

	Science, Education and Innovations in the Context of Modern Problems Issue 11, Vol. 8, 2025
	TITLE OF THE RESEARCH ARTICLE  The Ethical Dimensions of Medicine and Environmental Consciousness in the Works of Nizami Ganjavi: A Historical Inquiry into Proto-Bioethical Thought in Medieval Azerbaijani Culture
Aida Bandalieva	Dr. Azerbaijan Medical University, Department of Pharmaceutical Technologies and Management Azerbaijan E-mail: bandaliyeva@mail.ru https://orcid.org/0000-0003-3481-6510
Issue web link	https://imcra-az.org/archive/385-science-education-and-innovations-in-the-context-of-modern-problems-issue-11-vol-8-2025.html
Keywords	Nizami Ganjavi; bioethics; environmental ethics; medical humanism; moral philosophy; Azerbaijan; Khamsa; medieval science; non-maleficence; autonomy.
Abstract	
The evolution of bioethics as a distinct interdisciplinary field is a recent phenomenon in Azerbaijan, yet its philosophical roots can be traced to the moral and humanistic heritage of medieval Azerbaijani thinkers. This study explores the ethical and proto-bioethical reflections embedded in the literary and philosophical works of Nizami Ganjavi (1141–1209), whose humanism and ecological awareness anticipate many principles of modern bioethics. Through a contextual analysis of his Khamsa and related writings, the research identifies Nizami's implicit advocacy for compassion toward all living beings, environmental stewardship, and moral responsibility in scientific inquiry—values that resonate with the four foundational principles of contemporary bioethics: autonomy, beneficence, non-maleficence, and justice. Nizami's condemnation of cruelty toward animals, his recognition of the intrinsic worth of nature, and his call for harmony between humankind and the environment are interpreted here as early expressions of environmental ethics and moral medicine. The paper situates these insights within the broader intellectual landscape of the medieval Islamic world, emphasizing their significance for shaping an indigenous framework of bioethics that aligns universal moral principles with Azerbaijani cultural identity. Ultimately, this work argues that the revival and reinterpretation of such ethical legacies can contribute meaningfully to the consolidation of humanistic and ecological consciousness in modern Azerbaijani society, thereby supporting sustainable health, social justice, and ethical scientific progress.	
Citation. Bandalieva A. (2025). The Ethical Dimensions of Medicine and Environmental Consciousness in the Works of Nizami Ganjavi: A Historical Inquiry into Proto-Bioethical Thought in Medieval Azerbaijani Culture. <i>Science, Education and Innovations in the Context of Modern Problems</i>, 8(11), 1303–1311. https://doi.org/10.56334/sei/8.11.7	
Licensed © 2025 The Author(s). Published by Science, Education and Innovations in the context of modern problems (SEI) by IMCRA - International Meetings and Journals Research Association (Azerbaijan). This is an open access article under the CC BY license (http://creativecommons.org/licenses/by/4.0/).	
Received: 24.05.2025	Accepted: 20.08.2025 Publishing time: 01.11.2025

1. Introduction

The emergence of ethical frameworks governing medical practice and human interaction with the environment represents one of the most significant developments in the intellectual history of humanity. In contemporary Azerbaijan, the institutionalization of bioethics is still in its formative phase, but its cultural and philosophical underpinnings extend deep into the moral literature of medieval times. Among the luminaries of the Eastern Renaissance, Nizami Ganjavi occupies a central position—not merely as a poet and philosopher but also as a visionary moralist whose writings anticipate many of the humanitarian ideals embedded in modern medical ethics.

Nizami's worldview, grounded in compassion, justice, and ecological equilibrium, provides a lens through which to explore the ethical roots of medicine and the moral obligations of humankind toward nature and life. His reflections on human dignity, peace, and moral restraint echo across centuries, offering valuable perspectives for contemporary discussions on environmental protection, scientific responsibility, and the moral foundations of healthcare.

