TRANSFORMATIVE FIQH AND HEALTH TECHNOLOGY: AN ISLAMIC ETHICAL STUDY OF THE USE OF ARTIFICIAL INTELLIGENCE IN MEDICAL PRACTICE

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Abstract

This study aimed to analyze the use of Artificial Intelligence (AI) in medical practice through a transformative *fiqh* and Islamic ethics approach. Based on the rapid development of health technology, the role of AI in diagnosis, treatment, and medical decision-making continues to expand, raising issues related to patient privacy, professional responsibility, and the risk of algorithmic discrimination. Therefore, an ethical framework rooted in the fundamental values of Islamic law (*maqashid syari'ah*) within the context of transformative fiqh becomes necessary. This study uses a qualitative method with a normative-philosophical approach, supported by selected literature sources tested for accuracy and validity, and analyzed through concept identification, issue mapping, comparison with maqashid, and legal synthesis. The study finds that the use of AI is ethically acceptable when placed within the framework of *mashlahah*, accompanied by professional oversight, and regulated through justice-based policies. Transformative fiqh also highlights the need to balance technological benefits with potential risks, including protecting patient rights, ensuring fairness in service, and preserving spiritual values in treatment. Ultimately, AI in medical practice is viewed not only as a technological tool but also as a means to actualize the core values of Islamic law in contemporary contexts. This study contributes by offering a relevant Islamic ethical framework for the development of health technology in the digital era through a transformative fiqh approach.

Keywords: Artificial Intelligence; *Maqashid syari'ah*; Transformative Fiqh; Medical Ethics.

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INTRODUCTION

Recent developments in health technology have shown tremendous progress, one of which is the introduction of Artificial Intelligence (AI) in medical practice. AI has been used to diagnose diseases, recommend therapies, and predict patient health risks more accurately. However, this phenomenon presents an interesting dialectic on the one hand, reality shows that AI can improve the quality of healthcare services; on the other hand, the idealism of the Islamic ethical perspective demands that every innovation remain in line with human values, morality, and the principles of *maqashid syari'ah*.

The dialectic between reality and idealism is important to examine within the framework of transformative fiqh.[1] The reality of increasingly sophisticated medical technology cannot be ignored, because it is part of modern human needs. However, Islamic ideals require that every technological development should not merely pursue efficiency, but also uphold the values of justice, benefit, and protection of human dignity.[2] This is where transformative fiqh plays an important role as a bridge between the fast-paced real world and permanent normative values.

In medical practice, the use of AI touches not only on technical aspects, but also ethical ones. For example, when AI is used to make clinical decisions, the question that arises is, to what extent can these decisions be trusted and will they not harm patients? Medical reality demands speed and accuracy, while Islamic ideals emphasize the principles of caution (*ihtiyath*) and moral responsibility. The meeting of these two sides requires in-depth analysis so that the use of AI remains in line with *maqashid syari'ah*. Transformative fiqh, which seeks to present Islamic law in accordance with the needs of the times, is an important instrument for navigating the tension

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[1] Muhammad Ngizzul Muttaqin & Iffatin Nur, "Fiqih Jalan Tengah (Mempertemukan Maqashid Syari'ah, Hukum, Dan Realitas Sosial)," *Zawiyah: Jurnal Pemikiran Islam* 5, no. 2 (2019), https://doi.org/10.31332/zjpi.v5i2.1509.

[2] Nasrul Syarif, "Artificial Intelligence (AI) Dalam Perspektif Agama Dan Etika: Implikasi, Peluang, Dan Tantangan," *Pasca.Uit-Lirboyo.Ac.Id, 2 Desember*, 2024, https://pasca.uit-lirboyo.ac.id/2024/12/02/artificial-intelligence-ai-dalam-perspektif-agama-dan-etika-implikasi-peluang-dan-tantangan/#:~:text=Artikel ini membahas AI dari sudut pandang agama—termasuk,tantangan etis seperti privasi%2C bias algoritma%2C d.

between reality and idealism.[3] Fiqh should not stop at the classical normative dimension, but must be open to social, cultural, and technological changes.[4] In this context, the use of AI in medicine requires new *ijtihad* that can accommodate scientific developments while maintaining the basic values of Islam. The reality on the ground shows that AI in healthcare is already being used in various forms, ranging from simple applications such as heart rate detectors to complex systems for analyzing radiological images. This technology enables doctors to work more efficiently. However, Islamic ethical ideals remind us that the presence of AI should not completely replace the role of humanity. The doctor-patient relationship based on compassion and empathy should not be replaced by machines.[5]

The dialectic between reality and idealism is also evident in the issue of legal and moral responsibility. If AI makes a mistake in diagnosis, who should be held responsible? The doctor, the AI developer, or the system itself? Positive legal reality may offer a pragmatic answer, but Islamic idealism demands clarity of responsibility that is fair. The principle of "*la darar wa la dirar*" (do no harm) serves as a guideline to ensure that every innovation does not cause harm to humans.[6] The study of Islamic ethics in the use of medical AI cannot be separated from the *maqashid syari'ah*. The main objectives of Islamic law, namely protecting religion (*hifdz al-din*), protecting life (*hifdz al-nafs*), protecting reason (*hifdz al-'aql*), protecting lineage (*hifdz al-nasl*), and protecting property (*hifdz al-mal*), must be parameters in every technological innovation. The reality of AI being able to save lives through early diagnosis, for example, is in line with the *maqashid*.

