.
18. Ivanov, P.P. (2021). *Karakalpaklar tarijhynyң ocherki*, Nөkis: Bilim, 320 p.
19. (1940). *Sovetskoe zdravoohranenie Kara-Kalpakii:* Sb. statej / Nar. kom. zdrav. Kara-Kalpak. ASSR. — Turtkul`: Karakalpakgiz, 1940. — 72 p.
20. Krivnov, P.P. (1940). *Razvitie narodnogo zdravoohranenija v Kara-Kalpakskoj ASSR.* Sovetskoe zdravoohranenie Kara-Kalpakii. Sbornik statej 1940, 3-9 pp.
21. Dosumov, Ja. (1960). *Ocherki istorii Karakalpakskoj ASSR* (1917-1927 gg.), Tashkent: AN UzSSR, 310 p.
22. Kamalov, S. (1968). *Karakalpaki v XVIII - XIX vekah*, Tashkent: Fan, 328 p.
23. Shalekenov, U.H. (1966). *Kazahi nizov`ev Amudar`i*, Tashkent: Fan, 336 p.
24. Kosbergenov, R. (1970). *Karakalpak halkynyң kolonial` dөўirdegi mөdenijaty ўөm turmysy*, Nөkis: Karakalpakstan, 112 p.
25. Abdirov, Ch.A. (1967). *Voprosy kul`turivirovanija vozbuditelja lepry cheloveka i krys*. Nukus, «Karakalpakstan». 91 p.
26. Abdirov, Ch.A. (1970). Jetapy razvitija zdravoohranenija Karakalpakii (k 50-letiu Karakalpakskoj ASSR) / Abdirov Ch.A., Kovalenko A.F. *Medicinskij zhurnal Uzbekistana.*-1970.-№ 10.
27. Abdirov, Ch.A., Podoplelov, I.I., & Zhumanazarov, A.D. (1970). *Faktory jepidemiologii, immunobilogii lepry i organizacija bor`by s nej (po materialam Karakalpakskoj ASSR).* Nukus, «Karakalpakstan». 220 p.
28. Abdirov, Ch.A., Zhumanazarov, A.D., & Podoplelov, I.I. (1977). *Gruppy krovi i lepra cheloveka (Immunobiologicheskie issledovanija v Karakalpaki).* Nukus, «Karakalpakstan». 1977, 156 p.
29. Babanazarov, R. (1970). K istorii razvitija zdravoohranenija v Karakalpakskoj ASSR. *Sbornik nauchnyh trudov respublikanskoj bol`nicy Karakalpakskoj ASSR*. Vypusk II. Pod redakciej D.S. Karimova. / Babanazarov R., Karimov D.S., Kovalenko A.F.- Nukus: Karakalpakija.
30. Nurmuhammedov, M.K., Zhdanko, T.A., & Kamalov, S.K. (1971). *Karakalpaki (Kratkij ocherk istorii s drevnejshih vremen do nashih dnej).* Tashkent: «Fan», 120 p.
31. Zhdanko, T.A., & Kamalov, S.K. (1971). *Jetnografija karakalpakov. XIX-nachalo XX veka (materialy i issledovanija).* Tashkent: «Fan», 130 p.
32. Tolstova, L.S. (1963). *Karakalpaki za predelami Horezmskogo oazisa v XIX-nachalo XX veka*. Nukus-Tashkent, 228 p.
33. Jarho, A.I. (1952). *Antropologicheskij tip karakalpakov T.I.* M..
34. Rysnazarov, N. (1972). *Cherty nashih predkov (Voprosy proishozhdenija karakalpakov po dannym antropologii).* Nukus: «Karakalpakstan», 100 p.
35. Tleumuratov, M. (1986). *Istoki kul`turnyh svjazej karakalpakov c sosednimi narodami.* Nukus: «Karakalpakstan», 96 p.
36. Tөreev, A. (1991). *XIX өsirdiң akyry XX өsir basynda karakalpak ylkesinde dijhanlar ўөreketi,* Nөkis: Karakalpakstan, 180 p.
37. Ajymbetov, K. (1988). *Halyk danalygy*. Nөkis: «Karakalpakstan», 492 p.
38. Dosnazarov, A. (n.d.). *Esten shykpas mөўritler*. Nөkis, «Bilim» - 412 p.
39. Bahiev, A., Butov, K., & Dauletmuratov, S. (1983). *Lekarstvennye rastenija Karakalpakii*. Tashkent, Izdatel`stvo «Fan» Uzbekskoj SSR, 136 p.
40. Davletmuratov, S., & Utenijazov, K. (1990). *Lekarstvennye rastenija Karakalpaki primenjaemye v nauchnoj mediciny.* Nukus: «Karakalpakstan», 95 p.
