

**THE REPUBLIC OF AZERBAIJAN**

*On the right of the manuscript*

**ABSTRACT**

of the dissertation submitted to receive the  
degree of Doctor of Philosophy

**BIOETHICAL PROBLEMS IN MEDIEVAL AZERBAIJANI  
MEDICINE AND PHARMACY**

Specialty: 5505.01 - Other sciences on history

Field of science: History

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**BAKU – 2024**

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## I. GENERAL CHARACTERISTICS OF THE DISSERTATION

**Relevance and development of the topic.** At present, the study of modern science, including the primary sources of medicine and history, and their different stages of development is one of the most serious and urgent problems. The main purpose of creating a healthy society in the independent Republic of Azerbaijan is to take care of the human factor, a highly developed personality. It is no coincidence that the idea "*Health care is the health and future of our people*" by great Leader Heydar Aliyev, who attached great importance to the human factor, especially their physical health, has given impetus to the establishment of health care reforms carried out in our country today on the principle of "healthy life, healthy future". Great Leader Heydar Aliyev also said: "*The main quality for a doctor is high morality*"<sup>1</sup>.

The National Action Program approved by the Decree of the President of the Republic of Azerbaijan Ilham Aliyev "On increasing the effectiveness of protection of human rights and freedoms in the Republic of Azerbaijan" dated December 27, 2011 pays special attention to the protection of human health rights. The decree reads: "*Human health is a key issue for us.*"<sup>2</sup>.

The work done by the Heydar Aliyev Foundation to preserve our national and cultural heritage and promote our ancient culture and history in the world is of great interest and support to UNESCO. 3 rare medical manuscripts kept at the Institute of Manuscripts named after Muhammad Fuzuli of ANAS were included in the International the

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<sup>1</sup>Əliyev, Heydər. Müstəqilliyimiz əbədidir. Çıxışlar, nitqlər, müraciətlər, müsahibələr, bəyanatlar, fərmanlar, I kitab / H.Əliyev, məsul şəxs R.Mehdiyev, H.Orucov. – Bakı: Azər nəşr, – 1997. – 606 s.

<sup>2</sup>Распоряжение Президента Азербайджанской Республики Ильхама Алиева от 27 декабря 2011 года «Об утверждении Национальной программы действий по повышению эффективности защиты прав и свобод человека в Азербайджанской Республике» // Газета «Бакинский рабочий». – 2011, 28 декабря. № 282 (467).

Memory of the World Register Program of UNESCO in July 2005. In this regard, President of the Foundation and First Vice President of our country Mehriban Aliyeva said: *“I would like to note with pride that the World Memory Program includes written monuments of importance not only for individual states and peoples, but for humanity as a whole. There are already 3 Azerbaijani manuscripts in this program, which includes 120 rare manuscripts.”*<sup>3</sup>.

Such a high appreciation of our 3 unique manuscripts of medical science by UNESCO, is also an indication of the high level of development of medical science in Azerbaijan in the Middle Ages, along with the fact that they are ancient written monuments.

In the first decade of the 21st century, rapidly evolving new technologies, including biotechnology, nanotechnology, genetic engineering, and medicine, began to pose a number of ethical and legal challenges. These problems have already moved from the regional to the global level. After the second half of the 20th century, intensive scientific research in biology, new technologies, and medical achievements began to go far ahead of research on their ethical norms and philosophical essence. In understanding the ethical and philosophical nature of the role these new technologies and deepening scientific results will play in the history of mankind, and in their proper direction, the American oncologist scientist Potter came up with new principles of bioethics<sup>4</sup>. These principles include tolerance, respecting the culture of other nations, their historically formed mentality, respect and attention to the elderly, charity, compassion, care for the suffering people. However, it should be noted that no matter how much the development of this field is renewed today, its essence is mainly the scientific principles that emerged in the ancient and medieval

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<sup>3</sup>Bakıda “Orta əsr əlyazmalarında tibb və əczaçılıq” mövzusunda I Beynəlxalq konfans işə başlamışdır: [Elektron resurs] / Azərbaycan Respublikası Prezidentinin İşlər İdarəsi Prezident Kitabxanasının rəsmi saytı. – URL: <https://mehribanaliyeva.preslib.az/media-1f1472a50a.html>

<sup>4</sup>Rothman, D.J. Strangers at the bedside: A history of how law and bioethics transformed medical decision-making. – New-York, – 1991. – 146 p.

countries of the East. Nevertheless, unfortunately, the information about the emergence of bioethics as a field of science in the modern scientific literature incorrectly states that the knowledge and principles that form its core were first created in the West only in the middle of the twentieth century<sup>5</sup>. Research shows that this is not the case. Like all Eastern countries, the Azerbaijani people have formed their own bioethical and philosophical views since ancient times.

The science of bioethics is a field of science that studies the ethical standards of medical experiments and tests, combines the social, legal and ethical aspects of issues arising in the fields of natural sciences, medicine and biotechnology, organizes their discussion, investigates and creates ethical standards.<sup>6</sup>

The modern development of bioethics in the Republic of Azerbaijan is at its initial stage, and the application of its principles in all spheres of public life, including legislation, with an emphasis on national and universal values, can significantly affect the building of a stable, healthy and dynamic society.

Scientific research shows that the renaissance of science and medicine in Azerbaijan dates back to the Middle Ages. As it is well known, medicine, which is very old in history, has emerged through the daily observation and experience of people since the creation of human. From ancient times, as people learned the realities of the universe and life, they gradually formed worldviews. Society evolved and developed. From the 7th century onwards, with the emergence of Islam in the world and the appearance of the Qur'an and the Prophet Muhammad (pbuh), this evolution reached its absolute perfection.<sup>7</sup>

When studying the works of medieval Azerbaijani scientists, thinkers and poets, it was found that they attached great importance to

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<sup>5</sup>Алекперли, Ф.У. Тысяча и один секрет Востока / Ф.У.Алекперли. – Баку: Нурлан, – т. 1. – 2008. – 492 с.

<sup>6</sup>İnsan hüquqları və bioetikaya dair Ümumi bəyannamə // Bioetika: sənədlər, terminlər. – Bakı: Elm, – 2009, – s. 308.

<sup>7</sup>Quran elmləri və onun digər elmlərə təsiri: [Elektron resurs] / Azərİslam.com, İslam saytı – URL: [http://www.azerislam.com/?l\\_ngs=a&cats=1&ids=1929](http://www.azerislam.com/?l_ngs=a&cats=1&ids=1929)

ethical and moral issues in their works. Azerbaijani lugmans were well acquainted with the ancient world. Thanks to these lugmans, the secrets of medical science were passed down from generation to generation and spread all over the world. Two important recommendations of the lugmans are of modern importance. One was that the lugmans urged doctors to carry out their benevolent missions conscientiously, and the other was to urge people not to eat too much, not to drink too much alcohol, and to follow the rules of hygiene.