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[3] Rasyid Arbanur, "Social Fiqh and Its Implications for Community Life in Society 5.0," *Al-Ahkam: Jurnal Pemikiran Hukum Islam* 31, no. 2 (2021): 145.

[4] Muhammad Ngizzul Muttaqin, Iffatin Nur, & Ahmad Muhtadi Anshor, "Social Media Fiqh: Social Media Use Intensity and Family Harmony in Tulungagung Regency," *The Journal of Society and Media* 6, no. 1 (2022), https://doi.org/10.26740/jsm.v6n1.p207-231.

[5] Md. Faiyazuddin, et al, "The Impact of Artificial Intelligence on Healthcare: A Comprehensive Review of Advancements in Diagnostics, Treatment, and Operational Efficiency," *Health Science Reports*, 2025, https://doi.org/10.1002/hsr2.70312.

[6] Mawloud Mohadi, "Maqasid Al-Shari'ah and the Ethics of Artificial Intelligence: Contemporary Challenges," *Journal of Contamporari Maqasid Studies* 2, no. 2 (2023): 79–102.

However, if its use leads to patient data discrimination or information misuse, then it contradicts the ideals of Sharia.[7]

In the digital age, patient data has become an important asset that is often processed by AI. Reality shows that this data can be used to improve the healthcare system. However, Islamic ideals remind us that confidentiality (*amanah*) is a key principle. Medical information must not be misused for commercial gain. That's dialectic demands regulations and ethical guidelines based on Sharia values so that the use of AI continues to protect patient privacy and dignity. Transformative *fiqh* not only examines the law textually, but also emphasizes social transformation. In this context, the use of AI in healthcare must be seen as a means of empowering the community. Reality shows that AI can improve access to healthcare, especially for people living in remote areas. Islamic ideals dictate that this technology should not only be enjoyed by certain groups, but should also bring about fairness in the distribution of healthcare services.[8]

The dialectic between reality and idealism becomes increasingly complex when it comes to the issue of AI algorithms that are "biased" or not neutral. Reality shows that AI is designed by humans who have limitations and interests. Islamic idealism demands justice ('*adl*) in every decision.[9] Therefore, the use of AI in healthcare must be monitored so that it does not cause discrimination, for example in access to services for the poor or minorities. The shift of medical authority from humans to machines is also an interesting point of dialectics. Today's medical reality relies on artificial intelligence to improve the accuracy of diagnoses. However, Islamic idealism asserts that humans remain the main subject in decision-making, because only humans have conscience, responsibility, and spiritual capacity.

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[7] Muhammad Aminuddin Shofi, Sahrul Hidayatullah, & Abdul Hamid, "Multidimensional Paradigm of Maqasid Sharia in the Book of 'Nahwa Taf'ili Maqashid Sharia' by Jamaluddin Athiyah," *Jurnal Lektur Keagamaan* 20, no. 2 (2022): 530.

[8] Ermita Ekalia, Ariawan Gunadi, & Muhammad Abdurrohim, "Pengembangan Regulasi Penggunaan Artifcial Intelligence Pada Bidang Kesehatan Di Indonesia Pada Aspek Hukum Dan Etika," *Jurnal Ilmu Hukum, Humaniora Dan Politik* 5, no. 2 (2024).

[9] See Herry Priyono, *Diskursus Kemasyarakatan Dan Kemanusiaan. Dalam Teori Keadilan John Rawls* (Jakarta: Gramedia, 1993).

Transformative *fiqh* must find a proportional position between machine authority and the role of humans.[10]

Islamic ethics also emphasize the dimension of *ihsan* (benevolence) in healthcare. The reality of AI, which is cold and algorithm-based, has the potential to eliminate the human touch in doctor-patient relationships. Ideally, technology should complement, not replace, human empathy.[11] Thus, the use of AI must always be framed as a means of strengthening, not weakening, the values of *ihsan* in health services. Transformative *fiqh* studies in the context of health technology cannot be separated from global dynamics. Reality shows that many developed countries have adopted AI in their national healthcare systems. Indonesia, as a Muslim-majority country, must be able to respond to this development intelligently. Islamic ideals demand that policy decisions be based not only on economic effectiveness, but also on sharia ethics.[12]

Within the methodological framework, transformative *fiqh* prioritizes the *maqashid syari'ah* approach as its foundation. The ever-changing reality demands broad *ijtihad* so that Islamic law remains relevant.[13] Islamic idealism teaches that laws exist to bring about benefits (*jalb al-mashalih*) and prevent harm (*dar' al-mafasid*). Therefore, the use of AI must be weighed based on the extent to which it brings about greater benefits than harm.[14] This dialectic between reality and idealism shows that the development of health technology cannot be separated from the context of values. Reality brings new and complex challenges, while idealism provides direction and normative guidelines. Transformative *fiqh* becomes the meeting point

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[10] Syarifah Lisa Andriati, Inneke Kiki Rizki, & Ain Najwa Binti Mohd Malian, "Justice on Trial: How Artificial Intelligence Is Reshaping Judicial Decision-Making," *Journal of Indonesian Legal Studies* 9, no. 2 (2024), https://doi.org/10.15294/jils.v9i2.13683.

[11] See Nurohman, "Pemanfaatan Kecerdasan Artifisial (Artificial Intelligence) Dalam Bidang Hukum Islam," n.d., https://ilmusyariahdoktoral.uin-suka.ac.id/id/kolom,.

[12] Ahmad Rickianto Afandi & Heri Kurnia, "Revolusi Teknologi: Masa Depan Kecerdasan Buatan (AI) Dan Dampaknya Terhadap Masyarakat," *Academy of Social Science and Global Citizenship Journal* 3, no. 1 (2023), https://doi.org/10.47200/aossagcj.v3i1.1837.