2. Methodology

This research adopts a **qualitative historical-interpretative methodology**, combining textual analysis, comparative hermeneutics, and ethical contextualization. Primary textual sources include Nizami Ganjavi's *Khamisa* (The Quintet)—especially *Makhzan al-Asrar* (The Treasury of Mysteries), *Layli and Majnun*, and *Iskandarnamah* (The Book of Alexander)—as well as relevant medieval Azerbaijani and Persian commentaries.

Secondary sources consist of modern scholarly works on bioethics, medical philosophy, and environmental ethics, including foundational texts such as W. R. Potter's *Bioethics: A Bridge to the Future* (1974), *The Encyclopedia of Bioethics* (1978, 1995), and A. Orlov's *Clinical Bioethics* (2003). The analytical framework draws from **the four-principle model of Beauchamp and Childress** (autonomy, beneficence, non-maleficence, and justice), adapted to evaluate the implicit ethical positions in Nizami's writings.

The study also employs **comparative civilizational analysis**, situating Nizami's moral teachings within the broader intellectual milieu of the Islamic Golden Age—alongside figures such as Avicenna (Ibn Sina), Al-Farabi, and Al-Ghazali—who contributed to the synthesis of science, religion, and ethics in medieval thought.

Throughout the course of human civilization, societies have continuously sought to establish moral and legal norms to ensure peaceful coexistence among people of diverse ethnic, religious, and cultural backgrounds. Such norms are indispensable for the collective well-being of humanity, as they provide a moral compass for understanding differences, nurturing empathy, and fostering mutual respect. The recognition that diversity is not a source of division but a natural and enriching condition of human existence lies at the heart of ethical development and social harmony.

Within this framework, any ideology, doctrine, or behavior that cultivates intolerance, discrimination, or hatred toward particular social, religious, or cultural groups must be regarded as a moral regression and an affront to human dignity. The creation of a humane society—one grounded in justice, compassion, and solidarity—requires the cultivation of tolerance and ethical awareness at both individual and institutional levels. Thus, ethical reflection and legal consciousness have historically functioned as essential tools in resolving conflicts, promoting peace, and protecting human rights.

In this context, **bioethics** has emerged as one of the most significant and interdisciplinary developments of the modern era, uniting philosophical, medical, and legal domains into a single intellectual and moral paradigm. As a discipline, bioethics transcends the boundaries of clinical medicine; it addresses questions of human dignity, environmental responsibility, and intergenerational justice. Its institutionalization by UNESCO through the *Universal Declaration on Bioethics and Human Rights* (2005) and its integration into national policies—such as Azerbai-

jan's national bioethical strategy—demonstrate its global and local relevance in guiding the ethical governance of science, health, and technology.

The **formation of bioethics and medical law in Azerbaijan** is closely connected to the transformation of traditional ethical thought and its deep cultural roots in the country's intellectual heritage. The study of these origins is not merely a matter of historical interest; it is an ethical necessity for shaping the humanistic foundations of modern biomedical practice. Indeed, modern scientific research in Azerbaijan confirms that the **Renaissance of science and medicine** in the region began as early as the Middle Ages [12, pp. 84–85; 15, pp. 3–12]. During this period, the moral and philosophical worldview of Azerbaijani scholars, poets, and physicians—deeply infused with the values of compassion, justice, and respect for life—laid the groundwork for what can today be recognized as **proto-bioethical principles** [10, p. 150].

The **classical thinkers of the Eastern Renaissance**, including Nizami Ganjavi, Nasreddin Tusi, Khagani Shirvani, Firdovsi, Hafiz, Rudaki, Omar Khayyam, Imadaddin Nasimi, and Mohanmad Fuzuli, integrated moral philosophy with scientific inquiry. Their works reveal a holistic vision of life, where human health, ethical conduct, and harmony with nature are inseparable. These thinkers viewed the human being not as a master of nature, but as a responsible participant in its moral order—a perspective that aligns closely with the ecological consciousness and humanistic spirit of contemporary bioethics.