The main principles of behavior of these ancient doctors are reflected in the epos "Kitabi Dada-Gorgud", an ancient monument of Azerbaijani culture<sup>8</sup>. Here some tips on how to stay healthy and advice on spiritual purity were given. Prominent Azerbaijani thinkers, poets and scientists Ibn Bahmanyar Mirzaban, Nizami Ganjavi, Khatib Tabrizi, Mahmud Shabustari, Omar Osmanoglu, Nakhchivani, Khagani, Fuzuli and others wrote about the gratuitous, kind and courageous deeds of doctors in their works. These ideas and writings show that medical science was highly developed in Azerbaijan. As early as the 11th century, along with religious knowledge, medical sciences were taught in the first madrasas in Azerbaijan. For the first time in the 12th century, a specialized medical school was opened in Azerbaijan. Future doctors were trained in this school under the leadership of scientist Omar Osmanoglu from Shirvan. Omar Osmanoglu's teaching was based on the principle of love for human within doctors. At the heart of this teaching was the requirement of "do not turn yourselves into an enemy." He educated his students in a morally pure and patriotic spirit, preaching to serve to their people, not to be selfish, and to be diligent. Khagani also advised to get rid of greed, hypocrisy, envy, slander, revenge, arrogance, lawlessness, flattery, enmity and lies. The great thinker, poet and philosopher of all times Nizami highly appreciated medical science and profession. In his works, he wrote deep philosophical thoughts about the subtleties

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<sup>8</sup>Kitabi-Dədə Qorqud / Tərtib edən, sadələşdirilmiş variantı və müqəddiməsi F.R.Zeynalov, S.Q. Əlizadə. – Bakı: Yazıçı, – 1988. – 265 s.

and features of folk medicine in Azerbaijan, and about the importance of proper nutrition for health. Khagani advised to get rid of greed, hypocrisy, envy, slander, revenge, arrogance, lawlessness, flattery, enmity and lies. The great thinker, poet and philosopher of all times Nizami highly appreciated the science and art of medicine. In his works, he wrote deep philosophical thoughts about the subtleties and features of folk medicine in Azerbaijan, about the importance of proper nutrition for health<sup>9</sup>. It is important to note that the rapid development that took place in the Middle Ages in the Eastern countries played an exceptional role in the development of medicine and other fields of science in Azerbaijan, as in many countries, and the innovations and scientific achievements in the field of medicine and pharmacology were achieved through collaboration with many Eastern scientists<sup>10</sup>. Therefore, this research includes the analysis of the creative examples of some oriental scientists and thinkers who have made exceptional contributions to the development of medical science in Azerbaijan. In the works such as the works of Ibn Sina, Razi, Zeynaddin Jurjani, one of the prominent thinkers of the East, "Hidaya" ("The Right Way") by Ali Marginani, one of the famous jurists of law living in Central Asia in the XII century, Sheikh Abdul-Manarim, one of the Azerbaijani lawyers, Tabrizi Charpard'i's (746/1345) commentary on "Hidaya" and works based on it, in the work "Medicine" by the 10th century Azerbaijani scholar Isa al-Rahini, in Jame al-Fawaid (The Treasure of All Benefits) written by the representative of the Tabriz Academy Muhammad Yusuf Tabib

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<sup>9</sup>Bəndəliyeva, A. A. Nizami Gəncəvi yaradıcılığında tibbi dünyagörüşü // AMEA-nın M. Füzuli adına Əlyazmalar İnstitutunun, Nizami Gəncəvinin 880 illik yubileyi münasibətilə "Nizami Gəncəvi: Sələflər və Xələflər – Orta əsr əlyazmaları və Azərbaycan mədəniyyətinin tarixi problemləri" mövzusunda elmi-nəzəri konfransın materialları, - Bakı, - 2021. - s.106-108.

<sup>10</sup>Axundov, İ. A. Müasir tibbin nəzəri əsasları / İ. A. Axundov. – Bakı: Nurlan, – 2000. – 215 s.

Yusif in 1513 and “The Benefits of Substances”, in "The Law of Etiquette" and "Qanun al-lobad" ("Laws of Thought and Emotions") by the 12th-century scientist Hubeis Tiflisi, one of the outstanding scientists and doctors who lived and created in Azerbaijan, in "Bayan al-Sanat" ("Description of Professions" ), in the works of Mahmud ibn Ilyas, who lived in the XIV century, and in tens of other works we have studied, the authors, in addition to teaching people the secret of physical health, talk about the fields of art, profession, and specialty, and instill the secrets of philosophical, legal, ethical and behavioral rules to the professionals<sup>11</sup>.

In the emergence and development of medical ethics, which gave impetus to the formation of modern bioethics and medical law, the works of Eastern thinkers and philosophers, including Al-Ruhavi's "Practical Ethics of the Physician", Ibn Abu Usaybi's "Rule of Medicine", Ibn Sina's "Law of Medicine", "Firuzname" played a big role. It is no coincidence that these works have been carefully studied in Europe for centuries, and they are used as textbooks on medical subjects in famous Western universities.

At present, about 400 of the more than 14,000 manuscripts preserved at the Institute of Manuscripts named after Muhammad Fuzuli of ANAS are medical manuscripts<sup>12</sup>. “Ganun fi at-tibb” by Ibn Sina, which reflects the knowledge of medicine, pharmacy and medical ethics that we have studied<sup>13</sup>, "al-Havi-fi-tibb" by Zechariah Razi<sup>14</sup>, “Kitab as-saydana fi-t-tibb” (“Pharmacognosy of Medicine ”)

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<sup>11</sup>Ələkbərli, F.U. Ortaçağ Şərq təbabəti / F.U.Ələkbərli. – Bakı: Elgün, – 2013. – 320 s.

<sup>12</sup>Ələkbərli, F.U. Azərbaycanca tibb tarixinin araşdırılmasına dair // “Azərbaycanda tibb elminin tarixi problemləri” I Respublika elmi konfransının materialları, – Bakı, – 1-2 fevral, – 2005, – s. 3-12.

<sup>13</sup>Абу Али Ибн Сина. Канон врачебной науки / перевод М.А.Салье – Ташкент: ФАН, – т. 4. – 1980. – 735 с.

