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## The Influence of Sharia Health Ethics on Pharmaceutical Innovation in the Muslim World

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### Abstract

**Objective:** This study aims to analyze the integration of Islamic philosophy with the concept of health and its influence on the development of modern pharmacy, especially in the application of Islamic values to halal, ethical, and sustainability standards. **Theoretical framework:** The theoretical framework of this research is based on the maqasid sharia, which emphasizes the preservation of the soul, health, and well-being, as well as the philosophical thought of Islamic science represented by the contributions of classical scientists such as Al-Razi, Ibn Sina, and Al-Zahrawi in the development of pharmaceuticals. **Literature review:** A literature review involved 15 journals accessed through trusted databases (PubMed, Scopus, and Google Scholar), which discussed the contributions of Muslim scientists to herbal medicine, clinical observation, pharmaceutical innovation, and the application of Islamic values in pharmaceutical research and production. **Methods:** This study uses a literature review method with a qualitative approach, analyzing relevant academic articles and journals to identify the integration of Islamic values in modern pharmacy. **Results:** The results of the study show that classical Muslim scientists made significant contributions to modern pharmacy, including herbal medicine techniques and pharmaceutical innovations. In addition, Islamic values encourage the application of halal standards in the ingredients, production, and distribution of medicines. The challenges that arise include regulatory limitations and gaps in understanding the application of Islamic values in the pharmaceutical industry. **Implications:** These findings emphasize the importance of cross-sectoral collaboration between academia, industry, and regulators to develop modern pharmaceuticals based on Islamic values. This approach is considered more ethical, sustainable, and by the needs of the Muslim community. **Novelty:** This research offers a new perspective by integrating Islamic philosophy of science and health concepts into the development of modern pharmaceuticals, which have rarely been comprehensively discussed in previous research.

**Keywords:** health, islam, philosophy of science, pharmaceutical sciences, sharia perspective.

## INTRODUCTION

In the last decade, health issues from an Islamic perspective have received increasing attention, especially in the development of medical and pharmaceutical sciences. However, there is a significant research gap in comprehensively understanding how the concept of health in Islamic Sharia affects the direction and priorities of pharmaceutical research in the Muslim world. Much pharmaceutical research in Islamic countries still focuses on conventional biomedical approaches, without strong integration of Islamic ethical and spiritual principles [1].

Most of the literature that exists only discusses partial issues, such as the halalness of medicines, the use of alcohol, gelatin, or vaccines, without systematically linking them to the framework of maqashid sharia (sharia goals). Sharia has an integral view of health, which includes physical, mental, spiritual, and social aspects. This view is particularly relevant in driving a holistic approach in pharmaceutical research and development, including innovations based on local wisdom and Islamic values. The absence of a theoretical framework that combines Islamic epistemology and modern pharmaceutical methodology results in a less optimal contribution of the Muslim world to the development of ethical and equitable global pharmacy. In addition, the lack of dialogue between scholars, pharmaceutical scientists, and policymakers has led to a fragmentation of approaches and a lack of strategic direction in sharia-based health research [2].

This theme is very important because the Muslim world has great potential in developing pharmaceutical research that is not only scientifically effective but also guided by the spiritual and cultural values of its people. The integration of health concepts in sharia can strengthen the Sustainable Development Goals (SDGs) agenda, especially the 3rd goal: Good Health and Well-being, through innovative approaches that emphasize ethics, social justice, and accessibility of health services. By revisiting the concept of health according to Islam and linking it to contemporary pharmaceutical research practices, this research will make an important contribution to building a more culturally and spiritually relevant pharmaceutical research model for the Muslim world. It also opens up opportunities for cross-disciplinary collaboration between religious science, pharmacy, and health policy to create sustainable and inclusive solutions [3].

It is known to the general public that Islam is a religion that regulates all aspects of human life, including health. Health in Islam is not limited only to the physical aspect, but also includes mental and spiritual well-being. From the beginning, Islam emphasized the importance of maintaining body cleanliness, a healthy diet, and the importance of physical and mental balance [4]. In the Islamic view, health is seen as a form of blessing from Allah SWT that must be maintained and grateful. Maqasid sharia, as the main goal of Islamic law, places the protection of the soul (hifz al-nafs) as one of its main pillars. This shows that Islam views health as an integral part of life that is inseparable from aspects of worship and social responsibility. In this context, health is not only an individual need, but also a collective responsibility that must be maintained for the common good [5].