[13] Anjar Nugroho, "Fikih Kiri: Revitalisasi Ushul Fiqh Untuk Revolusi Sosial," *Al-Jami'ah: Journal of Islamic Studies* 43, no. 2 (2005).

[14] Muhammad Aminuddin Shofi, Sahrul Hidayatullah, & Abdul Hamid, "Multidimensional Paradigm of Maqasid Sharia in the Book of 'Nahwa Taf'ili Maqashid Sharia' by Jamaluddin Athiyah," *Jurnal Lektur Keagamaan* 20, no. 2 (2022): 530.

between the two, giving rise to Islamic law that is adaptive, solution-oriented, and remains rooted in Islamic ethical principles.[15]

The phenomenon of AI in medical practice also opens up new discussions about humanism in Islam. The reality of advanced technology can dehumanize health services. Islamic ideals emphasize respect for human dignity (*karamah insaniyyah*). Thus, transformative *fiqh* must ensure that technology does not diminish human values, but rather strengthens them. This study is also relevant in the context of Indonesia, which has a healthcare system with major challenges, such as limited medical personnel and unequal access to services. This reality can be addressed by AI as a technical solution. However, Islamic ideals remind us that solutions must not sacrifice aspects of justice and equality. Transformative *fiqh* encourages the use of technology to always be directed towards strengthening social solidarity.

Furthermore, the dialectic between reality and idealism also touches on the issue of spirituality. Reality shows that AI works with mathematical logic and algorithms. Islamic idealism teaches that human health is not only physical, but also spiritual. Therefore, AI-based medical practices must remain open to the spiritual aspects of patients, which are an integral part of the concept of health in Islam. This article aims to present a comprehensive analysis of the use of AI in medical practice from the perspective of transformative *fiqh*. By examining the dialectic between technological reality and Islamic ethical idealism, this study is expected to contribute theoretically and practically to the development of contemporary Islamic law, particularly in the field of bioethics. Finally, the dialectic between reality and idealism in the use of AI in the medical field shows that Islam has great capacity to provide solutions. Transformative *fiqh* offers a middle ground that does not reject technological progress, but also does not dissolve without direction. Based on *maqashid syari'ah*, every technological innovation in health can be directed to bring benefits, maintain human dignity, and strengthen Islamic ethical values in modern life.

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[15] Iffatin Nur, Syahrul Adam, M. Ngizzul Muttaqien, "Maqasid Al-Shari'at: The Main Reference and Ethical Spiritual Foundation for the Dynamization Process of Islamic Law," *Ahkam: Jurnal Ilmu Syariah* 20, no. 2 (2020).

This study uses a qualitative method with a normative-philosophical approach.[16] This approach serves to examine the principles of Islamic law and ethics related to the use of AI in medical practice through the analysis of concepts and interpretation of Islamic legal values. The research data was obtained from selected literature, including contemporary *fiqh* works, Islamic biomedical ethics studies, medical ethics guidelines, and scientific publications related to AI technology. All sources were selected based on academic credibility, thematic relevance, and verified accuracy of information. The analysis process was carried out in several stages, identification of key concepts,[17] mapping of ethical and legal issues, comparison between AI issues and the objectives of *maqashid syari'ah*, and legal synthesis to develop a comprehensive Islamic ethical framework. This methodological approach ensures that the study remains theoretically rigorous and practically relevant in the context of transformative *fiqh*.

DISCUSSION
Transformative *Fiqh* for Contemporary Reality

Transformative *fiqh* emerged as a response to the ever-evolving social, political, cultural, and technological dynamics within Muslim societies. Historically, *fiqh* was born to address the practical needs of Muslims in regulating their daily lives. However, contemporary realities present new complexities that cannot be fully addressed by the classical normative-textual approach. Therefore, transformative *fiqh* has become a theoretical framework that guides *ijtihad* to be more responsive, contextual, and solution-oriented towards modern problems. Transformative *fiqh* is based on the idea that Islamic law is not merely a legal-formal rule, but an instrument of social change that brings benefits. In this view, *fiqh* does not stop at the text, but must be transformed into social praxis that is able to respond to the needs of the *ummah* in various fields, ranging from health, economics, politics, to ecology. Thus, transformative *fiqh* rejects the stagnant paradigm

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[16] Khudzaifah Dimyati & Kelik Wardiono, *Metode Penelitian Hukum* (Surakarta: Fakultas Hukum UMS, 2004).

[17] Abdul Wahid & Muhammad Irfan, *Penelitian Hukum Normatif Dan Empiris* (Bandung: Pustaka Setia, 2012).

that freezes the sharia in a narrow interpretation, and instead affirms the flexibility of Islamic law in responding to contemporary realities.[18]

The normative basis of transformative *fiqh* is rooted in *maqashid syari'ah* with objectives oriented towards the protection of religion, life, reason, lineage, and property, interpreted dynamically in accordance with the context of the times. In contemporary reality, these *maqashid* have evolved towards broader meanings, such as environmental protection, human rights, gender justice, and technological ethics.[19] With the *maqasid* approach, transformative *fiqh* has epistemological legitimacy to answer new problems not found in classical literature. Methodologically, transformative *fiqh* emphasizes the importance of integrating text and context. This means that the texts of the Qur'an and hadith remain the main references, but their interpretation must take into account developments in science, social conditions, and global challenges. This integration gives rise to contemporary *ijtihad* that is multidisciplinary in nature, involving medicine, sociology, anthropology, economics, and environmental science. In this way, transformative *fiqh* does not get caught up in legal formalism, but rather opens itself up to modern knowledge.[20]