<sup>14</sup>Алекперли, Ф.У. Тысяча и один секрет Востока / Ф.У.Алекперли. – Баку: Нурлан, – т. 1. – 2008. – 492 с.



by Abu Rayhan Biruni<sup>15</sup>, "Tohfət al-Mu'minin" by Sayyid Mir Muhammad Momin<sup>16</sup>, "Tibbname" by Mohammad Yusif Shirvani<sup>17</sup>, "Mualijati-Munfari" by Abu al-Hasan Maragayi<sup>18</sup>, "Dastur al-alaj" by Sultan Ali Khorasani<sup>19</sup>, "Zahireyi-Khorezmshahi" by Jurjani<sup>20</sup>, works of Nizami Ganjavi<sup>21</sup>, "Akhlagi-Nasiri" by Nasreddin Tusi<sup>22</sup>, "Risaleyi Tibb" and "Javahirname"<sup>23</sup>, Mohammad Fuzuli's work "Health and Disease" and his ghazals<sup>24</sup>, Isa al-Rahin's "Tibb"<sup>25</sup>, "Garabadin" by Shafai Muzaffar and Abu Mansur Haravi<sup>26</sup>, "Kitabe-tibb" by Mahmud Ibn Ilyas<sup>27</sup>, Ziyari Keykavus Ibn Iskander's "Gabusname"<sup>28</sup> are valuable historical sources in the study of medicine and pharmacology.

If we take into account that the creativity of Azerbaijani scientists at that time was rooted in our national mentality and moral values, it becomes clear that the study of bioethics in Azerbaijani

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<sup>15</sup>Абу Рейхан Бируни. Китаб ас-сайдана фи ат-тибб. – Ташкент: ФАН, –1974. – 1120 с.

<sup>16</sup>Алекперов, Ф.У. Труд Мухаммада Мумина «Тухфат ал-Муминин» – как источник по средневековой медицине и биологии // Материалы I научно-теоретической конференции «Средневековые рукописи и проблемы истории культуры Азербайджана», – Баку: ЭЛМ, – 1989, – с. 19-22.

<sup>17</sup>Muhammed Yusuf Şirvani. Tibbname. – ƏYİ, M-162.

<sup>18</sup>Əbülhəsən, əl-Mərağeyi. Müalicəti-münfəridə / Tərc. və tərt. ed. İ.Qayıbova, red. F.U.Ələkbərli. – Bakı: Nurlan, – 2009. – 246 s.

<sup>19</sup>Султан Али Хорасани. Дастур ал-аладж / Рукопись из коллекции Института рукописей АН Азербайджана.

<sup>20</sup>الدينيز زين ابراهيم ابو الجرجاني. خرمشاهي زاهيري. المخطوطات عهد. D-176.

<sup>21</sup>Nizami Gəncəvi. Seçilmiş əsərləri / Nəşrə hazırlayan (əski əlifbada) M.Sultanov. – Bakı: Yazıçı, – 1993. – 163 s.

<sup>22</sup>Tusi Xacə Nəsirəddin. Əxlaqi-Nasiri / Tərcümə, müqəddimə və şərhlər R.Sultanov. – Bakı: Elm, – 1989. – 256 s.

<sup>23</sup>المخطوطات عهد. الدين نصر طوسي. B-5380.

<sup>24</sup>Rüstəmov, A.İ. Füzulinin "Səhhət və Mərz" əsəri və onun qısa şərhli / A.İ.Rüstəmov. – Bakı: Təbib, – 1995. – 82 s.

<sup>25</sup>المخطوطات عهد. التركيبة باللغة العمل مخطوطة. طب. الراعي عيسى. B-2891.

<sup>26</sup>المخطوطات عهد. آبادين قره. مظفر شفايي. B-3125.

<sup>27</sup>المخطوطات عهد. ("طبية شهادة") "والطب الكتاب". الياس بن محمود. M-23.

<sup>28</sup>Qabusnamə / Farscadan tərcümə, qeyd və şərhlər edən R.S.Sultanov. Bakı: Azərnəşr, 1989. 238 s.

medicine and pharmacology in the Middle Ages was of great importance as an important issue.

Given the urgency, he considered it important and necessary to conduct research and historical research in this area.

**Object and subject of research.** The object of the dissertation is the innovations in medieval Azerbaijani medicine and pharmacology (later pharmacy became an independent field), religious, philosophical, ethical views and bioethics, the subject, examples of Islamic medicine reflecting these issues, theoretical and practical views of a number of prominent Eastern and Azerbaijani scholars, historical sources on ethical issues and examples of works of some poets and thinkers.

**Objectives and tasks of the research.** The main goal of the research is to critically and objectively study the stages of development of Azerbaijani medicine and pharmacology in the Middle Ages, as well as the historical and contemporary approaches to bioethical-medical legal problems, one-sided Eurocentrist views, and the emergence and development of the first embryo of this interesting and important field of science in the East and in our country, and to analyze and study the fact that it coincides with the Middle Ages. To achieve this goal, the following tasks have been set:

1. To study ancient, medieval historical sources in order to study the features of their development in the early days of medicine and pharmacy in Azerbaijan;

2. To study the problems of bioethical and medical law on the basis of historical sources, which played an important role in the development of medicine, pharmacology and the acceleration of this development in ancient and medieval times;

3. To study the religious and literary sources in order to determine the role of Islam in the formation of medical and pharmaceutical ethics in Azerbaijan in the Middle Ages;

4. To study some scientific, literary and philosophical examples for the study of bioethical, medical and ethical issues in the works of some Eastern and Azerbaijani scientists, poets and thinkers in the

Middle Ages and to conduct their comparative analysis;

5. To prove that the initial formation and formation stages of modern bioethics and medical law science fields belong to Eastern and Azerbaijani scientific sources, through the knowledge obtained on the basis of the conducted historical researches.

**Research methods.** General-scientific methods of understanding, historical-logical and philosophical dialectic, as well as special scientific methods, comparative medicine, medical ethics, bioethics and systematic analysis methods of medical law were used in the research process.

As the theoretical-methodological basis of the research, first of all, the dialectical method in history and the subjects of bioethics and medical law, the principles of medical-pharmaceutical ethics, secular, religious-moral rules were reviewed and studied. At this time, one of the main principles of the dialectical method - the principle of the unity of historicity and logic - was applied. Systematic analysis and synthesis methods, analogy, comparison, scientific generalization and other classic methods were used in the course of using the indicated theoretical and methodological approaches.

**The main provisions of the defense.** 1. The emergence and gradual formation of medicine and pharmacology, the development of the field of pharmacy as an independent field by separating it from medicine, the creation of folk medicine and primary treatment methods, the important influence of the Islamic religion on the development of medicine took place for the first time in a number of Eastern countries, including Azerbaijan;

2. Ethical science, which played an important role in the formation of medicine and pharmacology, first appeared in ancient times in Eastern countries, including Azerbaijan, and was rapidly formed in the Middle Ages as a result of its own evolution, ancient Eastern philosophy and religious knowledge;

3. Ethics, which existed in the Middle Ages, determined the moral value and medical ethical rules, as well as the forms of moral and ethical behavior of these professionals, for the regulation of

medical and pharmaceutical activities, based on historical sources.