In the current age of biomedical and technological advancement, when scientific progress often challenges the limits of ethical understanding, revisiting these historical perspectives becomes particularly important. The intellectual heritage of medieval Azerbaijani philosophy offers invaluable insights for modern ethical discourse: it reinforces the necessity of compassion in science, respect for life in all its forms, and accountability in the exercise of human reason. Therefore, a systematic study of Nizami Ganjavi's works—where moral, medical, and ecological dimensions are profoundly intertwined—serves as a crucial step in tracing the indigenous foundations of bioethics within Azerbaijani civilization.

Research Methods

The present study employs a **qualitative historical-analytical approach** combining philosophical hermeneutics, textual exegesis, and comparative ethics. The objective is to examine how the moral and ecological dimensions of bioethics—particularly the principles of beneficence, non-maleficence, autonomy, and justice—manifest in the intellectual and literary traditions of medieval Azerbaijan, with special attention to the works of **Nizami Ganjavi**.

The methodology integrates several complementary strategies:

1. **Textual Analysis:** Primary attention is devoted to the ethical and philosophical motifs present in Nizami's *Khamisa* ("The Quintet"), especially in *Makhzan al-Asrar* (The Treasury of Mysteries) and *Is-kandarnameh* (The Book of Alexander). These works are analyzed for their implicit references to medical, moral, and environmental values.
2. **Comparative Interpretation:** The study contrasts Nizami's thought with contemporary bioethical theories, notably those articulated in W. R. Potter's *Bioethics: A Bridge to the Future* (1974), the *Encyclopedia of Bioethics* (1978, 1995), B. T. LeRoy's *Modern Perspectives on Bioethics* (1994), and A. Orlov's *Clinical Bioethics* (2003). These texts collectively define bioethics as the "love of life" and emphasize its interdisciplinary nature as a fusion of legal, medical, and moral sciences [20, pp. 201–218; 7, pp. 30–35].
3. **Historical Contextualization:** The analysis situates Nizami's work within the intellectual milieu of the **Islamic Golden Age**, highlighting the connections between Azerbaijani thinkers and broader scientific-philosophical traditions of the East, including those of Avicenna, Al-Farabi, and Al-Ghazali.
4. **Ethical and Environmental Discourse Analysis:** The research also explores the ethical treatment of animals and the protection of nature in historical sources. Medieval Azerbaijani manuscripts note the **prohibition of harming or experimenting on living animals**, reflecting an early awareness of what modern

science would later term “animal rights” [10, p. 150]. This aligns with Islamic injunctions that scientific inquiry must never transgress moral boundaries or cause unnecessary suffering.

In addition, the research engages with the works of modern scholars who emphasize that the **relationship between human beings and the environment** forms a crucial component of contemporary bioethics. The writings of Potter (1974), Bernard and Kloser (1997), and others stress the indivisibility of human welfare from ecological balance. In this respect, the study draws a parallel between **UNESCO’s environmental bioethics** framework and the humanistic philosophy embedded in Nizami’s poetry, which advocates mercy, fairness, and harmony toward all living beings.

Through this integrated methodology, the paper aims to demonstrate that bioethical thought in Azerbaijan did not originate in modernity but evolved from a deep moral and cultural continuum that finds its quintessential expression in the works of Nizami Ganjavi and his contemporaries.

3. Philosophical and Ethical Context

In both ancient and medieval Eastern philosophy, ethical reflection encompassed not only interpersonal conduct but also one’s relationship with the cosmos. Philosophers and poets of Azerbaijan viewed morality, health, and spirituality as intertwined components of a single ethical order. Their works often included medical observations articulated through poetic imagery—an artistic form of **didactic medicine** that combined scientific reasoning with moral instruction [11, pp. 78–81].