41. Koshhanov, B., & Elmuratova, A. (1996). *Ully ўatandarlyk urys zhyllary Karakalpakstanda halyk densaўlygyn saklaў hizmetiniң tarijhynan.* Nөkis: «Karakalpakstan», 44 p.
42. Koshhanov, B., & Mambetov, B. (n.d.). Ohrana materinstva i detsva/ *Vesti Karakalpakstana*, 4 p.

43. Paluanijazov, K.A. (1992). *Istoki rozhdenija Respubliki Karakalpakstan. Chast` I. Levoberezhnaja Karakalpakija v 1917— 1924 g.g. (Monografija)*—Nukus: «Karakalpakstan» — 144 p.
44. Karlybaev, M. (2022). *XVIII-XX asr boshlarida korakalpoklarda islom: tarihij, izhtimoij, jetnik va genealogik kontekctlar: Tar. fan. d-ri (DSc)* … dis. avtoref, Nukus, 75 p.
45. Shodmonova, S. (2019). *Turkistonda tibbijot hodimlari va ularning faolijati (XIX asr ohiri - XX asr boshlari):* monografija / S. Shodmonova, Toshkent: «Nurafshon business», 280 p.
46. Shodmonova, S. (2019). *Turkistonda tibbijot: an#ana va innovacijalar (XIX asr ohiri - XX asr boshlari)* / - Toshkent: Akademnashr, 232 p.
47. Kadyrov, A. (1994). *Istorija mediciny Uzbekistana.* T: Ibn Siny, 233 p.
48. Elmuratov, A. (1994). *Karakalpakstanda halyk densaўlyғyn saklaў hyzmetiniң tarijhynan/* Nөkis: Karakalpakstan.
49. Ismailov, O.I., Eshhanov, T.B., & Babadzhanov, A.S. (1997). *Razvitie zdravoohranenija v Respublike Karakalpakstan*. Nukus, 116 p.
50. Turymbetova, M. (2004). *Halyk medicinasy: tarijhy, emleў xəm aldyn alyў usyllary.* Nөkis: "Karakalpakstan", 56 p.
51. Turymbetova, M. (2005). *Karakalpakstanda medicina xəm densaўlykty saklaў taraўynyң raўazhlanyў tarijhy,* Nөkis: Karakalpakstan, 184 p.
52. Karimullaeva, U. (1994). *Shypakerler*. Nөkis: Karakalpakstan, 52 p.
53. Abdullaev, A.A. (1972). *Ocherki istorii mediciny Horezma. Avtoreferat dis. na soiskanie uchenoj stepeni doktora medicinskih nauk.* / Tashk. gos. med. in-t, Tashkent: 36 p.
54. Mahmudov, M. (1991). *Stanovlenie i razvitie mediciny i zdravoohranenija v Srednej Azii (1867- 1924 gg.):* dissertacija na soiskanie uchenoj stepeni doktora istoricheskih nauk, Tashkent.
55. Allambergenov, K. (2001). *Istorija organizacii profilaktiki chumy v Karakalpakstane v XX veke.* Avtoref. diss. na sois. kand. ist. nauk. Nukus, 40 p.
56. Allambergenov, K. (2002). *Oba jepidimiologijasy tarijhy.* Nөkis: «Karakalpakstan», 88 p.
57. Koshhanov, A., & Nurzhanov, S. (1995). Zdravoohranenie Karakalpaki v 1917-1924 gg. *Vestnik KKO AN RUz*, Nukus, № 4, 97-100 pp.
58. Ismailov, O. (1997). Pervye russkie vrachi v Karakalpaki. *Vestnik KKO AN RUz*, Nukus, 1997, № 4, 109-111 pp.
59. Tleumuratov, T. L., & Ismailov, O.I. (1997). Razvitie pedriaticheskoj sluzhby v Karakalpakstane. *Vestnik KKO AN RUz*, Nukus, 1997, № 4, 111-112 pp.
60. Zijoeva, D. (2006). *Medicina i zdravoohranenie v Srednej Azii: tradicii, modernizacija i transformacija (konec XIX - nachalo XX vv.).* Materialy mezhdunarodnoj konferencii «Social`naja zhizn` narodov Central`noj Azii v pervoj chetverti hh veka: tradicii i innovacii», Tashkent.
61. Shadmanova, C. (2017). Medicina i naselenie Turkestana: tradicii i novacii (konec XIX - nachalo XX vv.). *Istoricheskaja jetnologija*, 2017, 119-139 s.
62. Urazbaeva, R.Dzh. (1989). *Stanovlenie medicinskogo obrazovanija v Karakalpakskoj ASSR*. Materialy XIII NTK NGU, Nukus, pp. 12-15.