4. Modern bioethics and medical law are a combination of scientific medicine, biology, law, philosophy and Islamic knowledge, and this historical reality is reflected in many examples of the works of scientists, doctors, poets and thinkers of the East, including those from Azerbaijan.

5. Scientific research on some historical written sources has proved that the history of medical and pharmaceutical bioethics and its many principles belongs to the Middle Ages, not to the modern times.

**Scientific novelty of the research.** As a result of the research, the following scientific innovations were obtained:

- The role of a number of discoveries in the field of medicine and pharmacology in the Middle Ages in the formation of modern pharmaceutical science;
- The influence of religious information on the development of medical and pharmaceutical ethics in the Middle Ages;
- The place and role of medieval medical ethical criteria in the development of Azerbaijani medicine and pharmacology;
- The realities of the origin of the essence of modern principles in the solution of existing problems in the field of modern bioethics and medical law from the sources of the ancient East, including Azerbaijan in the Middle Ages;
- Determining that the emergence of the field of science called "bioethics" in the world today happened in the Middle Ages.

**Theoretical and practical significance of the research.** The results of the research can be used to teach history, philosophy, bioethics, medical law, medical ethics, history of medicine and pharmacy, by undergraduate and graduate students, as well as being a valuable source in scientific research.

**Approbation and application.** The results of the research were presented at international and national scientific-practical conferences dedicated to bioethics, health protection, including medical law, medicine, and the history of pharmacology. It is reflected in the

articles published by the author on the topic of the dissertation in Azerbaijan, Turkey, Russia, Indonesia, Moldova, Ukraine, the Czech Republic, Slovakia, Hungary, Italy and America, as well as in contemporary scientific publications included in international summarizing and indexing systems (databases).

**Name of the organization where the dissertation work is performed.** Department of "Translation and Information" (now "Translation and Publication of Manuscripts and old printed books") of the Institute of Manuscripts named after Muhammad Fuzuli of the Azerbaijan National Academy of Sciences.

**The total volume of the dissertation.**The dissertation (excluding the list of references and tables) consists of 243413 characters. The main content of the dissertation: Introduction - 45599 characters, Chapter I - 44941 characters, Chapter II - 63982 characters, Chapter III - 76564 characters, Conclusion - 12327 characters.

## II. MAIN CONTENT OF THE DISSERTATION

The "**Introduction**" part of the dissertation provides an overview of the general nature of the research, substantiation of scientific relevance of the topic, information on the subject, object, research history, scientific-theoretical basis, goals and objectives, method, theoretical and practical significance, approbation and structure of the work.

The I chapter of the research work is entitled "**Historical stages of development of medicine and pharmacy in Azerbaijan.**" The first half of the first chapter, entitled "**Emergence and development of medicine in Azerbaijan**" shows that the rich heritage of India, Egypt, China and other countries of the East played a great role in the development of ancient Azerbaijani medicine. At the same time, the in-depth study of modern methods of research in the diagnosis, prevention, therapy and pharmacology of various diseases, developed on the basis of centuries-old experience of folk medicine, scientific observations and experiments, can enrich medical science in many

ways<sup>29</sup>.

It is noted that much medical information is reflected in the ancient "Avesta". In the Avesta, the concept of the primordial world is generally illustrated.

The research confirms on the basis of historical sources that from the first century to the fourteenth century, "Ganun" ("Law") by Ibn Sina, one of the Muslim scholars<sup>30</sup>, Abulqasim Zahrawi's "Risalatul-surgery"<sup>31</sup>, Razi's "Al-Hawi"<sup>32</sup> and other works have been translated into Latin and have had significant impact on the development and formation of medical science in Western Europe. It is noted that the Middle Ages were a period of formation of medical science in the East, including Azerbaijan. The academy opened in Shamakhi in the 12th century by Azerbaijani scientist Kafiyyaddin Omar Osman oglu is the first academy in Azerbaijan.<sup>33</sup>

The second largest academy of Islamic sciences, opened in the 13th century by the famous Azerbaijani physician Rashid al-Din Fazlullah in the city of Tabriz, also went down in history.

In the 13th century, Abdulmajid Tabib, a prominent physician, headed the medical field at the academy organized by the prominent Azerbaijani astrologer and doctor Nasreddin Tusi in Tabriz city of Azerbaijan. Azerbaijani scientist and physician Yusif Garabaghi wrote

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<sup>29</sup>İbrahimov, A. Xalq təbabətinə aid əlyazmaları [3 cilddə] // Bakı: Əlyazmalar xəzinəsindən / red. M.S.Sultanov. – Bakı: Elm, – 1972. – s. 5-12.

<sup>30</sup>Абу Али Ибн Сина. Канон врачебной науки / перевод с арабского М.А.Салье, У.Т.Каримова, А.Расулева – Ташкент: ФАН, – т. 1. – 1981. – 550 с.

<sup>31</sup>Абу ал-Касим аз-Захрави. Трактат о хирургии и инструментах / Издание текста, перевод с арабского, предисловие и указатели З.М.Буньядова. – Москва: Наука, – 1983. – с. 284-317.

<sup>32</sup>Бандалиева, А.А. История медицины и фармации в Азербайджане // –Київ: Національний педагогічний університет імені М.П.Драгоманова ВГО Українська академія наук Видавництво «Гілея» Науковий вісник, –2019. № 145 (№ 6), – с. 13-17.

<sup>33</sup>Ələkbərli, F.U. Azərbaycanca tibb tarixinin araşdırılmasına dair // "Azərbaycanda tibb elminin tarixi problemləri" I Respublika elmi konfransının materialları, – Bakı, – 1-2 fevral, – 2005, – s. 3-12.

extensive comments and margins on Ibn Sina's "Ganun". Murtuza Gulu khan Ibn Hasan Shamlu, who lived in the XVII-XVIII centuries, was the first Azerbaijani scientist in Azerbaijan to dedicate a separate book on gynecology and andrology.

The great scientist Zeynaddin Jurjani's work "Zahireyi-Kharezmsahi" ("Reserves of Kharezmsah"). ") is also rich in anatomical information.<sup>34</sup> One of the medieval examples of important information about the structure of the human body is Abu Bakr Hussein al-Bukhari's (11th century) "Teacher's Textbook of Medicine."