The demands of contemporary reality make transformative *fiqh* not only reactive, but also proactive. It does not wait for problems to arise before providing answers, but rather seeks to read the direction of the times in order to provide guidance from an early stage.[21] For example, issues such as artificial intelligence (AI) in medical practice or genetic engineering in biotechnology require visionary Islamic ethical guidance. With a transformative approach, *fiqh* is not merely reactive, but also anticipatory of the major changes to come. Transformative *fiqh* also presupposes a reconstruction of the methodology of usul fiqh. The classical usul tradition emphasizes *qiyas, ijma'*, and *istihsan* within the framework of medieval law. In the contemporary context, this reconstruction must involve *maqashid* as a

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[18] See Ahmad Muhtadi Anshor, "Fiqih and Progressive Law: Study of Inequality and Racial Issues in America," *Al-Daulah: Jurnal Hukum Dan Perundangan Islam* 11, no. 1 (2021).

[19] Emilia Justyna Powell, "Islamic Law States and the International Court of Justice," *Journal of Peace Research* 50, no. 2 (2013), https://doi.org/10.1177/002234331247027.

[20] Zaid M Eyadat, "Fiqh Al-Aqalliyyât and the Arab Spring: Modern Islamic Theorizing," *Philosophy & Social Criticism* 39, no. 8 (2013).

[21] See Iffatin Nur, *Ushūl Fiqih Iftirādhi: Membincang Diskursus Postgenderisme Dan Posthumanisme* (Tulungagung: SATU Press, 2022).

broad framework, as well as a socio-cultural approach to weighing *maslahat* and *mafsadat*. Thus, Islamic law can move from a normative orientation towards a social praxis that promotes prosperity.

One important aspect of transformative *fiqh* is its orientation towards social justice. Today's global reality is marked by economic inequality, marginalization of vulnerable groups, and humanitarian crises. Fiqh must not ignore these facts. The principle of justice *('adl)* in Islam must be translated into concrete policies, such as fair economic distribution, protection of migrant workers' rights, and women's empowerment. Transformative *fiqh* thus serves as an instrument of emancipation that frees people from structural injustice. In the context of health technology, transformative *fiqh* offers an ethical perspective that maintains a balance between benefits and risks.[22] Reality shows that technology brings convenience, but also the risk of dehumanization and commercialization of health. Transformative *fiqh* guides the use of technology to remain oriented towards human welfare and not violate Islamic moral principles. This is proof that transformative *fiqh* is capable of being present even in the most cutting-edge fields.[23]

The dialectic between reality and idealism is a key feature of transformative *fiqh*. The reality faced by Muslims does not always correspond to the normative idealism of sharia. Transformative *fiqh* does not turn a blind eye to reality, but neither does it ignore idealism. It acts as a mediator that seeks common ground through a *maslahat* approach. In this way, Islamic law does not lose its normative authority, while remaining relevant to modern society.[24] Transformative *fiqh* also requires the intellectual courage of scholars and academics to engage in contextual *ijtihad*. *Ijtihad* should not be confined to classical literature without considering the challenges of the times. Contemporary realities demand the emergence of

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[22] Deri Wanto, Rahmad Hidayat, & R. Repelita, "Maqasid Shariah's Change as Theory: From Classical to Cotemporary Maqasid Shariah," *Al Istinbath : Jurnal Hukum Islam* 6, no. 2 (2021).

[23] Adewunmi Akingbola, Oluwatimilehin Adeleke, Ayotomiwa Idris, Olajumoke Adewole, & Abiodun Adegbesan, "Artificial Intelligence and the Dehumanization of Patient Care," *Journal of Medicine, Surgery, and Public Health* 3 (2024), https://doi.org/10.1016/j.glmedi.2024.100138.

[24] See Muhammad Ngizzul Muttaqin & Iffatin Nur, "Fiqih Jalan Tengah (Mempertemukan Maqashid Syari'ah, Hukum, Dan Realitas Sosial)."

new fatwas based on *maqashid*, not merely repeating old opinions. This courage is very important so that Islamic law does not lag behind in facing modern problems.[25]

Within the epistemological framework, transformative *fiqh* rejects the dichotomy between tradition and modernity. It views classical texts and modern science as capable of being combined to develop legal solutions.[26] Thus, transformative *fiqh* is not a form of Westernization of Islamic law, but rather an effort to Islamize science by introducing Sharia values into the realm of modern technology and science. Contemporary realities also include environmental issues. Climate change, pollution, and the energy crisis are major challenges facing humanity. Transformative *fiqh* develops an Islamic ecological ethic oriented towards *hifdz al-bi'ah* (preserving the environment).[27] By adding this dimension, transformative *fiqh* expands the *maqashid sharia* to remain relevant to the challenges of the 21st century.

Transformative *fiqh* does not only speak at the theoretical level, but also at the institutional level. Fatwa institutions, religious courts, and Islamic educational institutions must dare to adopt a transformative paradigm. This is important so that Islamic law does not only become an academic discourse, but truly becomes a down-to-earth guideline for life in society. The application of transformative *fiqh* also requires an alignment with vulnerable groups. For example, in health issues, poor communities often do not have access to adequate services. Transformative *fiqh* must align itself by promoting health service policies based on justice. Thus, Islamic law is not only for the strong, but especially to protect the weak.[28]

Contemporary reality also shows an increase in global interaction. Migration flows, international trade, and cultural exchanges require Islamic law to be cosmopolitan. Transformative *fiqh* comes with the spirit of Islamic universality that is capable of dialoguing with various legal systems in the

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[25] Ezieddin Elmahjub, "Transformative Vision of Islamic Jurisprudence and the Pursuit of Common Ground for the Social Good in Pluralist Societies," *Asian Journal of Comparative Law* 14, no. 2 (2019): 318.