The history of the development of science in Islam records the great contributions of Muslim scientists in the fields of medicine and pharmacy. Figures such as Al-Razi, Ibn Sina, and Al-Zahrawi played an important role in establishing the foundations of modern medicine and pharmaceutical science. They not only created effective medicines and treatment methods but also instilled ethical and moral values rooted in Islamic teachings [6]. For example, the concept of the importance of maintaining a balance between physical and spiritual needs is reflected in their works that integrate science with Islamic philosophy. In addition, they also introduced various innovations in pharmaceuticals, such as the use of herbal ingredients and chemical compounds that became the basis for the development of modern medicines [7].

The philosophy of science in Islam has a unique characteristic, namely, harmonizing revelation with reason as the main source of science. This principle allows Muslim scientists to explore the universe with a holistic approach, where science is not only seen as a means to understand natural phenomena, but also as a tool to get closer to Allah SWT [8]. In the field of pharmacy, this philosophical approach is applied through the development of medicines that are not only scientifically effective but also meet high ethical and moral standards. This shows that pharmaceutical science in Islam is not only results-oriented, but also on processes that are by Islamic values [9].

With the development of modern pharmaceutical science, new challenges have arisen related to the integration of Islamic values into pharmaceutical practice and research. These challenges include ethical issues, such as fairness in drug distribution, the use of animals in research, and the development of medicines that comply with halal principles. In the context of the Muslim world, it is important to develop a framework that integrates the principles of maqasid sharia with modern pharmaceutical research methods. This will not only provide solutions to ethical challenges but also enrich pharmaceutical science with a spiritual perspective rooted in Islamic traditions [10].

The main purpose of this article is to analyze the concept of health in Islam from the point of view of the philosophy of science, as well as to explore its influence on pharmaceutical research in the Muslim world. By understanding the close relationship between philosophy, religion, and science, it is hoped that this article can provide new insights into the importance of integrating Islamic values in modern pharmaceutical practice. In addition, this article aims to provide practical recommendations for pharmaceutical researchers and practitioners in developing a more ethical and sustainable approach. Through this study, it is hoped that readers can understand that health in Islam is a complex and holistic concept. Health is not only seen as a physical condition, but also as a balance between spiritual, mental, and social aspects. With this approach, pharmaceutical science in Islam can act as a bridge between modern scientific traditions and religious values, ultimately aiming to improve the quality of life of humanity as a whole [11].

Research on the concept of health in the Sharia perspective and its influence on pharmaceutical research in the Muslim world has some strategic implications, both in the scientific, social, and public policy realms. Academically, this research opens up a new space for the integration of Islamic epistemology in modern pharmaceutical science. This can give birth to a new paradigm in pharmaceutical research that not only prioritizes biological effectiveness but also considers the ethical, spiritual, and social dimensions from a Sharia perspective [12].

The practical implications of this study are aimed at strengthening pharmaceutical research systems in Muslim countries through a value-based approach. By adopting the principles of sharia maqashid, specifically hifz al-nafs (protection of the soul), hifz al-din (protection of religion), and hifz al-'aql (protection of reason), the development of medicines and therapies can be directed to meet the needs of Muslim communities more holistically and contextually. In addition, this approach can strengthen halal certification policies, educate the public about medicines, and increase public trust in local pharmaceutical products [13].

Other implications are related to the contribution to the achievement of the Sustainable Development Goals (SDGs), especially SDG 3 (Good Health and Well-being) and SDG 12 (Responsible Consumption and Production). The integration of Islamic values in pharmaceutical research can encourage socially and spiritually responsible innovation while addressing global health challenges with an inclusive perspective [14].

In terms of novelty, this research offers a conceptual framework that has not been explored much, namely, systematically examining how the concept of Islamic health affects the direction and approach of pharmaceutical research. This approach places sharia not just as a passive ethical norm, but as an active source of inspiration in the design, production, and distribution of medicines [15]. In addition, novelty also lies in the proposed interdisciplinary integration between Sharia science, pharmacy, and public policy, which can produce an ethical, innovative, and sustainable model of pharmaceutical research typical of the Muslim world. Thus, this research not only adds to the scientific treasure but also forms an important foundation for the transformation of pharmaceutical research that is rooted in Islamic values, globally relevant and contributes to the welfare of humanity.