It is noted that in Ibn Sina's "Ganun", the relationship between spirituality and materiality is studied in detail.<sup>35</sup> An Azerbaijani scientist who was a student of Ibn Sina In his philosophical work At-Tahsil (Idrak), Bahmanyar al-Azerbaijan also touched upon a number of medical topics and studied the spiritual and emotional activity of human<sup>36</sup>. Well-known Azerbaijani scientist Khaja Nasreddin Tusi criticizes Ibn Sina's opinion that the movement of the pulse is involuntary, the movement of the breath is voluntary, as then a person would not breathe while sleeping, because the nervous system opens up and its voluntary movements close<sup>37</sup>.

his chapter concludes that in the Middle Ages, scientists not only studied the pathological changes in the body, but also seriously sought natural remedies to eliminate them and treat diseases.

The second half of the first chapter of the dissertation, entitled **"The role of scientists in the development of pharmacy as an independent field in Azerbaijan in the Middle Ages"** shows that for the first time in the history of world science, in the Middle Ages in the

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<sup>34</sup>المخطوطات عهد. خرمشاهی زاهیری. الدین زین ابراهیم ابو الجرجانی، D-176.

<sup>35</sup>Абу Али Ибн Сина. Канон врачебной науки / перевод У.И.Каримова, М.А.Салье – Ташкент: ФАН, – т. 3 (1). – 1979. – 792 с.

<sup>36</sup>Бахмнъяр ал-Азербайджани. Ат-Тахсид / Перевод и комментарии А.В.Сагадеева. – Баку: ЭЛМ, – Книга третья, – 1983. – 208 с.

<sup>37</sup>Ələkbərli, F.U. Nəsirəddin Tusinin təkamül görürlərinə dair / F.U.Ələkbərli. – Bakı: Örnək, – 2002. – 42 s.

East, the science of preparation and storage of medicines - pharmacy, was separated from pharmacology, which is a field of medical science that studies the effectiveness, mechanism of action and application of drugs.

It is noted that Abu Mansur Muwaffaq's scientific work "On the Fundamentals of Pharmacology" contains detailed information on a large number of mineral, herbal and animal medicines, the preparation and application of drugs.

It is brought to attention that Abu-Mansur Muwaffaq's work "On the basics of pharmacology", Razi's special books dedicated to medicine and the effects of drugs called "The benefit of drugs", "The Book of Secrets", "Al-hawi" and Ibn Sina's "Ganun" dedicated to pharmacology. The examples in the 1st and 3rd books played a major role in the development of pharmacy.

Abu-Reyhan Biruni was one of the scientists who had a positive impact on the development of pharmacy in Azerbaijan. Biruni's excellent scientific research works are "Kitab as-saydana fi at-tibb."<sup>38</sup>, "Mineralogy"<sup>39</sup>, "Pharmacy", "Witchcraft" and "Pharmacognosy" are valuable sources of medicine in the Middle East.<sup>40</sup>

It is noted that the third largest encyclopedia of medieval medicine in the East, written shortly before the "General Medicine", "Ganun", which deals primarily with pharmacotherapy, is a work of art by Zeynaddin Jurjani "Zahireyi-Kharezmsahi" ("Reserves of Kharezmsah"). This encyclopedia consists of 10 books<sup>41</sup>.

Yusif Ibn Ismail, one of the great Azerbaijani pharmacists of the

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<sup>38</sup>Абу Рейхан Бируни. Китаб ас-сайдана фи ат-тибб. – Ташкент: ФАН, –1974. – 1120 с.

<sup>39</sup>Абу Рейхан Бируни. Минералогия / Серия «Классики науки». Москва: АН СССР, – 1963. – 521 с.

<sup>40</sup>Абу Рейхан Бируни. Книга по фармакогнозии в медицине / Исследование, перевод, примечания и указатели У.И.Каримова – Ташкент: ФАН, – 1974. –705 с.

<sup>41</sup>المخطوطات عهد خرزمشاهي زاهيري. الدينز زين ابراهيم ابو الجرجاني D-176.



XIII-XIV centuries<sup>42</sup> spoke about a large number of herbal, animal and mineral remedies.

There is a lot of information about pharmacy and pharmacology in the works of Azerbaijani scientist Isa al-Rahi and Abulhasan Maragayi "Treatment-munfarida".

The books of the famous Azerbaijani scientist Muhammad ibn Yusif Shirvani in the 15th century contain a large catalog of medicines used at that time.

It is noted that in the Middle Ages, the rapid development of medical science in Azerbaijan, which was experiencing its renaissance, was accompanied by the establishment of clinics and treatment in almost all parts of the country. There was no clinic where pharmacies did not operate.

The third sub-chapter of Chapter I is entitled "**Treatment with Primary Medicines**". In this sub-chapter, it is mentioned that pharmaceutical and pharmacology reached a high level of development as a result of familiarization with the works of doctors of medieval scholars of the whole East and Azerbaijan, and the study of medicinal plants became more widespread.

The medical literature of that period, as well as Mirza Mehdi Naqtash Ganjavi's (1791) "Garabadin" give information about 74 medicinal forms containing medicinal plants.<sup>43</sup>

In general, when examining the history of the development of medicine and pharmacy in the ancient times and the Middle Ages, it becomes clear that at the root of the achievement of all these successes are strong ethical and moral values, their cognitive and philosophical

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<sup>42</sup>Алекперов, Ф.У., Фарзалиев, А.М. Азербайджанская медико-биологическая лексика XVIII в. в труде Мухаммада Йусифа Ширвани «Тиббнаме» // Материалы научно-практической конференции «Проблемы азербайджанской терминологии», – Баку: АПИ им. М.Ф.Ахундова, – 1989, – с. 210-211.

<sup>43</sup>شفایى مظفر. عهد المخطوطات. قره آبادین. B-3125.

principles, and the preservation of these principles and their professional observance.

The second chapter of the dissertation is entitled "**Medical ethics and religion in medieval Azerbaijani medicine and pharmacology**". In the first half of the chapter, entitled "**The role of ethical, religious and philosophical views in the development of medieval medicine and pharmacology**", it is shown that the origin, stage of development, symptoms, foundation and origin of the science of medicine are the same, and its main purpose is the principle of "giving healing", "treating". The development of this field of art and science in the mentioned direction was achieved as a result of artistic love, hard work and effort of the professionals of those fields.

An analysis of the Avesta, a religious book of fire-worship, reveals that the teachings of ancient and medieval Eastern, as well as Azerbaijani, scholars reflected many teachings and views on the ethics of medicine and pharmacy<sup>44</sup>.

In the second half of the dissertation, entitled "**Moral and ethical values and the manifestation of bioethics in Islamic medicine**", it is mentioned that along with secular ethics, religion as a special cultural phenomenon performs humanistic, regulatory and educational functions, religion played a strong role in the creation and development of philosophical, scientific and artistic works in Greek-European, Indo-Chinese and Arab-Muslim cultures.