[26] Yusuf al-Qaradhawi, *Madkhal Li-Dirasah Al-Syari'ah Al-Islamiyyah* (Al-Qahirah: Maktabah Wahbah, 2000).

[27] Subhan Abdullah Acim & Suharti Suharti, "The Concept of Fiqh Al-Bī'ah in the Qur'an: A Study of the Quranic Verses on Environment in the Ulamas' Views of Lombok," *Ulumuna: Jurnal Studi Keislaman* 27, no. 1 (2023).

[28] See Anjar Nugroho, "Fikih Kiri: Revitalisasi Ushul Fiqh Untuk Revolusi Sosial."

world. The principles of justice, benefit, and universal humanity become a bridge to bring inclusive Islamic law to the global stage. In the political sphere, transformative *fiqh* also plays an important role. The realities of modern politics, with democracy, human rights, and pluralism, require compatible Islamic legal guidance. Islamic ideals of justice, deliberation (*shura*), and respect for human rights can be bridged through transformative *fiqh*. Thus, Islamic law is not considered rigid, but can coexist with modern democratic values.[29]

From the perspective of Islamic legal research methodology, transformative *fiqh* also inspires a multidisciplinary approach. The study of Islamic law is not sufficient with a normative-doctrinal approach, but must be complemented with empirical, sociological, and even technological approaches.[30] In this way, transformative *fiqh* is not merely confined to the realm of abstraction, but serves as an applicable guide in resolving real-world issues. Ultimately, transformative *fiqh*, as a demand of contemporary reality, affirms that Islamic law is always alive and dynamic. It does not stop at the texts of the past, but continues to evolve with the times.[31] With the foundation of *maqashid syari'ah*, transformative *fiqh* is able to maintain a balance between reality and idealism. This is what makes transformative *fiqh* an important paradigm for responding to the challenges facing Muslims in the modern era, while maintaining the relevance of Islamic law as a blessing for the universe.

Health Technology Based on Artificial Intelligence

Health technology is an integral part of the evolution of modern medicine. From the invention of the stethoscope and X-ray machine to magnetic resonance imaging (MRI) equipment, technology has revolutionized the way humans understand the body and disease. Recent developments have ushered in a new era with the introduction of Artificial Intelligence (AI) in medical practice. AI enables the analysis of large amounts

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[29] See Fauzi, *Hak Asasi Manusia Dalam Fikih Kontemporer* (Depok: PRENADAMEDIA GROUP, 2018).

[30] Iffatin Nur & Muhammad Ngizzul Muttaqin, "Reformulating The Concept of Maṣlaḥah: From A Textual Confinement Towards A Logic Determination," *Justicia Islamica Jurnal Kajian Hukum Dan Sosial* 17, no. 1 (2020).

[31] Jamal Ma'mur, "Building The Transformative Islamic Civilization: Research on Gait of KH. M.A. Sahal Mahfudh," *ADDIN: Media Dialektika Ilmu Islam* 11, no. 1 (2017).

of health data, provides faster diagnoses, and supports clinical decision-making that previously relied solely on the intuition and experience of doctors. Conceptually, AI in the medical field refers to the use of computer algorithms and machine learning to mimic human cognitive functions, such as recognizing patterns, analyzing data, and making predictions. This technology works by processing diverse health data, including electronic medical records, laboratory results, radiological images, and genetic information. With these capabilities, AI offers great potential for improving the quality of healthcare services and accelerating the treatment process.[32]

In medical practice, the role of AI can be categorized into several main areas. First, AI is used for disease diagnosis, particularly through the analysis of medical images such as CT scans, MRIs, and X-rays. AI algorithms are capable of detecting abnormalities with high accuracy, even in the early stages of disease. Second, AI is used in drug development through molecular modeling and trial simulations. Third, AI assists in patient care through real-time monitoring systems that can detect danger signs faster than humans. The superiority of AI in medical diagnosis has been proven in several studies showing that deep learning algorithms can identify skin cancer or lung disease with accuracy levels equivalent to, or even higher than, those of medical specialists. This shows that technology can play a role as a partner in improving the quality of diagnosis. However, it is important to note that AI is not intended to replace doctors, but rather to complement human capacity in dealing with the complexity of health data.[33]

In addition to diagnosis, AI is also rapidly developing in the field of personalized medicine. This technology enables patient care to be tailored to each individual based on their genetic profile, lifestyle, and unique medical conditions. By utilizing big data and predictive algorithms, doctors can design more targeted therapies. AI-based personalized medicine has the potential to reduce medical errors and improve the effectiveness of treatment. In the field of pharmacy, AI helps accelerate the discovery of new drugs. The drug research process, which usually takes years, can be

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[32] Raj Sinha, "The Role and Impact of New Technologies on Healthcare Systems," *Discover Health Systems* 3, no. 96 (2024).