## LITERATURE REVIEW

The concept of health in Islam has a comprehensive dimension, covering physical, mental, spiritual, and social aspects. In the Sharia view, health is not only interpreted as the absence of disease but also as a balanced condition that allows humans to carry out their responsibilities as caliphs on earth. Sharia places the preservation of the soul (hifz al-nafs) as one of the main goals, which shows that efforts to maintain and restore health are part of Islamic worship and ethics [16].

Most studies on health in Islam have focused on applicable issues such as the halalness of pharmaceutical products, the use of non-halal animal-derived ingredients, and the acceptance of vaccines. Although important, this approach has not touched on the conceptual depth of how Sharia values can shape the pharmaceutical research paradigm itself. On the other hand, pharmaceutical research in the Muslim world often mimics Western models that emphasize the efficiency of laboratories and clinical trials, but ignore the context of local values and the spirituality of Muslim patients [17].

In recent years, initiatives have emerged to build an integrative approach between medical sciences, pharmacy, and religious values. However, these studies are still limited and fragmentary. There is not much research that builds an epistemological framework that combines the principles of Sharia maqashid with modern scientific methods, especially in the development of pharmaceutical products. These limitations indicate the urgent need to develop a conceptual model that can bridge the two worlds of knowledge: Islamic spirituality and empirical science [18].

The literature also does not discuss the direct impact of the integration of Islamic values on the orientation of pharmaceutical research, such as in the selection of research topics, experimental methods, clinical trial design, and distribution of results. This understanding is crucial for the development of value-based health policies in Muslim countries. Therefore, this study is directed to fill the gap in the literature by exploring the relationship between the concept of health according to Sharia and pharmaceutical research practices in a more comprehensive, reflective, and relevant way to the needs of Muslims today [19].

### The Concept of Health in Islam

In Islam, health is seen as a gift from Allah SWT that must be maintained and grateful. The concept of health in Islam focuses not only on the physical aspect but also includes mental and spiritual balance. The principles of maqasid sharia, especially hifz al-nafs (protection of the soul), are an important foundation in maintaining and maintaining human health. The Prophet PBUH said, "The two blessings that people often neglect are health and leisure" (HR. Bukhari), pointing out the importance of health as a major component in the life of a Muslim [20].

Islam provides guidance on how to maintain health through the teachings of the Qur'an and hadith, including a halal and tayyib diet, the importance of cleanliness, and disease prevention. For example, in Surah Al-Baqarah verse 195, it is stated, "And do not throw yourselves into destruction." This verse underlines the obligation of Muslims to maintain balance in life, both in terms of food, activities, and social relationships. By applying these principles, health becomes not only a physical aspect but also a means of worship and a manifestation of gratitude to Allah SWT [21].

### The Contribution of Muslim Scientists to Pharmacy

The history of pharmacy records the great role of Muslim scientists in establishing the foundations of modern pharmaceutical science. Al-Razi (Rhazes), known as one of the fathers of modern medicine, compiled Al-Hawi, a medical encyclopedia that summarized disease, treatment, and experiment-based clinical practice. His contributions were not only limited to physical medicine but also included mental health, which was reflected in his dedication to patients with mental disorders. In addition, Ibn Sina (Avicenna), through Al-Qanun fi al-Tibb, introduced a holistic approach that includes herbal medicine, clinical observation, and ethics in health services [22].

Al-Zahrawi is known as the father of surgery, who compiled Al-Tasrif, which became a surgical reference until the 16th century. He documented a variety of surgical techniques, including the use of silk threads to sew wounds. This contribution reflects innovation and adherence to Islamic values in medical practice. Muslim scientists not only contributed to medicine but also created the first pharmacy system, which became the forerunner of modern pharmaceutical arrangements in Europe. Their approach shows that pharmaceutical science is inseparable from ethical and moral principles [23].

### The Influence of Islamic Values on Pharmaceutical Research

Islamic values provide a strong ethical framework in pharmaceutical research. The principles of justice (al-adl), benefit (maslahah), and avoidance of harm (mafsadah) are the main guidelines in the development of drugs and therapies. Pharmaceutical research in the Muslim world seeks to ensure that all pharmaceutical products comply with halal principles, from raw materials, production processes, to distribution. This is not only a form of compliance with Sharia but also a commitment to quality and patient safety [24].