63. Urazbaeva, R.Dzh., & Zhollybekova, I. (2006). Istorija podgotovki medicinskih kadrov v Karakalpakstane. *Vestnik KKO AN RUz*, Nukus, 2006, № 3, pp. 85-87.
64. Sejdametova, G. (2018). Medicinskoe obsluzhivanie v gorodah Karakalpakstana nachala 1960-h - konca 1980-h godov. *Istoricheskij zhurnal: nauchnye issledovanija*. 2018. 5.
65. Sejdametova, G. (2021). *Povsednevnost` i sistema zdravoohranenija Karakalpakstana v poslevoennyj period.* «Karakalpakstan eң zhaңa tarijhynyң әxmijetli mashkalalary» temasyndaғy Respublikalyk ilimij-teorijalyk konferencijasy, Nөkis-2021.
66. Jakubov, K. (2020). XIX - XX asr boshlari Hiva honligi tibbijot tarihidan. *Ўzbekiston tarihi*, 4, 2020, 64-73 pp.
67. Mazhidov, A. (2022). Ob Izmenenijah V Medicine Turkestana V Konce XIX - Nachale XX Vekov. *Central Asian journal of literature, philosophy and cultureeissn:* 2660-6828 | Volume: 03 Issue: 12 Dec 2022, 75-79 s.
68. Zhumanazarov, H. (2020). Halk tabobati an#analarida tabiblik tushunchasi. Ўzbekiston Resp. *Fanlar Akad. Korakalpoғiston bўlimining ahborotnomasi*, 2020, №1, 133 - 136 pp.
69. To'reniyazov, M. (2025). History of healthcare in Karakalpakstan in 1917-1924. Society and innovations Special Issue - 06 (2025) / ISSN 2181-1415, 501-505 pp.
70. Kamalova, M. (2023). Karakalpakstan medicinasy tarijhynyң үjreniliўi (1991- 2021). *Berdak atyndaғy KMU habarshysy,* 2023, № 3, pp. 191-192.
71. Kamalova, M. (2024). *Qaraqalpaqstan medicinasiniń jetiskenlikleri hám mashqalalari (1924-1941-jillar).* T.Sejtzhanovtyң 100 zhyllyғyna barғyshlap өtkerilgen "Karakalpak filologijasy məseleleri" atamasyndaғy respublikalyk ilimij-əmelij konferencija makalalar toplamy. Nөkis, 2024, 89-92 pp.
72. Kurbanova, Z., & Davletijarov, M. (2016). Predmety lichnoj gigieny naselenija Jyzhnogo

Priaral`ja (na materialah Karakalpakskogo gosudarstvennogo muzeja iskustv imeni I. Savickogo). *Istorija arheologija Turana*, №2. Posvjashhennyj ubileu Muhamad-Sharip Kdyrnijazova. Samarkand, 109-114 pp.

73. Karomov, G. (2021). *Turkiston ASSR, BHSR va HHSRda soƶlikni saklash soҳasining jўlga kўjilishi/ tarih fanlari bўjicha falsafa doktori (PhD) dissertacija avtoreferati.* Buhoro, 50 p.
74. Mahmudova, M. (2021). *Ўzbekistonda tibbijotning terapija jўnalishi: ҳolati, ўzgarishlar va muammolar (1917-2017 jillar)/ tarih fanlari bўjicha falsafa doktori (PhD) dissertacija avtoreferati.* Toshkent, 58 p.
75. Abdurahimova, Sh. (2023). *Ўzbekiston SSR da aҳoli salomatligi va tibbij hizmat muammolari (1941-1991 jillar)/tarih fanlari bўjicha falsafa doktori (phd) dissertacijasi avtoreferati.* Toshkent, 50 p.
76. Badalov, A. (2023). *Farg'ona oblastida sog'liqni saqlash tizimi va undagi o'zgarishlar: tarixiy tahlil (XIX asr oxiri - XX asr boshlari)/ tarix fanlari bo'yicha falsafa doktori (PhD) dissertatsiyasi avtoreferati.* Andijon, 54 p.
77. Jumanazarov, X. (2024). *Turkistonda milliy tib an'analari va tibbiyot tarixi (XIX asr oxiri XX asr boshlari)/ tarix fanlari doktori (DSc) dissertatsiyasi avtoreferati*. Toshkent, 72 p.
78. Patxitdinov, R. (2024). *Turkistonda xalq tabobati va zamonaviy tibbiyot (XIX asr oxiri - XX asr birinchi choragi, Farg'ona viloyati misolida)/ tarix fanlari bo'yicha falsafa doktori (PhD) dissertatsiyasi avtoreferati.* Farg'ona, 54 p.