This synthesis reflects a unique epistemological framework where **knowledge, virtue, and well-being** are interdependent. By promoting moderation, emotional balance, and moral integrity, these thinkers contributed to an early form of psychosomatic understanding—centuries before it was formally conceptualized in modern medicine. Moreover, their emphasis on personal responsibility and the preservation of confidentiality resonates with **Hippocratic ethics** in the West, yet within the Eastern cultural context, it is reinforced by the Islamic concept of *amanah* (trust), underscoring ethical duty and social accountability [11, pp. 78–81; 15, pp. 3–12].

Environmental protection—now central to global bioethical debates—was also deeply rooted in medieval Azerbaijani moral consciousness. The **UNESCO World Commission on the Ethics of Scientific Knowledge and Technology (COMEST)** identifies the preservation of nature and biodiversity as a fundamental bioethical responsibility [13, p. 213]. Remarkably, this same principle can be traced in the ethical worldview of Nizami Ganjavi, who condemned the destruction of nature and cruelty toward animals. His poetry articulates an ecological humanism centuries before the modern environmental movement: a belief that **justice, compassion, and restraint** must govern humanity’s relationship with nature.

In the light of these findings, bioethics can be understood not as a Western import but as a **universal moral language**, whose essence has long existed in the intellectual fabric of Azerbaijani and Islamic civilization.

4. Results and Discussion

4.1. Nizami Ganjavi’s erudition and the medical-ethical horizon

Ilyas Yusif oğlu Nizami (Nizami Ganjavi, 1141–1209), born in Ganja—the pre-eminent cultural center of medieval Azerbaijan—received his early education in the Ganja madrasah and then pursued a largely autodidactic course of study across the major sciences of his age: history, philosophy, astronomy, medicine, and geometry [14, pp. 63–68]. His early lyrical output (the **Divān**, ghazals, and qasidas) already exhibits a secular celebration of love intertwined with a sustained reflection on fate, dignity, and the ethical life. His enduring global reputation, however, rests on the **Khamasa** (“Five Poems”): *Makhzan al-Asrār* (The Treasury of Mysteries), *Khosrow o Shirin*, *Layli o Majnun*, *Hafī Paykar* (Seven Beauties), and *Iskandarnāme* (The Book of Alexander) [9]. Across these

works, Nizami integrates philosophical anthropology, medical reflection, and moral instruction, often dramatizing **scientific disputation among physicians** (notably in *Makhzan al-Asrār*) to probe the power of intellect and the affective life on health and conduct.

4.2. Proto-bioethics in the *Khamsa* unity of science and poetry

Nizami's corpus presents medicine and natural philosophy in parallel with his literary and ethical vision, reinforcing an organic **unity of science and poetry**. In *Layli o Majnun*, the poet poses cosmogonic questions that are at once metaphysical and proto-scientific:

“Let us see who fashioned this nature—
Who is He, and what wisdom guides His work?
How did all come to be of itself—
Look how the universe arose...” [9]

Such passages do not offer scientific treatises; instead, they **moralize knowledge**, insisting that truth must be tethered to responsibility. In contemporary terms, this anticipates the modern bioethical requirement that the pursuit of knowledge be tempered by the principles of beneficence, non-maleficence, autonomy, and justice [3, pp. 79–80].

4.3. Animal welfare and the ethics of restraint

Nizami repeatedly condemns wanton hunting and the killing of defenseless animals, asserting their **intrinsic value** as components of the natural order. He likens the destruction of animals to sawing off the very branch on which humanity sits. In *Iskandarnāmeḥ*, he counsels **measured necessity** rather than excess:

“Wild beasts do not flee from us if we do them no harm.
If we must hunt, let it be only as needed;
What we do not need, it is wrong to cut—
For they are the adornment of the wilderness.” [9]

Read through a modern lens, this is a clear articulation of **environmental and animal ethics**, aligning with contemporary prohibitions against gratuitous harm and with historical accounts that experiments on live animals were restricted or morally discouraged in medieval Azerbaijan [10, p. 150]. The stance dovetails with today's bioethical frameworks on animal welfare and the **precautionary principle** in environmental stewardship [13, p. 213].