In addition, Islam emphasizes the responsibility of scientists to prioritize the welfare of the community. In pharmaceutical practice, transparency and integrity are highly upheld. Islamic-based pharmaceutical research also encourages innovation, such as the development of herbal medicines that are by the Prophet's medicine tradition (thibbun nabawi). This approach is not only religiously relevant but also provides sustainable and ethical solutions to global health challenges [25].

Table 1. Literature Review

Theme	Summary
Islamic Concept of Health	Health in Islam is holistic—covering physical, mental, spiritual, and social aspects—grounded in <i>maqasid shariah</i> , particularly <i>hifz al-nafs</i> .
Existing Research Focus	Most studies emphasize halal status and regulatory aspects but lack conceptual depth in integrating Sharia values with pharmaceutical paradigms.
Integration Challenges	Limited efforts exist to build an epistemological model combining Islamic ethics and modern science; current research remains scattered and partial.
Muslim	Scholars like Al-Razi, Ibn Sina, and Al-Zahrawi advanced ethical and

Scientists' Contributions	holistic pharmaceutical practices, forming the foundation of modern pharmacy.
Islamic Influence on Research	Sharia values guide ethical drug development through justice, benefit, and harm avoidance, promoting halal compliance, transparency, and community welfare.

## METHODOLOGY

This research is categorized as a literature study with a qualitative approach that uses data tracing techniques from various scientific journal sources. This study only uses secondary data in the form of journal articles that are relevant to the research theme. Data is collected from trusted databases such as Scopus, PubMed, Google Scholar, and Garuda to obtain journals that meet predetermined criteria. The data obtained will be analyzed using a descriptive method to understand the philosophy of science on the concept of health in Islam and its influence on pharmaceutical research in the Muslim world [26].

### Data Search Process

A reference search was conducted in January 2025 using the following keywords:

- Indonesian: "Islamic health concepts", "Islamic pharmaceutical ethics", "philosophy of science", and "pharmaceutical research in the Muslim world".
- English: "concept of health in Islam", "Islamic pharmacy ethics", "philosophy of science", and "pharmaceutical research in the Muslim world".

Data sources come from journals indexed by Sinta, PubMed, and Google Scholar, as well as national platforms such as Garuda.

### Study Criteria

Inclusion and exclusion criteria are applied to ensure the quality and relevance of the journals used:

#### Inclusion Criteria

- Articles published in the 2019–2025 time frame.
- Articles in Indonesian and English.
- Articles are available in full-text form.
- Articles relevant to the themes of philosophy of science, health in Islam, and pharmaceutical research.

#### Exclusion Criteria

- Articles that don't have full text.
- Articles with abstracts that are not relevant to the research theme.

### Quality Assessment and Data Extraction Process

Journal selection is carried out systematically by reviewing abstracts, keywords, and article content to ensure compatibility with the inclusion criteria that have been set. The assessment process aims to ensure that the selected journals meet quality standards and are relevant to the research theme. After the journal is selected, the data extraction process is carried out using Microsoft Excel. The data recorded included the author's name, year of publication, type of research, main findings, and results obtained by the study. This process ensures all relevant information is well documented to support the analysis and preparation of *the literature review* article [27].

## Data Analysis

The extracted data will be analyzed to identify key themes, including:

- The relationship between the philosophy of science and the concept of health in Islam.
- The influence of Islamic values on pharmaceutical research in the Muslim world.
- The role of sharia maqasid in modern pharmaceutical practice.

The main data of the research results and journal reviews will then be presented in the form of a table to provide a systematic overview of the research results.

## Data Results and Representation

The results of the data search will be visualized in the form of a table that lists the relevant information of each journal to the research theme. Keyword and abstract analyses were carried out to show the relationship between themes, relevance, and research contributions to the development of pharmaceutical science based on Islamic values. All results will be systematically documented in the form of written reports to support the conclusions of the study [28].