[33] Emre Sezgin, "Artificial Intelligence in Healthcare: Complementing, Not Replacing, Doctors and Healthcare Providers," *Digital Health*, 2023, https://doi.org/10.1177/20552076231186520.

shortened through computer modeling and simulation. AI algorithms are able to predict molecular interactions, drug effectiveness, and potential side effects before clinical trials are conducted on humans. This innovation has major implications for the treatment of complex diseases such as cancer, Alzheimer's, or rare diseases that are difficult to treat with conventhinal methods.[34]

The application of AI in medical practice can also be seen in surgical robotics. AI-equipped robotic systems enable surgical procedures to be performed with high precision, lower risk of bleeding, and faster recovery times. This technology is already being used in various leading hospitals for heart, nerve, and orthopedic surgeries. However, surgical robots are still controlled by doctors as the main decision makers. Another benefit of AI is in healthcare system management. With large and complex data, AI helps hospitals manage resources, predict patient needs, and improve service efficiency. Examples include the use of AI in patient queue management, medical personnel distribution, and drug provision. In this way, technology plays a role not only in clinical aspects, but also in administrative ones.

Despite its many benefits, the use of AI in medical practice also raises a number of ethical challenges. First, the issue of accountability who is responsible if AI makes a misdiagnosis? Second, the issue of data privacy patient medical records processed by algorithms must be kept confidential. Third, the potential dehumanization of healthcare services, when the empathetic relationship between doctor and patient is replaced by interaction with machines. From a regulatory perspective, the use of AI in healthcare requires clear legal standards. In many countries, regulations regarding legal responsibility in the use of medical AI are still vague. This creates a dilemma for medical practitioners to what extent can they rely on technology without worrying about the legal implications? Therefore, regulations based on ethical and fairness principles are urgently needed.

Another issue that is no less important is the potential for algorithmic bias. AI learns from the data it is given, so if that data is not representative or contains bias, the results will also be biased. In a medical context,

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[34] Olga Vl Bitkina, Jaehyun Park, & Hyun K. Kim, "Application of Artificial Intelligence in Medical Technologies: A Systematic Review of Main Trends," *Digital Health*, 2023, https://doi.org/10.1177/2055207623118933.

algorithmic bias can lead to discrimination against certain groups, such as ethnic minorities or poor patients. Therefore, AI development needs to ensure inclusivity and fairness in its design and application. AI technology also presents challenges in terms of the doctor-patient relationship. The existence of machines capable of providing medical recommendations can reduce the authority of doctors in the eyes of patients. However, doctors still have a major role as the final decision makers, because aspects of humanity, empathy, and moral responsibility cannot be replaced by algorithms. Thus, AI should be viewed as a tool, not a substitute for the medical profession.[35]

In the context of developing countries, including Indonesia, the application of AI in healthcare still faces obstacles in terms of infrastructure, costs, and human resource readiness. This reality highlights the gap between technological potential and implementation capabilities. If not managed properly, the presence of AI could actually widen the gap in healthcare services between developed and underdeveloped regions. However, the opportunities for AI to expand access to healthcare services remain wide open. AI-based healthcare applications can be used in remote areas to provide initial diagnoses or remote consultations (telemedicine). Thus, technology has the potential to reduce disparities in access to healthcare services and support more equitable public health programs.

AI also plays an important role in dealing with global pandemics. During the COVID-19 pandemic, AI was used to predict the spread of the virus, analyze patient data, and accelerate vaccine development. This shows that technology has a real contribution to overcoming international health crises. The use of AI in medical practice is also closely related to the concept of evidence-based medicine. With extensive and accurate data analysis, AI can strengthen medical decision-making based on empirical evidence. This improves the quality of healthcare services and minimizes subjectivity in clinical practice. However, human involvement is still needed to interpret data within an ethical and contextual framework.[36]

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[35] Junaid Bajwa, Usman Munir, Aditya Nori, & Bryan Williams, "Artificial Intelligence in Healthcare: Transforming the Practice of Medicine," *Future Healthcare Journal* 8, no. 2 (2021), https://doi.org/10.7861/fhj.2021-0095.

[36] Abdullah Alanazi, "Using Machine Learning for Healthcare Challenges and Opportunities," *Informatics in Medicine Unlocked* 30 (2022), https://doi.org/10.1016/j.imu.2022.100924.

Theoretically, the development of AI-based health technology also raises philosophical debates about the nature of humanity. If algorithms can make highly accurate medical decisions, what is the position of humans as moral subjects in medical practice? This question touches on the realm of ethics and philosophy, which affirms that even though AI is very sophisticated, it still does not have consciousness, conscience, and moral responsibility like humans. In an academic framework, the study of AI in medical practice is multidisciplinary. In addition to medicine, contributions are needed from the fields of information technology, law, ethics, and even religious studies. It is this multidisciplinary collaboration that will ensure that AI can be utilized optimally without sacrificing humanity and morality.

Globally, the World Health Organization (WHO) has emphasized the importance of ethical principles in the development of medical AI. These principles include transparency, accountability, inclusivity, and patient data protection. With these principles, the technology is expected to not only be a technical innovation, but also bring social justice to healthcare services. Thus, the theory of health technology and artificial intelligence in medical practice shows great potential as well as serious challenges. AI can improve diagnosis, personalize therapy, enhance healthcare system efficiency, and facilitate the discovery of new drugs. However, it also raises complex ethical, legal, and social issues. Therefore, an integrative approach that encompasses technical, ethical, legal, and spiritual aspects is essential to ensure that AI-based healthcare technology truly becomes an instrument for improving the quality of human life, rather than the opposite.[37]

Transformative *Fiqh* and Artificial Intelligence in Islamic Medical Ethics

The rapid development of health technology, especially with the advent of Artificial Intelligence (AI), requires an ethical framework that can guide the use of this technology in accordance with human values.[38] In the context of Islam, transformative *fiqh* can be used as the main foundation for analyzing and formulating the ethics of AI use in the medical world.