4.4. Ecological forewarnings and public-health imaginaries

Nizami's ecological humanism anticipates the notion that environmental degradation rebounds as **human vulnerability**—a theme tragically resonant in modern experiences of epidemics and pandemics. His admonitions for patience and moral steadfastness in adversity—“Be patient in affliction; stand firm... If you suffer, remember the Prophet”—translate today into an ethics of **collective responsibility** in public health: that is, justice and solidarity in facing shared risks [19, pp. 310–315].

4.5. Medicine and law as twin ministries of the good

Nizami's advice to his son Muhammad in *Layli o Majnun* elevates only two sciences as wholly consecrated to human welfare: **fiqh** (law) and **ṭibb** (medicine):

“Knowledge is twofold: religion’s law and healing’s art.
If you take up law, be truthful; flee hypocrisy.
If you take up medicine, be a physician of life—
Not one whose hand brings death.” [9]

Here Nizami frames law as therapy for the **moral-social body** and medicine as therapy for the **physical body** [11, pp. 78–81]. The couplets also anticipate the language of **patient rights**, professional virtue, and the prohibition of harm—cornerstones of modern bioethics. His invocation of Christ as archetype of the physician who “revives with breath” is a poetic troping of the physician’s calling to **restore**, not diminish, life.

4.6. Dietetics, moderation, and psychosomatic insight

Nizami’s medical counsel is practical and preventive. He warns against **excess** in diet and drink, praises moderation, and links affective states (especially fear) to cardiac function—an early poetic intimation of **psychosomatic** relations. Representative couplets include:

“When temper strays, health is hard to catch.
Eat and drink not beyond appetite—
For sweetness rests upon the lips of measure.
None is harmed by little food;
But many fall by over-eating...” [9]

These precepts mirror the bioethical principle of **non-maleficence** applied to the self (avoid self-harm) and the **public-health ethos** of prevention. His scattered pharmacognostic notes—e.g., “rosewater is a remedy for headache”—signal acquaintance with **materia medica** and regimen.

4.7. The law of transformation: a philosophical-natural insight

A striking strand in Nizami’s poetry asserts a **law of conservation through transformation**—that matter does not simply vanish but alters its form and recombines:

“What rots in earth is not destroyed—
It changes, not annihilates;
Rejoining, it returns to life;
From earth, what was dispersed, rises again.”

While later canonized in early modern science under Lomonosov and Lavoisier, Nizami’s verses poetically anticipate a **non-annihilationist** view of substances—underscoring his cosmological naturalism and the moral corollary: human actions ripple through an **enduring web** of life and matter.

4.8. Textual transmission and manuscript witnesses

Corroborating the breadth and reception of Nizami’s oeuvre, manuscript evidence from the **Vatican Secret Archive** and the **Vatican Apostolic Library**—identified by Prof. Farid Alakbarli (2010–2014)—includes multiple witnesses of *Khosrow o Shirin*, *Layli o Majnun*, and a complete *Khamisa* copied by Ibn Abū Turāb al-Kātib Nureddīn al-Isfahānī in 1071 AH (Vat. Pers. 110), with additional miniature fragments of *Makhzan al-Asrār* [5, p. 32]. The persistence, quality, and geographic dispersal of these codices attest to the **scholarly valuation** of Nizami’s texts across centuries, including those passages bearing directly on **medicine, moral psychology, and environmental ethics**.

5. Conclusion

The analysis supports three interlocking claims:

1. **Indigenous roots of bioethical thought.** Nizami's works articulate a moral philosophy of life that coheres with core bioethical principles—beneficence, non-maleficence, justice, and a respect-inflected autonomy—well before the modern codification of bioethics [3; 7; 20].
2. **Environmental humanism as medical ethics writ large.** His sustained critique of gratuitous harm to animals and his reverence for the ecological order anticipate present-day environmental ethics and the public-health axiom that ecological injury rebounds as human suffering [10; 13; 19].
3. **Preventive medicine and professional virtue.** Nizami's counsel on regimen (diet, moderation), affect, and clinical character formation frames medicine and law as **twin ministries** of human flourishing—institutions accountable to truth and goodness, and physicians accountable to life itself [9; 11].