## RESULTS AND DISCUSSION

Based on the results of a data search using PubMed, Sinta, Google Scholar, and Garuda databases, as many as 50 articles relevant to the research topic were obtained. After the initial screening process, as many as 15 articles were eliminated because they were duplicate articles or did not meet the basic criteria. Of the 35 articles screened further, 30 articles were selected for review, while 5 articles were not accessible. Furthermore, 15 articles were evaluated for eligibility, but 10 articles were removed because they were reviews, and 5 others had insufficient data. Thus, the total number of articles that met the inclusion criteria and were used for further analysis was 15.

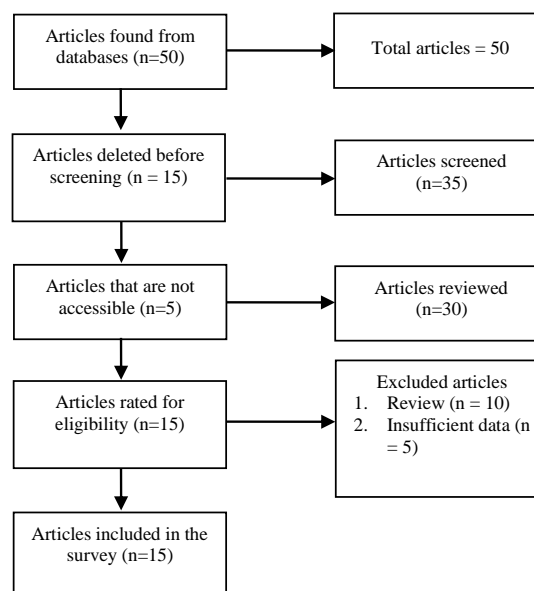


Figure 1. Research Prism Chart

This research explores the relationship between philosophy of science, Islamic values, and the development of pharmacy in the context of the Muslim world. The philosophy of science in Islam has a unique characteristic that harmonizes revelation and reason as the main sources of science. In the field of pharmacy, this philosophy encourages a holistic approach

that includes physical, mental, and spiritual aspects in drug development. For example, maqasid sharia becomes an ethical framework that helps ensure drug development is not only scientifically effective but also by moral and religious principles [44].

The contributions of Muslim scientists such as Al-Razi and Ibn Sina are clear evidence that the philosophy of Islamic science can be applied in the development of pharmaceuticals. Al-Razi, in his medical encyclopedia *Al-Hawi*, emphasized the importance of experiment-based scientific methods, while Ibn Sinadeep *Al-Qanun fi al-Tibb*, offered a holistic approach that blends herbal medicine with clinical observation. This innovation shows how pharmaceutical science in the Islamic world has evolved while maintaining ethical values.

Islamic ethics in pharmaceutical research is also an important highlight. The principles of justice (al-adl) and the avoidance of harm (mafsadah) ensure that research is carried out with attention to the welfare of the community. For example, research by Yedi Herdiana et al (2024) shows that the development of halal pharmaceutical ingredients is a major challenge, especially in finding alternatives to animal-based ingredients such as pork gelatin. The effort to integrate Islamic values in this study shows the importance of Islamic philosophy in providing innovative solutions that suit the needs of Muslim consumers. In addition, the concept of holistic health in Islam puts health as a balance between physical, mental, and spiritual aspects. Islamic religious education, as shown by the research of Tyas et al, contributes to adolescent mental health by reinforcing moral and spiritual values. This reflects how Islamic traditions can influence modern pharmaceutical practices by taking into account the psychological and spiritual needs of patients [45].

In terms of the development of modern pharmacy, research such as the one conducted by Kamal Dahamsheh shows that maqasid sharia can be an ethical guideline in dealing with contemporary medical issues such as organ transplantation. Islamic ethics ensures that medical decisions are made on the principles of justice and benefit, providing a solid moral foundation for the development of pharmaceutical science in the Muslim world. Overall, the literature reviewed in this article suggests that the integration of philosophy of science, Islamic values, and modern pharmaceutical research can create a more ethical and sustainable approach. However, there are challenges such as the lack of adequate regulations to support the development of pharmaceuticals based on Islamic values. Therefore, a collaboration between governments, academia, and industry is needed to create a pharmaceutical ecosystem that is not only innovative but also in line with Islamic traditions and moral principles [46].

