

The legal framework for the use of artificial intelligence in premarital medical examinations

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Abstract:

Recent developments in artificial intelligence have significantly influenced medical practice by enhancing diagnostic accuracy and speeding up health data analysis. One of the key areas benefiting from these technologies is pre-marital medical screening, which plays an important role in the early detection of genetic and infectious diseases. This contributes to limiting disease transmission between spouses and to future generations, while supporting individual well-being as well as family and societal stability. Pre-marital medical examinations are primarily intended to protect offspring from hereditary and communicable diseases and to provide engaged couples with informed options for establishing a healthy family. Although such examinations were not considered necessary in the past, they have gained increasing importance in modern societies. Contemporary scholars generally agree on their legitimacy, though differences remain regarding whether these examinations should be optional or mandatory.

Keywords: artificial intelligence; medical examination; marriage; family.

1. INTRODUCTION

Rapid advances in artificial intelligence have brought about a radical transformation in traditional medical practices, improving diagnostic accuracy, speeding up the analysis of health data, and significantly raising the quality of preventive care.

Pre-marital medical examinations are one of the areas where the preventive benefits of modern technologies are most evident. These types of examinations contribute significantly to the early detection of genetic and infectious diseases, helping to reduce their transmission between spouses or to children, which benefits individual health and promotes the stability of both families and society.

A medical examination¹ is a special examination for those about to marry, through which certain infectious diseases are detected. It aims to protect future generations from genetic diseases, as well as protecting individuals from infectious diseases that are transmitted between spouses, and providing options for the bride and groom to help them build and form a healthy family.

The issue of premarital medical examinations is one of the emerging issues that has come to the fore with the great scientific advances in the fields of medicine and genetics. Therefore, we do not find any explicit opinion on this matter among the early scholars, as there was no need for such examinations at that time, given the Islamic society's characteristic of honesty and integrity in reporting and disclosing defects. However, contemporary scholars have agreed on the legality of premarital medical examinations, although they differ on the issue of making them mandatory.

A group of scholars have argued that medical examinations are necessary and that there is no legal objection to the ruler issuing a law requiring people to undergo them in the public interest. Among those who support this view is Dr. Mohamed El-Zouhaili, who believes that laboratory tests and medical examinations before marriage are not objectionable in Islamic law, even in countries where they are not required, and that there is no harm in practising them. In fact, they become obligatory if the ruler orders them for the public interest. Dr Hamadati also believes that medical examinations should be carried out before marriage to ensure that the couple are free from chronic and hereditary diseases.

On the other hand, another group of scholars believe that it is not permissible to compel people to undergo medical examinations before marriage, and they call for leaving the matter to the choice of those who are about to marry, while encouraging them and spreading awareness of the importance of such examinations by various means. Among the

¹ Medical examination refers to the provision of compulsory or optional medical consultations to prospective spouses, based on laboratory and clinical tests conducted before the marriage contract is concluded. Safwan Mohamed Adib, *Medical Examination Before Marriage*, Master's Degree in Islamic Jurisprudence, Jordan, p. 56.

most prominent of those who hold this opinion are Cheikh Abdel Aziz ben Baz and Cheikh Youcef El-Quaradawi.¹

Referring to the statements of scholars and experts, it appears that the prevailing opinion – in my view – is that pre-marital medical examinations are necessary, as they protect individuals and society. This is the approach taken by the Algerian legislature² in both the Family Code³ and the Health Code⁴.

The importance of this study is highlighted by the fact that the application of artificial intelligence in pre-marital medical examinations represents a qualitative shift in preventive health policy, as it allows for the processing of a huge amount of medical data with high accuracy, it helps predict potential diseases and health risks, which facilitates more objective and effective medical decisions. The study also has legal and ethical implications, given the issues raised by this application regarding the confidentiality of health data, privacy protection, and others.

The study aims to highlight the controls on the use of artificial intelligence in premarital medical examinations, its role in developing examination methods, and the extent to which it contributes to achieving the desired preventive and health objectives that have a positive impact on the family.

Based on the above, the following question can be posed: To what extent does the application of artificial intelligence contribute to the development of the effectiveness of premarital medical examinations?

To answer this question, a descriptive analytical approach was adopted by clarifying the regulations governing the use of artificial intelligence in premarital medical examinations and stating the limits of its application.

2. Legal regulation of the use of artificial intelligence in premarital medical examinations

The rapid development of artificial intelligence technologies has led to a qualitative shift in the medical field, particularly with regard to health data analysis and predictive diagnosis. This transformation has extended to premarital medical examinations, which are

¹ Safwan Mohamed Adib, op. cit., pp. 98-99.

² Executive Decree No. 24-36 of 7 November 2024 on medical certificates, examinations and tests prior to marriage

³ Article 7 bis: "Applicants for marriage must submit a medical certificate, dated no more than three (3) months prior, certifying that they are free of any disease or factor that may constitute a risk to marriage. The notary or civil registrar must verify, before drawing up the marriage contract, that both parties have undergone medical examinations and are aware of any diseases or factors that may pose a risk to the marriage, and shall indicate this in the marriage contract. The conditions and procedures for the application of this article are specified by regulation: "The Family Code, amended and supplemented by Order No. 05-02 of 27 February 2005, published in the Official Journal No. 15, 2005.