One of the most sacred treasures of Islam, The Qur'an, as a book of Muslim beliefs, a source of moral teaching and wisdom, a collection of history, culture and spiritual values, a rich source of eloquence, a collection of divine sayings and a magnificent monument of words, has attracted the attention of various thinkers.<sup>45</sup>

In Islam, it is stated that God sends doctors to heal people with disabilities, and doctors who possess such holy deeds are highly

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<sup>44</sup>"Avesta" / Fars dilindən tərcümə edən İsmayıl Şəms. – Bakı: Azərənəşr, – 1995. – 102 s.

<sup>45</sup>Qurani-Kərim / Ərəb dilindən tərcümə edənlər V.M.Məmmədəliyev, Z.M. Bünyatov. – Bakı: Qismət, – 2006. – 480 s.

valued.<sup>46</sup> For this reason, it has been considered extremely important for doctors to always have high morals, culture, humane and compassionate, and fair.

It is noted that the 15 principles of bioethics set out in the UNESCO Universal Declaration of Bioethics and Human Rights are, in essence, in complete unity with Islamic values and have a content consistent with these values.<sup>47</sup>

Since the middle of the twentieth century, modern bioethics, medical science has its own approach to changes in medicine, biology and other technological sciences, and the moral and ethical values and principles that need to be protected. very much in line with Islamic values.

As it can be seen, many issues that today's scientists of the world treat as a new discovery were paid attention to in Islamic science 1500 years ago and they are reflected in some verses of the Holy Quran<sup>48</sup>.

Thus, during this comparative analysis, it becomes clear once again that both Islamic law based on higher values and the principles of bioethics are not beyond this higher goal. On the contrary, there is a parallel and a similarity in this comparative analysis. Today, research once again suggests that the so-called problems of bioethics in modern times have existed since ancient times, and their solution has had a certain impact on the development of Islamic medicine itself.

The third half of the second chapter of the dissertation is entitled **"Problems of Islamic medicine and bioethics in Azerbaijan in the Middle Ages."** In this sub-chapter, the development of medicine and pharmacy in Azerbaijan, as well as in other countries in the Middle Ages, experienced its renaissance period after the emergence of the

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<sup>46</sup>Göyüşov, N.C. İslamda elm və etik dəyərlərin vəhdəti // Bioetika, elm və texnologiyaların etikası problemləri, Məruzələr toplusu, – Bakı: Elm, – 2005, – s. 245-248.

<sup>47</sup> Beauchamp, T.Principles of the Biomedical Ethics / T.Beauchamp, J.Childress – New-York, – 1999. – 309 p.

<sup>48</sup>Qurani-Kərim / Ərəb dilindən tərcümə edənlər V.M.Məmmədəliyev, Z.M. Bünyatov. – Bakı: Qismət, – 2006. – 480 s.

Islamic religion. It is reported that scientists of the ancient and medieval East, including Azerbaijan, attached great importance to the problems of ethics in medicine and biology <sup>49</sup>.

From the Islamic point of view, consanguineous marriages were considered contrary to medical ethics and human morality<sup>50</sup>. Prophet Muhammad (peace and blessings of Allaah be upon him) used to turn his face towards his followers and say: *"Do not marry your relatives in order not to give birth to a weak child."*<sup>51</sup>

As it can be seen, the religion of Islam is primarily based on the principles of respect and care for human dignity in its Sharia laws.

Currently, before the creation of bioethical principles and legal framework for solving the problems in the mentioned field on a global scale, including in our republic, it is more necessary and important to study and study Islamic ethical values and principles that have stood the test of centuries.

Chapter III of the dissertation is entitled **"Issues of bioethics in the works of Azerbaijani scientists in the Middle Ages."** The first half of this chapter is entitled "Theoretical and practical views on medicine and problems of ethics in medieval sources of science." scientific researches and scientific discoveries are devoted to the realization of their results, to the understanding of the nature of the environment, natural phenomena, and, as a result, to the definition of the principles of healthy living.

In this subchapter it is noted that the rapid development of science and technology in the world, along with many successes, also

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<sup>49</sup> Məmmədov, V.Q., Bəndəliyeva, A.A. İslami dəyərlərdə bioetika prinsiplərinin təzahürü // "Din və Etiqad azadlığı: Hüquqi, siyasi və ictimai aspektləri" Beynəlxalq tərkibli konfransın tezislər toplusu, AMEA İnsan Hüquqları İnstitutu, – Bakı, – 2012, – s. 26-27.

<sup>50</sup> Ələkbərli, F.U. Şərqdə ailə və nikah / F.U.Ələkbərli. – Bakı: Tural nəşriyyatı, – 2001. – 196 s.

<sup>51</sup> Məmmədliyev, V.M. İslamda bioetika məsələləri // Bioetika, elm və texnologiyaların etikası problemləri, Məruzələr toplusu, – Bakı: Elm, – 2005, – s. 108-121.

brings a number of serious problems. It is noted that the responsibility of a scientist to society is a complex and multifaceted issue. This issue arises from the influence of many factors and is closely related to the broader ethical problems of science.

The great scientist Abdulgassim Zahravi had extensive knowledge about the development and application of many complex surgical instruments. He gave detailed information about these instruments in his book "Surgical Instruments". Abdulmajid Tabib, Omar Osmanoglu, Murtuza Gulu khan Ibn Hasan Shamlu, Yusif Shirvani, Abdulhasan Maragayi and other prominent scientists first applied numerous drugs in medical practice based on the study of their physiological effects during the experiment.

Biruni had a great contribution to the development of the experiment. Biruni reflected humanist ideas in all his works.

In all forms of human behavior, medieval scholars paid special attention to consciousness and always advised to take this position.

Abu Nasr Farabi, an encyclopedic scientist proves in his work that man can influence cognition and creative activity, the main purpose of ethics is to explain the ways to achieve happiness<sup>52</sup>.

Thus, a detailed analysis of many examples in medieval scientific sources suggests that the scientists of that time, in addition to many great scientific achievements, in the application of these achievements in society, respect for human dignity, humanism and compassion for nature and society. They have always considered the protection of important values such as protection, kindness, non-harm, justice and protection of the environment to be vital. An important factor is that the values based on such moral and ethical principles occupy one of the main places not only in the works of scientists of that time, but also in the works of poets and thinkers who played an important historical role in the development of society in a healthy spirit.

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<sup>52</sup>Хайруллаев, М.М. Абу Наср Ал-Фараби его рол в истории философии / М.М.Хайруллаев. – Ташкент: Фан, – 1967. – 335 с.