**Table 2. Summary of Studies on the Perspective of Islamic Philosophy of Science and Ethics in the Development of Herbal Medicine**

Author and Year	Research Title	Research Objectives	Research Focus	Research Results
Abdurezak Abdulahi Hashi (2022) [29]	<i>Clinical Applications of Maqasid al-Shari'ah in Healthcare Services</i>	Analyze the application of maqasid al-shari'ah in modern health clinical practice.	Integration of maqasid al-shari'ah in clinical practice of health, including medical ethics and clinical decision-making.	Maqasid al-shari'ah can be used as a framework to maintain a balance between patient rights, autonomy, and medical needs while maintaining ethical values in health services.
Tehmina Rafiq (2022) [30]	<i>Role of Muslim Scientists in the Development of</i>	Reviews the contributions of Muslim scientists to	The historical contributions of Muslim scientists	Muslim scientists such as Ibn Sina and Al-Razi

	<i>the Sciences</i>	the development of science from the 17th century to the 21st century.	in medical and pharmaceutical sciences.	produced great works in the fields of pharmacy and medicine that included the use of herbs, systematics of diagnosis, and structured methods of treatment.
<b>Yedi Herdiana et al. (2024) [31]</b>	<i>Towards Halal Pharmaceutical: Exploring Alternatives to Animal-Based Ingredients</i>	Identify alternative halal ingredients in modern pharmaceuticals to meet the needs of Muslim consumers.	Development of halal pharmaceutical ingredients that meet the principles of Sharia maqasid.	The study found alternatives to halal pharmaceutical ingredients from plant, marine, and synthetic sources to replace pork-based ingredients. Halal certification and raising awareness are the main challenges.
<b>Tyas B.S. Ambarwati et al. (2024) [32]</b>	The Contribution of Islamic Religious Education to the Mental Health of Adolescents in the 21st Century	Identify the relationship between Islamic religious education and adolescent mental health in the digital age.	The relationship between Islamic religious education and mental health stability.	Islamic religious education helps to improve the mental stability of adolescents by strengthening moral values and providing guidance in facing the challenges of modern life. This research highlights the importance of mental and spiritual aspects in Islamic health concepts that can also influence pharmaceutical research approaches.
<b>Deema Jaber et al. (2024) [33]</b>	<i>Assessment of the Knowledge, Attitude, and Perception of Healthcare Providers Regarding Halal Pharmaceuticals</i>	Evaluate the knowledge, attitudes, and perceptions of health workers related to halal pharmaceuticals in Jordan.	Knowledge and attitude of health workers towards halal pharmaceutical products.	Research shows that even though health workers have high knowledge, there is a gap related to understanding the composition of halal pharmaceutical ingredients. The need for the

				development of pharmaceutical knowledge that is in harmony with Islamic principles shows the importance of the philosophy of science education in supporting Islamic-based pharmaceutical practices.
<b>Intan Trisakti et al. (2023) [34]</b>	<i>Development and Thinking of Classical Islamic Pharmacy Towards a Progressive and Sustainable Pharmacy</i>	Explains the development of Islamic pharmacy through four major historical phases and its contribution to modern pharmaceutical practice.	The history of the development of Islamic pharmacy and the contribution of Muslim scientists to the discovery and application of modern pharmacy.	Islamic pharmacy developed through four major phases, including the contributions of scientists such as Jabir Ibn Hayyan, Al-Razi, and Ibn Sina, which became the basis of modern pharmacy. Modern pharmacy is now not only product-oriented but also patient-oriented.
<b>Abroo Aman Andrabi (2024) [35]</b>	<i>The Impact of Cross-Cultural Interactions on Scientific Progress During the Islamic Golden Age</i>	Examining the influence of cross-cultural interaction on the advancement of science in the Islamic Golden Age.	The role of cross-cultural interaction in the development of science, including pharmaceuticals, in the Islamic Golden Age.	Cross-cultural interactions allow for the transfer of knowledge from different civilizations to the Islamic world, driving progress in various fields of science, including pharmaceuticals.
<b>Sharrer Mariat et al. (2024) [36]</b>	<i>An Examination of Ethical Standpoints: Organ Transplants within the Framework of Islamic Law</i>	Exploring ethical perspectives related to organ transplantation in Islamic law.	Islamic legal perspectives on organ transplantation, including ethical issues and the principles of maqasid sharia.	Organ transplantation is allowed in Islamic law, taking into account the principles of maqasid sharia, including justice, benefit, and avoidance of harm.
<b>Faris Amrullah et al. (2024) [37]</b>	<i>Analyzing Sharia Service Standards in Certified Hospitals for</i>	Analyze Sharia service standards in certified hospitals to improve the	Implementation of Sharia maqasid principles in Sharia health	Sharia hospitals improve the quality of health services by