For Azerbaijan's contemporary bioethical discourse, Nizami offers not merely cultural adornment but a **normative reservoir**: a historically grounded, humanistic ethos that can inform ethical education in medical curricula, professional conduct, research oversight, and environmental policy. Future research should (i) execute close, line-referenced commentaries on medical passages across all five poems; (ii) compare Nizami's ethical motifs with Avicenna's clinical writings and later Persian-Azerbaijani commentarial traditions; and (iii) integrate manuscript scholarship (e.g., Vat. Pers. 110) with philological analysis to refine critical editions of ethically salient passages.

Ethical Considerations

This paper involves no empirical research involving human or animal participants. However, ethical standards were observed in the use of textual and archival materials. All sources have been properly cited in accordance with academic norms. The interpretation of Nizami's works was approached with cultural sensitivity and respect for historical context, avoiding anachronistic projections of contemporary concepts. The research aligns with the **UNESCO Universal Declaration on Bioethics and Human Rights (2005)** and emphasizes respect for cultural diversity while upholding universal moral principles.

Funding

This study received **no specific grant** from any public, commercial, or not-for-profit funding agency. The research was carried out independently by the author as part of her academic activity at the Azerbaijan Medical University, Department of Pharmaceutical Technologies and Management.

Acknowledgment.

The author expresses sincere gratitude to the **Azerbaijan Medical University** for providing access to academic resources and a supportive research environment. Special appreciation is extended to colleagues in the Department of Pharmaceutical Technologies and Management for their constructive discussions and encouragement throughout the preparation of this paper.

Conflict of Interest

The author declares **no conflict of interest** related to this research, authorship, or publication.

References

1. Alekberli, F. (2014). *Manuscripts about Azerbaijan stored in the archives of the Vatican*. Baku: Science and Education.
2. Alekberly, F. U. (2005, February 1–2). On the study of the history of medicine in Azerbaijan. In *Materials of the I Republican Scientific Conference “Historical Problems of Medical Science in Azerbaijan”* (pp. 3–12). Baku.
3. Akbarov, R. F. (2004). *Medical-philosophical and social-ecological meetings of Nizami Ganjavi*. Baku: Translator.
4. Akbarov, R. F. (2005). *Medical philosophy in the poetry of Nizami Ganjavi (1141–1209)*. In *Proceedings of the I Republican Scientific Conference “Historical Problems of Medical Science in Azerbaijan”* (pp. 63–68). Baku.
5. Beauchamp, T. L., & Childress, J. F. (2019). *Principles of biomedical ethics* (8th ed.). Oxford University Press.
6. Bandalieva, A. A. (2005, February 1–2). Medical topics in classical Azerbaijani literature. In *Proceedings of the I Republican Scientific Conference on the Historical Problems of the Medical Science of Azerbaijan* (pp. 78–81). Baku.
7. Bandalieva, A. A. (2009). The study of pharmacology in the countries of the East in the Middle Ages. In *Proceedings of the Scientific Conference dedicated to the 90th Anniversary of the Baku State University* (pp. 84–85). Baku.
8. Bandalieva, A. A. (2015). The study of moral and ethical values in bioethics and oriental medicine. In *Proceedings of the Scientific-Practical Conference “Actual Problems of Medicine” dedicated to the 92nd Anniversary of the National Leader Heydar Aliyev* (p. 150). Baku.
9. Bandalieva, A. A., & Mamedli, A. E. (2019). Ecological ethics as an integral part of bioethics. In *Proceedings of the International Scientific-Practical Conference “On Actual Problems of Medicine,” dedicated to the 100th Anniversary of the Formation of the Medical Faculty of BSU* (p. 213). Baku.
10. Beigbeder, Y. (2006). *Bioethics and international law*. Aldershot: Ashgate.
11. Boetzkas, E. (2015). Environmental ethics and modern aesthetics. *Environmental Philosophy*, 12(1), 69–90. <https://doi.org/10.5840/envirophil20154146>
12. Callahan, D. (2012). The social sciences and the task of bioethics. *Perspectives in Biology and Medicine*, 55(1), 59–69. <https://doi.org/10.1353/pbm.2012.0007>
13. Cavalieri, P., & Singer, P. (Eds.). (1993). *The great ape project: Equality beyond humanity*. New York: St. Martin’s Press.
14. Collection of environmental legislation of the Azerbaijan Republic (Vols. 1–2). (2002). Kh. S. Bagirov (Ed.), F. Aliyev (Exec. Ed.). Baku: Ministry of Ecology and Natural Resources of the Republic of Azerbaijan / El Alliance.
15. Ecological legislation of the Republic of Azerbaijan: A collection of normative legal acts. (2006). (Baku: Right, 2nd ed., 760 pp.).
16. Harris, J. (2011). *Enhancing evolution: The ethical case for making better people*. Princeton University Press.
17. Ibragimov, A. Sh. (2005). Successes and problems of bioethics in Azerbaijan. In *Problems of Bioethics, Ethics of Science and Technology: Collection of Reports* (pp. 62–73). Baku: Elm.
18. Jonas, H. (1984). *The imperative of responsibility: In search of an ethics for the technological age*. University of Chicago Press.
19. Küng, H. (1998). *A global ethic for global politics and economics*. Oxford University Press.
20. LeRoy, B. T., & James, F. (2003). *Biomedical ethics: Perspectives and approaches*. New York: HarperCollins.
21. Mamedli, A. E., & Bandalieva, A. A. (2021). The study of medicine and environmental bioethics as a factor in the protection of human health. In *Proceedings of the International Scientific Conference dedicated to the 90th Anniversary of the Azerbaijan Medical University* (pp. 436–437). Baku.
22. Mamedov, V. K. (2005). *Actual bioethical problems* (pp. 201–218). Baku.