In the second half of the third chapter of the dissertation entitled **"Principles of bioethics in the literary and philosophical works of poets and thinkers of the Middle East and Azerbaijan"** in the works of modern scientists, such as V.R. Potter's "Bioethics: A Bridge to the Future" and the 4-volume Encyclopedia of Bioethics published in the United States, B.T.Liroy Nolters's "Modern Views on Bioethics", Bernard, W. Walver and D. Klosezer's "Bioethics: a return to the basics", B.T. Liro and F. James's "Biomedical Ethics", A.N. Orlov's "Clinical Bioethics", "Bioethics"<sup>53</sup>, published in Azerbaijan, bioethics is valued as a new discovery that carries the formation of scientific human morality, physical and spiritual values<sup>54</sup>.

In the literary and philosophical works of classical Azerbaijani poets and thinkers, as well as scientific advice on what is good and bad for human health, advice on how not to turn personal feelings that cause depression into pain, avoidance of bad habits, proper use of useful blessings, in a word, comparative analysis of good and evil - explained in literary language.

In the Middle Ages, along with prominent philosophers, doctors, physicians, astronomers, mathematicians, as well as Rudaki, Firdowski, Sadi, Hafiz, Mohammad Fuzuli, Nizami Ganjavi, Imadeddin Nasimi, Omar Khayyam, Khagani, Nasreddin Tusi and other world-famous thinkers, artists and poets lived and created in the East<sup>55</sup>.

Humanistic views and advice are the main line in Sadi's works. Sadi writes that peace in the world consists in doing good to one's friends and finding common ground with one's enemies. The emotional sphere and emotional impact of a person are better reflected

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<sup>53</sup>Rothman, D.J. Strangers at the bedside: A history of how law and bioethics transformed medical decision-making. – New-York, – 1991. – 146 p.

<sup>54</sup>Mammadov, V.Q. Recent developments of medical law and bioethics in Azerbaijan // Lvov, Украина: “Медичнеправо” (Medical Law, Ukrainian Scientific Journal), – 2013. № 1 (11), – p. 43-53.

<sup>55</sup>Bandalieva, A.A., Quseynova, A.B., Aslanov, M.Q. Medical worldwide in the creation of famous poets and thinkers of ancient Azerbaijan // Budapest, Hungary: - The scientific heritage journal, – 2023. № 124, - p.20-24.

in the works of the famous poet-thinker Hafiz Shirazi<sup>56</sup>. The confrontation between health and disease is reflected in the poems of Abdulgasim Firdovsi in the form of the struggle between good and evil<sup>57</sup>.

One of the 15 principles in modern bioethics is the problem of protecting the environment to protect the health of future generations. At the heart of this problem is the protection of nature, the environment, including flora and fauna, which is also called environmental ethics. Environmental ethics requires high humanism and justice towards the nature<sup>58</sup>. It is no coincidence that medieval sources state that at that time it was forbidden to harm or kill animals during scientific experiments, and no experiments were conducted on living animals in Azerbaijan. In his works, Nizami attaches great importance to the animal world, which is the beauty of nature, and then criticizes those who go hunting and hunt innocent animals, writing that if the creator gave the animals to nature, they have value and benefit for nature<sup>59</sup>.

Nasreddin Tusi considered morality to be wealth and noted that it was not innate<sup>60</sup>.

Omar Khayyam expressed his views on how to have a good

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<sup>56</sup>Şəms əd-Din Məhəmməd. Hafiz Şirazi. Seçilmiş şeirləri. – Bakı: Öndər, – 2004. – 208 s.

<sup>57</sup>Firdovsi, Ə.H. Şahnamə / Ə. H. Firdovsi. – Bakı: Öndər nəşriyyatı, – 2004. – 432 s.

<sup>58</sup>Bəndəliyeva, A.A., Məmmədli, A.E. Ekoloji etika bioetikanın tərkib hissəsi kimi // BDU-nun nəzdində Tibb fakültəsinin yaradılmasının 100 illik yubileyinə həsr olunmuş “Təbabətin aktual problemlərinə dair” beynəlxalq elmi-praktik konfransın materialları, – Bakı, – 2019, – s. 213.

<sup>59</sup>Məmmədov, V.Q., Bəndəliyeva, A.A. Orta əsr Azərbaycan alimlərinin yaradıcılığında bioetikanın təzahürü // – Bakı: “Dirçəliş – XXI əsr” (Azərbaycan Dövlət Quruculuğu və Beynəlxalq Münasibətlər İnstitutunun elmi nəşri), – 2011. №160-161, – s. 310-315.

<sup>60</sup>Bəndəliyeva, A.A., Quseynova, A.B., Aslanov, M.Q. Nasıreddin Tusı was a medieval Azerbaijani doctor and scientist // Bratislava: Slovak international scientific journal, - 2023. №.77, - p.23-26.

time, how to cheer up, and how not to believe the words of the clergy about heaven and hell.

The works of the great 16th century Azerbaijani thinker and poet Muhammad Fuzuli also reflected very interesting ideas about medicine.<sup>61</sup> He often spoke of the harm of greed, its disruption of the nervous system. Speaking about the harm of drunkenness, the poet described various physical actions. For the first time in "Health and Disease" Fuzuli expresses his praise and gratitude to the Creator as the beauty of the scientific mind and the investment of the mind<sup>62</sup>.

As can be seen, Medieval poets and thinkers of the East fought for justice, human rights, optimism, and humanism throughout their lives, searching for the truth, trying to create a good mood in people, and thus contributing to the development of medicine. They established close ties of medicine with philosophy and other fields of science at that time, stimulated the high level of development of medieval medicine in the East, and created examples of poetry that deeply reflected the feelings of humanism, optimism and humanity. The ideas and opinions in these examples are based on the basic principles of bioethics, which combines elements of traditional ethics, law, philosophy and medicine, as a field of interdisciplinary research dealing with ethical, medical, biological and legal problems arising from the development of biomedical sciences.

The third half of the third chapter of the research is called **"Problems of bioethics in the medical and pharmaceutical works of medieval Azerbaijani medical scientists."** This subchapter shows that in the Middle Ages, the range of issues covered by medicine in Azerbaijan expanded and the right to treatment belonged only to specialists<sup>63</sup>.

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<sup>61</sup>Axundov, İ.A. Füzuli haqqında yeni kitab // – Bakı: “Şəfəq” jurnalı, – 1997. № 3-4, – s. 27-28.

<sup>62</sup>Rüstəmov, A.İ. Füzulinin “Səhhət və Mərz” əsəri və onun qısa şərh / A.İ.Rüstəmov. – Bakı: Təbib, – 1995. – 82 s.