	<i>Optimal Healthcare Quality</i>	quality of health services.	service standards in hospitals.	integrating the values of maqasid sharia, such as maintaining patient welfare and ensuring fair access.
<b>Andrew C. Miller et al. (2020) [38]</b>	<i>Ethical Issues Confronting Muslim Patients in Perioperative and Critical Care Environments</i>	Review the ethical issues faced by Muslim patients in critical and perioperative care.	Ethical challenges in the care of Muslim patients include the application of Islamic principles in medical decisions.	Islamic ethics emphasizes justice, avoidance of harm, and respect for patient autonomy. Recommendations include strengthening the cultural competence of medical personnel to improve services for Muslim patients.
<b>Oman Fathurohman (2024) [39]</b>	Pharmaceutical Malpractice from the Perspective of Islam and Muhammadiyah	Analyze pharmaceutical malpractice from the perspective of Islam and Muhammadiyah, including ethics and related laws.	Ethics and Islamic law in pharmaceutical practice.	Pharmaceutical malpractice is seen as a serious violation of ethics and laws, demonstrating the importance of pharmacist professionalism and responsibility.
<b>Ruqia Safdar (2024) [40]</b>	<i>Hadiths and Modern Medicine: A Comparative Analysis</i>	Compare the health practices in the Prophet's Hadith with modern medical recommendations, including diet, hygiene, and natural remedies.	Comparison of health practices in Hadith and modern science.	The Prophet's hadith is relevant to modern health recommendations, for example, the use of miswak for dental health and natural remedies such as honey.
<b>Bello Ali &amp; Muhammad Maga Sule (2024) [41]</b>	<i>The Evolution of Ethical Standards in Health Research: An Islamic Overview</i>	Examines the evolution of ethical standards in health research through an Islamic perspective, including the principles of maqasid sharia and modern research ethics.	The principles of maqasid sharia in health research.	Islamic principles such as justice and benefit can be integrated in health research to ensure better ethical standards.
<b>Kamal Dahamsheh (2024) [42]</b>	<i>Medical Ethical Issues, an Islamic Perspective</i>	Outline issues of medical ethics in an Islamic context, including the application of the	Medical ethics in Islam are related to health.	The principles of maqasid sharia are used to assess medical ethics issues, for

		principles of maqasid sharia in medical cases such as organ transplantation and euthanasia.		example, organ transplantation is allowed if it is by Islamic values.
<b>Arini Khaerunnisa &amp; Dimas Indriatmoko (2023) [43]</b>	Pharmaceutical Science in the Islamic World	Examines the history of the development of pharmaceutical science in the Islamic world and the contribution of Muslim scientists to modern pharmaceutical practice.	The history of Islamic pharmacy and the contributions of Muslim scientists.	Islamic pharmacy made a major contribution to modern pharmaceutical science, with figures such as Ibn Sina and Al-Razi developing scientific methods of medicine.

## Analysis

This research strategically discusses the relationship between the philosophy of Islamic science, the concept of Islamic health, and its influence on the development of pharmaceutical research in the Muslim world. This study confirms that the concept of health in Islam is an integral idea that not only includes physical aspects but also touches on spiritual, mental, and social dimensions. This approach is sourced from the maqasid of sharia, especially the protection of the soul (hifz al-nafs) as the main foundation in medical and pharmaceutical ethics.

In this study, the literature approach used shows the existence of a theoretical gap in contemporary pharmaceutical research models that are too dominant in Western biomedical frameworks. Pharmaceutical research in the Muslim world is still limited to technical issues such as the halalness of products or the use of non-halal ingredients, while the integration of Islamic values at the conceptual, methodological, and strategic levels is not optimal. This shortcoming is evident in the lack of an integrative model between Islamic epistemology and modern scientific approaches in the development of medicines and pharmaceutical technologies. The significant contributions of classical Muslim scholars such as Al-Razi, Ibn Sina, and Al-Zahrawi constitute important foundations that need to be revitalized within the modern framework. Their works prove that scientific research based on Islamic spiritual values and ethics is not only possible but also succeeds in creating innovations that go beyond their time. For example, Al-Razi's thoughts on experimental clinical and Ibn Sina's attention to physical and spiritual balance suggest that ethical and philosophical orientation played a major role in the development of past pharmaceuticals [47].