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[37] Dominik Zurek, Roberto Corizzo, & Lukasz Koltowski, "Innovative Artificial Intelligence for Practice Management in Medical Healthcare," *European Heart Journal* 46, no. 32 (2025), https://doi.org/10.1093/eurheartj/ehaf329.

[38] B. Popova, "Islamic Philosophy and Artificial Intelligence," *Zygon: Journal of Religion and Science* 55, no. 4 (2020): 977–995, https://doi.org/10.1111/zygo.12651.

Transformative *fiqh* emphasizes that Islamic law does not stop at the text, but must be transformed into contemporary realities that are full of dynamics, including developments in health technology. AI in medical practice can provide high efficiency and accuracy. Through algorithms designed with big data, AI can detect symptoms of disease faster than human diagnosis. However, the presence of AI also raises ethical issues, such as responsibility in the event of misdiagnosis or potential algorithmic discrimination. This is where the role of transformative *fiqh* is needed to assess the extent to which AI can be used, as well as how Islamic moral boundaries must be upheld.

In theory, transformative *fiqh* relies on *maqashid syari'ah* as the main instrument in understanding Islamic law. The five main objectives of sharia—preserving religion, life, intellect, lineage, and property—must be the standard in assessing the ethics of medical AI use. AI is permissible as long as it supports the preservation of life (*ḥifẓ al-nafs*) and reason (*ḥifẓ al-'aql*), and does not violate other dimensions. Thus, the maqashid approach provides both legitimacy and a moral filter for technology. In the analysis, it is important to emphasize that transformative *fiqh* does not reject modernity. On the contrary, it exists to ensure that modernity is in line with Islamic values. In the medical world, AI is only a tool. Humans, as khalīfah fī al-arḍ, remain in control, so that all forms of AI use must be placed within the framework of ethical and sharia responsibility.[39]

One crucial issue is the question of legal responsibility when medical errors occur due to the use of AI. Transformative *fiqh* affirms the principle of *mas'uliyyah* (responsibility) that technology is only a means (*wasīlah*). The subject using the technology still bears full responsibility. This means that doctors cannot absolve themselves on the grounds that the error occurred because of AI. This is in line with the principle of *amanah* in Islam, where every human action will be held accountable. Islamic medical ethics analysis through transformative *fiqh* also considers the aspects of *maslahah* (benefit) and *madharat* (harm). AI brings many benefits, such as speeding up diagnosis, reducing human error, and increasing the effectiveness of medical services. However, harm cannot be ignored, such as the risk of patient data

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[39] Abdurrohman Kasdi, "Actualizations Of Maqasid Al-Shariah In Modern Life: Maqasid Al-Shariah Theory As A Method Of The Development Of Islamic Laws And Shariah Economics," *Justicia Islamica: Jurnal Kajian Hukum Dan Sosial* 16, no. 2 (2019).

leaks, algorithm manipulation, and the dehumanization of the doctor-patient relationship. Transformative *fiqh* demands balance so that the benefits of AI do not turn into harm.[40]

From a *fiqh* perspective, the principles of *sadd al-zarā'i* (closing the door to harm) and *fath al-zarā'i* (opening the door to benefit) are highly relevant to apply.[41] For example, if AI can open up great opportunities to save patients' lives through more precise robotic surgery, then it needs to be optimized. However, if the use of AI risks eliminating the empathetic interaction between doctors and patients, then transformative *fiqh* demands restrictions so that human values are not lost. The discussion must also cover the issue of fairness in access to technology. AI in medicine is usually available in large hospitals or developed countries. If this is allowed to continue, it will lead to health inequalities between rich and poor groups. Islamic medical ethics teaches the principle of *al-'adl* (justice), so transformative *fiqh* encourages this technology not to be an exclusive right, but to be widely accessible for the common good.[42]

In another context, patient data privacy is an important issue where AI works with big data, and health data is classified as highly sensitive information. In Islamic ethics, maintaining patient confidentiality is a moral and legal obligation. Transformative *fiqh* asserts that the leakage of patient data is a violation of *maqashid syari'ah*, particularly the protection of human life, intellect, and honor.[43] Therefore, AI systems need to be equipped with sharia regulations that protect patient confidentiality. In addition, the concept of *ikhtiyār* (free choice) is an important foundation in transformative *fiqh*. Patients must have the freedom to consent to or refuse the use of AI in their medical care. This right is in line with the principle of *ridā* (consent) in muamalah. Islamic medical ethics do not condone coercion, so the use of AI without the patient's informed consent is an ethical violation.

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[40] Rüdiger Lohlker, "Fiqh Reconsidered: Indigenization and Universalization of Islamic Law in Indonesia," *Interdisciplinary Journal for Religion and Transformation in Contemporary Society*, 2021, https://doi.org/10.30965/23642807-bja10011.

[41] Muhammad Ngizzul Muttaqin & Iffatin Nur, "Menelusuri Jejak Maqashid Syari'ah Dalam Istimbath Hukum Imam Hambali," *Ahkam: Jurnal Hukum Islam* 7, no. 1 (2019).

[42] Abdul Wahid & Muhammad Irfan, *Penelitian Hukum Normatif Dan Empiris*.