⁴ Article 72: 'A pre-marital medical examination is mandatory...' Law No. 18-11, amended by Law No. 23-05 of 7 May 2023, published in the Official Journal No. 32, 2023.

one of the most important preventive mechanisms for protecting families and public health. However, the integration of artificial intelligence in this field raises a number of legal issues, which necessitates subjecting it to legal regulation that balances the requirements of medical efficiency with the protection of individuals' fundamental rights.

2.1 the legality of using artificial intelligence in premarital medical examinations

It must be firmly believed that there is no comparison between the ability of God Almighty to create the universe and its horizons, and the ability of humans to create modern technologies, including artificial intelligence. No matter how advanced humans become, they will never be able to create even the smallest creature, even if they all worked together. The technological advances achieved by humans are by the will of God and through the use of the tools He has created for them within themselves and around them.

Artificial intelligence is considered a permissible science in principle, and its use is permissible based on two jurisprudential rules: ¹

1-The first rule: The original status of things is permissibility ² until there is evidence of prohibition³. This is a great jurisprudential rule, meaning that objects, actions, benefits, customs, etc. are originally permissible to use unless there is evidence of their prohibition, such as if they cause harm.

2-The second rule: Benefits are to be sought wherever they are found, meaning that Islamic law is based on the ruling and interests of people in this life and the hereafter. Where a benefit is achieved in something for which there is no text indicating permissibility or prohibition, Allah, the Almighty, has made it lawful to worship through action⁴.

Based on these rules, artificial intelligence is considered a permissible science and may be used within the limits of Islamic law. Indeed, the use of artificial intelligence may even become a religious duty if it brings great benefit to humanity. This is done by experts evaluating the benefits and harms, so that human benefits are maximised and harms are minimised. This is achieved within the framework of regulations and recommendations that govern the use of artificial intelligence as a permissible and legitimate means. Everything that leads to permissible benefit is required by Islamic law, and everything that leads to harm is prohibited. The provisions of Islamic law in this context seek to achieve the common good for people in this world and the hereafter, as the objectives of Islamic law focus on preserving religion, life, mind, offspring and wealth.

¹ Khalid El-Djassim El-Houli, The Use of Artificial Intelligence in Photography and Its Rulings in Islamic Jurisprudence: A Fundamental Study, Kuwait International Law School Journal, Issue 1, December 2024, pp. 100-102.

² El-Toufi El-Sarsari, Charh Moukhtasar El-Rawdha, vol. 1, 1st edition, El-Risala Foundation, 1987, p. 400.

³ Fathi Bachir El-Bouka'i, Ruling on the Use of Multiple Artificial Intelligence Applications, Arab Journal of Social and Human Sciences, Issue 27, October 2024, pp. 23-24.

⁴ Khaled El-Djassim El-Houli, op. cit., pp. 100-102.

It cannot be said that artificial intelligence is prohibited based solely on preventing corruption, because this approach may lead to the loss of significant interests related to the foundations of Charia.

Therefore, the prevailing opinion is that the use of artificial intelligence is permissible, provided that its controls and conditions are adhered to, which achieve benefit and prevent harm.¹

This was confirmed by the International Islamic Fiqh Academy in its decision: Considering that artificial intelligence is a modern technology based on programmes and machines that mimic human intelligence and achieve many benefits, but are not without harm, the principle in the creation and use of artificial intelligence is permissibility, and the following conditions must be taken into account in its creation and use:

1. The intention behind its creation, use, financing, and funding must be legitimate.
2. It should bring benefits and prevent harm. It should not offend beliefs, religions, or religious symbols.
3. It should protect information, freedoms, and public and private rights.
4. It should not include anything that threatens individual, community, or national security.
5. It should be used with integrity, documentation, and transparency.²

In light of the above, the legal basis for the use of artificial intelligence in premarital medical examinations is based on the legitimate preventive objective of these examinations, which requires the early detection of genetic and infectious diseases.

However, this legitimacy depends on compliance with the legal provisions governing premarital medical examinations and must not exceed the limits of the appropriate application of artificial intelligence, ensuring that it does not develop into a mechanism for issuing automatic decisions that could affect the independence of marriage or the rights of individuals in the absence of qualified human oversight. It is important that artificial intelligence remains an aid to the doctor, not a substitute for him, as its role is limited to analysing health information and providing indicative results that the doctor can rely on in making his decisions.

2.2 Controls on the use of artificial intelligence in premarital medical examinations

When studying artificial intelligence, we see it as a technological, informational and intellectual revolution in various aspects of life, as it aims to understand the nature of human intelligence by creating computer programs capable of simulating human behaviour, which is characterised by understanding, perception and learning. This enables computer programs

¹ Mohamed Ahmed El-Djar Allah, The Sixteenth International Conference on Artificial Intelligence, Series of Publications, Vol. 1, Kuwait National Library, Kuwait, 2024, p. 135.