On the other hand, the recent studies analyzed in this study, such as those by Herdiana, Ambarwati, and Hashi, show a resurgence of interest in halal pharmacy, Islamic ethics in health services, and the importance of strengthening sharia standards in modern medical practice. The study also highlights that the integration of maqasid sharia into pharmaceutical research can answer global challenges, especially related to social justice, patient safety, and health system sustainability. This analysis identifies that the implementation of Islamic values in pharmaceutical research has the potential to strengthen the achievement of the Sustainable Development Goals (SDGs), especially SDG 3 (Good Health and Well-being) and SDG 12 (Responsible Consumption and Production). Islamic Pharmacy, emphasizing the principles of sustainability, distribution ethics, and the use of halal and thayyib ingredients, is a unique contribution to the global health landscape [48].

However, major challenges still loom, including regulatory limitations, the lack of an integrative curriculum in pharmacy education, and the lack of synergy between scholars,

scientists, and regulators. Therefore, this study suggests strengthening cross-sector collaboration to build a value-based pharmaceutical research system that is not only scientific but also spiritually and culturally meaningful. In closing, this article succeeds in building the argument that the pharmaceutical paradigm in the Muslim world should be shifted from a technocratic model to a humanistic-spiritual approach [49]. In other words, pharmaceutical research should not only pursue clinical effectiveness, but also be morally responsible, culturally inclusive, and rooted in the intellectual heritage of Islam. This research is an important milestone in building a new direction for pharmaceutical science that is ethical, sustainable, and in line with Islamic values.

## CONCLUSION

This study highlights the vital role of Islamic philosophy of science in shaping a comprehensive and ethical foundation for the development of pharmacy in the Muslim world. At its core, the Islamic worldview embraces the integration of revelation (naql) and reason ('aql), offering a unique framework that harmonizes scientific inquiry with moral and spiritual principles. This perspective is not only rooted in historical Islamic scholarship but also remains highly relevant in addressing contemporary challenges in pharmaceutical science. The concept of holistic health—encompassing physical, mental, and spiritual well-being—stands as a central pillar in the Islamic medical tradition. This integrated approach is evident in the pioneering works of classical Muslim scholars such as Al-Razi and Ibn Sina, whose contributions to medicine and pharmacy reflected a balanced concern for bodily healing and spiritual integrity. Their methodologies continue to inspire current efforts to realign pharmaceutical practices with ethical values grounded in Islamic teachings. A key component of this ethical framework is the application of maqasid al-shariah (the objectives of Islamic law) in pharmaceutical research and practice. Principles such as justice ('adl), benefit (maslahah), and harm prevention (dar' al-mafasid) guide Muslim pharmacists and researchers in ensuring that medical treatments serve the public good without compromising religious principles. These values encourage fairness in access to healthcare, the use of halal-certified ingredients, and the promotion of community welfare through safe, effective, and ethically approved medicines. Despite ongoing challenges, including regulatory gaps and limited awareness in some regions, the integration of Islamic values into modern pharmaceutical practice holds significant promise. It can foster the development of healthcare systems that are not only scientifically sound but also culturally and spiritually sensitive to the needs of Muslim populations. This is especially important in an increasingly globalized medical environment where ethical dilemmas and commercial pressures often conflict with religious or moral standards. In conclusion, the fusion of Islamic ethical philosophy and modern pharmacy offers a transformative model that supports innovation while upholding universal values of dignity, compassion, and accountability. As the Muslim world continues to invest in health science and pharmaceutical research, there is a growing opportunity to develop systems that are ethically resilient, socially just, and globally impactful—serving both the faith and the future of humanity.

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## Author Contribution

All authors contributed equally to the preparation of this article. Each author has read and approved the final manuscript of the article and declares that they have no conflict of interest in this research.

## Conflicts of Interest

All authors declare that there are no conflicts of interest related to the research and publication of this article.

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