23. Mamedov, V. K. (2011, September–October). Manifestation of bioethics in the works of medieval Azerbaijani scientists. *Revival – XXI Century (Scientific Publication of the Azerbaijan Institute of State Building and International Relations)*, (9–10), 310–315.
24. Mustafayeva, A. I., Namazova, A. A., Huseynova, Z. N., & Tagizade, T. K. (2005). Bioethical principles of modern medicine. In *Problems of Bioethics, Ethics of Science and Technology: Collection of Reports* (pp. 30–35). Baku: Elm.
25. Namazova, A. A., & Aliyev, G. Ch. (2004). *Medical ethics* (Textbook). Baku: Doctor.
26. Nizami Ganjavi. (1993). *Selected works* (M. Sultanov, Ed.). Baku: Yazychi.
27. Potter, V. R. (1971). *Bioethics: Bridge to the future*. Englewood Cliffs, NJ: Prentice-Hall.
28. Rawls, J. (1999). *A theory of justice* (Rev. ed.). Cambridge, MA: Harvard University Press.
29. Singer, P. (2011). *Practical ethics* (3rd ed.). Cambridge University Press.
30. The 18th session of the UNESCO International Committee on Bioethics began its work in Baku. (n.d.). *Official website of the Presidential Library of the Administration of the President of the Republic of Azerbaijan*. <https://mehribanalieva.preslib.az/media-dcb5b669a2.html>
31. UNESCO Program on Bioethics. (2009). In *Bioethics: Documents and Terms* (pp. 79–80). Baku: Elm.
32. UNESCO. (2005). *Universal Declaration on Bioethics and Human Rights*. Paris: UNESCO.
33. Van Rensselaer Potter. (1974). *Bioethics: Bridge to the future*. Englewood Cliffs, NJ: Prentice-Hall.
34. Veatch, R. M. (2016). *The basics of bioethics* (4th ed.). Routledge.
35. World Health Organization (WHO). (2021). *Global bioethics and health research report*. Geneva: WHO Press.