[43] See Mashood A. Baderin, "Islam and the Realization of Human Rights in the Muslim World: A Reflection on Two Essential Approaches and Two Divergent Perspectives," *Muslim World Journal of Human Rights* 4, no. 1 (2007): 10–11.

Transformative *fiqh* also emphasizes the importance of maintaining the doctor-patient relationship as a trust. This relationship is not only technical, but also moral. If AI becomes too dominant, there is concern that doctors' empathy will diminish. In Islam, healthcare must reflect compassion (*raḥmah*) and care. Therefore, AI should not replace the doctor's role as a humanitarian figure who brings moral values. The principle of emergency (*al-ḍarūrāt tubīḥ al-maḥẓūrāt*) can also be the basis for the use of AI. For example, in emergency situations where human doctors are limited or unable to treat patients, AI can be used to save lives. However, the principle of emergency should not be used as a general justification. Transformative *fiqh* emphasizes that every use must be proportional and not exceed what is necessary.[44]

Transformative *fiqh* analysis also touches on the issue of legal ownership (*milk*) of AI technology. Algorithms, software, and data used by AI must have certainty of ownership so as not to cause *gharar* (uncertainty) and disputes. In this regard, intellectual property rights must also be viewed from an Islamic ethical perspective, so that ownership does not lead to monopoly or exploitation. Furthermore, the issue of fatwa authority is also important. The development of AI in medicine must be responded to with collective *ijtihad* involving scholars, technology experts, and medical personnel. This is in line with the spirit of transformative *fiqh*, which emphasizes multidisciplinary collaboration. The fatwa that is issued must not only be normative, but also applicable to contemporary medical challenges.[45]

As an analytical effort, AI should not diminish respect for human dignity. Islam places humans as noble beings (*ashraf al-makhlūqāt*). Therefore, the use of AI must strengthen human dignity, not demean it to mere objects of technological experimentation. In other words, AI is a means, while humans remain the main goal. Transformative *fiqh* also opens up space for the development of technology that is in line with Islamic values. Muslims are not only passive users, but also participate in developing medical AI that

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[44] See Musfir Bin 'Ali bin Muhammad al-Qathani, *Manhaj Al-Istinbath Al-Ahkam Al-Nawazil Al-Fiqhiyah Al-Mu'ashirah Dirasah Ta'shiliyat Tathbiqiyat* (Jeddah: Dar al-Andalus al-Khadhra'Li al-Nasr wa al-Tawzi', 2003).

[45] See Nadirsyah Hosen, *Collective Ijtihad Oh Health Issues in Indonesia* (Research Handbook on Islamic Law and Society: Edward Elgae Publishing, 2018).

is in accordance with sharia ethics. This is important so that Muslims do not simply submit to systems built on secular paradigms, but are able to offer ethical alternatives based on *maqashid*.[46]

In a global context, the presence of AI in medicine reflects a shift in authority from humans to machines. Transformative *fiqh* serves as a reminder that true authority remains with humans who bear divine trust.[47] Machines are merely human creations that should not be given moral authority. The principle of tawhid in Islam affirms that all authority must ultimately reside with Allah, not with technology. Islamic medical ethics based on transformative *fiqh* can also contribute to the global conversation on AI ethics. The world is currently searching for new moral standards in the face of technological revolution. Islam, through *maqashid syari'ah*, can offer universal values such as justice, responsibility, benefit, and protection of human dignity.

Thus, transformative *fiqh* analysis of AI in Islamic medical ethics provides a balanced foundation between acceptance and supervision. AI must be accepted as a necessity of the times, but it should not be used freely without ethical restrictions.[48] This balance can only be achieved through transformative *ijtihad* that connects text with context, idealism with reality. In conclusion, the theory and analysis of transformative *fiqh* on the use of AI in medical practice prove that Islam has the flexibility to respond to the challenges of modernity. Transformative *fiqh* does not merely permit or prohibit, but presents a comprehensive ethical framework that maintains responsibility, ensures justice, protects privacy, respects human dignity, and upholds *maqashid syari'ah*. Thus, AI can develop as an instrument that supports medical services without abandoning the noble values of Islam.

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[46] Nayera Mohamed Hamed Ibrahim, "Artificial Intelligence (AI) and Saudi Arabia's Governance," *Journal of Developing Societies* 40, no. 4 (2024), https://doi.org/10.1177/0169796X241288.

[47] Iffatin Nur, "Stem Cell Therapy: Its Legality In The Perspectives Of Indonesian Law And Progressive Islamic Jurisprudence," *International Journal of Advanced Research* 8, no. 2 (2020).

[48] See M.A Âfzali, "Human Dignity and Euthanasia in Islamic Ethics," *Journal of Mazandaran University of Medical Sciences* 20, no. 78 (2010).

CONCLUSION

The presence of Artificial Intelligence (AI) in medical practice is an inevitability that brings both opportunities and challenges. On the positive side, AI can speed up diagnosis, improve treatment accuracy, and provide efficient healthcare services. However, AI also raises ethical issues such as legal responsibility, patient data confidentiality, fairness of access to technology, and the risk of dehumanizing the doctor-patient relationship. Transformative *fiqh* plays an important role by connecting the idealism of Islamic teachings and the reality of technological developments. Transformative *fiqh*, through the framework of *maqashid syari'ah*, emphasizes that the use of AI in the medical world is only valid insofar as it supports the protection of life, reason, property, lineage, and religion. Islamic medical ethics demand that AI remain a means, not a substitute for human values. With this transformative approach, Islamic law is not only relevant to contemporary challenges but also capable of providing moral and spiritual direction for the development of health technology.

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