<sup>63</sup>Алекперов, Ф.У., Маммадов, В.Қ., Бандалиева, А.А. Scientific contribution of medical scientists in middle ages in Azerbaijan //Academia de Ştiințe a



Medieval physicians and scientists of Azerbaijan knew the important role of the body's defensive and adaptive responses in health care. They wrote that as a result, the body heals at the expense of its own internal forces. Physician intervention and prescribing medications only help the body's protective and adaptive responses to health and recovery.

Yusif Haravi from Khorasan in his work "Tibbi-Yusif" written in 1511 Factors such as environmental protection, protection of mental health, protection against infectious diseases, harmful foods, abstinence from harmful drinks, cleanliness and health of the body, normal nutrition are the main principles of health, and here, too, there are manifestations of bioethical issues.

This subchapter states that one of the most pressing problems of bioethics in relation to death is the problem of euthanasia and the "right to death." The protection of individual rights, such as health, dignity and death, is especially important<sup>64</sup>.

In the **Conclusion** part of the dissertation the research is summed up, the Problems of bioethics and medical law in medicine and pharmacology of Azerbaijan in the Middle Ages is evaluated by scientific results from the historical point of view, based on the structure of the dissertation, each chapter, the scientific conclusions obtained from the analysis of the sub-chapters within it, the revealed scientific-theoretical and applied-practical bases, the upcoming tasks and relevant scientific ideas, theoretical-practical recommendations and proposals are reflected.

The research findings reveal that many centuries ago, the main role in the development and emergence of world medicine and pharmacology was played by scholars from Eastern countries,

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MoldoveiInstitutul de Cercetări Juridiceși Politice REVISTA de Filosofie, Sociologieși Științe Politice 2 (168), – 2015. – p. 239-248.

<sup>64</sup> Məmmədov, V.Q., Bəndəliyeva, A.A. Ölüm hüququ və evtanaziyanın bioetik aspektdən öyrənilməsi // Bəynəlxalq hüquq və inteqrasiya problemləri, elmi-analitik və praktiki jurnal, "İnsan hüquqları" bölməsi, – Bakı: – 2014. – s. 106-117.

including Azerbaijan. The works of Eastern and Azerbaijani scholars that have survived to this day confirm this truth. It becomes clear that the majority of the issues studied by modern bioethics and medical law, which were first noted as new fields in the mid-20th century by American and European scholars, were actually explored by scholars and thinkers in medieval Eastern, including Azerbaijani, medicine and pharmacology. This indicates that, like many other scientific fields, the origin and development of modern bioethics and medical law date back long before the 20th century. Therefore, investigating this history is extremely necessary. This necessity leads to the following recommendations and proposals:

- To critically and objectively study the history and modern state of bioethics and medical law, moving beyond one-sided Eurocentric perspectives, by examining the ancient and medieval sources from some Eastern countries, including Azerbaijan, which may help further the development of modern bioethics and medical law;
- To improve bioethical principles by uncovering new facts, thus resolving existing issues in protecting people's health rights once and for all;
- To conduct in-depth research of important historical sources in the future, achieving effective progress in the field of modern bioethics and medical law;
- To emphasize the scientific, historical, geographical, and strategic significance of the findings derived from the works of scholars and thinkers from Azerbaijan's ancient regions, including Tabriz, Khoy, Maragha, Nakhchivan, Tbilisi, Ganja, Karabakh, Shirvan, and others, in the context of the study of the development and formation of bioethics and medical law in Ancient Eastern and Azerbaijani history;
- To further develop bioethical principles, which play an important role in solving issues at the legal stage, by addressing problems in areas such as healthcare, economics, culture, sociology, ecology, and law;
- To create wider opportunities for training personnel for the new branches of bioethics in fields like history, medicine, pharmacy,

philosophy, religious studies, ethics, biology, ecology, and others in the future;

- To apply the principles of the new medical law and modern bioethics, which are in their early stages of development in the Republic of Azerbaijan, to national and universal values, in all areas of public life, including legislation, which can significantly influence the establishment of a stable, healthy, and dynamic society, the strengthening of statehood, the integration of social sectors, especially medicine and pharmacy, into the global community.

**The main content of the dissertation is reflected in the following scientific works of the author:**

1. Həmmüəlif (V.Q. Məmmədov, İ.S.Əhmədov ilə ilə) Faydalı bitkilərdən istifadənin aktual problemləri // Beynəlxalq konfransın materialları, AMEA-nın Botanika İnstitutu, – Bakı, – 26-28 oktyabr, – 2011, – s. 144-146.
2. Həmmüəlif (A.İ.Mustafayeva, V.Q. Məmmədov ilə) Pasiyent hüquqlarını əks etdirən beynəlxalq sənədlərin və xarici ölkələrin qanunlarının tədqiqi // – Bakı: AMEA-nın İnsan Hüquqları üzrə Elmi-Tədqiqat İnstitutu “Özümüzü və dünyanı dərk etmə yolunda” Elmi məqalələr toplusu. – 2011. № 6, – s. 15-21.
3. Orta əsrlərdə Cənubi Azərbaycanda dərmanşünaslığın inkişafı // Azərbaycan Tibb Universitetinin Respublika Dövlət Mükafatı Laureatı, Ə.e.x., prof. T.Ə.Əliyevin anadan olmasının 90 illiyinə həsr edilmiş elmi konfransın materialları, – Bakı, – 2011, – s. 412-413.
4. Bitki mənşəli dərman preparatlarının alınma üsullarına nanotexnologiyanın tətbiqi // – Bakı: Azərbaycan təbabətinin müasir nailiyyətləri Rüblik elmi-praktik jurnal, – 2011. № 4, – s. 34-37.
5. Əbdülhəsən Əl-Marağainin “Müalicəti-münfəridə” əsəri haqqında // Azərbaycan Tibb Universitetinin Respublika Dövlət mükafatı laureatı, Əməkdar elm xadimi, professor T.Ə.Əliyevin

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The defense will be held on at "05" December 2024 at 10<sup>00</sup> at the meeting of the One-time Dissertation Council BFD 1.30 of Supreme Attestation Commission under the President of the Republic of Azerbaijan operating at at the Institute of History and Ethnology named after A.A.Bakikhanov of the Azerbaijan National Academy of Sciences.

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Dissertation is accessible at the Scientific archive and library of the Institute of History and Ethnology named after A.A.Bakikhanov of the Azerbaijan National Academy of Sciences.

Electronic version of abstract are available on the official website of the Institute of History and Ethnology named after A.A.Bakikhanov of the Azerbaijan National Academy of Sciences.

Abstract was sent to the required addresses on "30" October 2024.

Signed for publication: 25.10.2024

Paper format: 60x84 <sup>1</sup>/<sub>16</sub>

Volume: 42 896

Circulation: 20