² Council of the Islamic Fiqh Academy, Resolution No. 25 (3/26) on Artificial Intelligence: Its Rulings, Controls, and Ethics, 20 November 2025, accessed on 21 December 2025, at 14:00, <https://iifa-aifi.org/ar>

to make accurate decisions because they can develop methods to achieve them by referring to stored knowledge bases.

Thus, they are electronic processes that operate according to specific control mechanisms based on available data. Artificial intelligence applications have contributed to significant savings in time and effort in family matters, including premarital medical examinations.

Although the legislator has taken into account the need to keep pace with modern technological developments by allowing the use of modern means of communication in the implementation of certain procedures, the failure to adopt them could be detrimental to interests. this approach remains conditional on the need to regulate and control these procedures carefully, in order to prevent fraud, deception or the mixing of procedures. This necessity becomes even more apparent when considering family matters (marriage, divorce, etc.), given their highly sensitive and private nature. These matters cannot be dealt with using traditional electronic methods or by relying entirely on artificial intelligence technologies; rather, they require effective human intervention. as potential errors in this area could result in irreparable damage or compensation that cannot be fairly assessed, which could lead to the loss of rights that cannot be restored or replaced.¹

Therefore, based on the above, the use of artificial intelligence technologies in premarital medical examinations requires strict adherence to a set of controls and standards to ensure the accuracy of results, protect medical privacy, preserve the dignity of individuals, and achieve the desired health and social goals without compromising ethical or legal considerations:²

3. Safety and accuracy requirements for medical artificial intelligence systems

The legal framework governing the use of artificial intelligence technologies in premarital medical examinations requires the highest levels of security and accuracy in the approved systems, given the potentially serious consequences of their results, as any misdiagnosis or inaccurate prediction could lead to fateful decisions affecting the stability of family life.

Accordingly, those conducting these examinations are required to use artificial intelligence systems that are licensed, regulated and compliant with recognised medical standards. The use of untested or unapproved algorithms is considered a breach of due diligence, which opens the door to legal accountability in the event of harm.

¹ Bassam Nahar Nahar Al-Batoun, The Legal Framework for Artificial Intelligence Applications in Personal Status Matters, Their Controls and Their Validity, Journal of Legal Studies, Al-Zaytoonah University of Jordan, Special Issue, 2024, pp. 109-112.

² Mohamed Ahmed El-Djar Allah, op. cit., pp. 136-137.

Furthermore, the use of artificial intelligence in this field should only be permitted if its benefits outweigh its expected harms. Its use is not permissible if the harm outweighs the benefits, if the benefits and harms are equal, or if there is uncertainty in assessing its effects.

In addition, artificial intelligence centres must be subject to authorisation, licensing, monitoring and supervision by the state, ensuring that their activities are only carried out to achieve interests that are considered legitimate and reasonable, and that harm is only caused to the extent that it prevents greater harm.¹

3.1 Examples of artificial intelligence applications in premarital medical examinations

The use of artificial intelligence in the diagnosis of diseases and the analysis of medical data allows doctors and specialists to access accurate information about patients' conditions. Its role is highlighted by its ability to diagnose complex diseases by analysing vast amounts of information, which contributes to increasing the accuracy of diagnosing diseases such as cancerous tumours and neurological disorders compared to traditional methods.

It is also effective in analysing medical images such as X-rays and magnetic resonance imaging, which helps doctors to better understand the results and make informed treatment decisions.

Based on machine learning techniques, artificial intelligence can study patients' past records to predict the risk of future diseases, enabling early preventive measures to be taken, particularly in the field of premarital medical examinations. AI supports these examinations by predicting the likelihood of certain genetic diseases being passed on to children through analysis of health history and genetic data, where appropriate.

This application is an effective preventive tool that helps prospective spouses make informed decisions, without imposing any legal restrictions on freedom of marriage.

In addition, artificial intelligence helps to save time and effort by processing vast amounts of data with high speed and accuracy, reducing the time required to diagnose diseases and easing the burden on medical staff. It also provides recommendations based on reliable and comprehensive data, including the patient's medical history and current assessment, thereby supporting sound medical decision-making.

These advanced capabilities of artificial intelligence are a fundamental pillar in improving the quality of medical diagnosis and health data analysis, enhancing the efficiency of the healthcare experience, and adding significant development to the services provided to those preparing for marriage.

¹ Mohamed Ahmed El-Djarallah, op. cit., pp116-117.

Artificial intelligence systems rely on processing large amounts of health data related to genetic and infectious diseases and analysing laboratory test results in a precise, automated manner, allowing for the discovery of health patterns that may not be apparent through traditional means and contributing to the early detection of certain diseases that have a direct impact on reproductive health.

However, this role remains auxiliary in nature, as the results of artificial intelligence cannot be considered a definitive and binding diagnosis, but must be subject to evaluation by specialist doctors in order to maintain the legitimacy of the medical decision.¹

3.2 Limits on the application of artificial intelligence in premarital medical examinations

Despite the advantages offered by artificial intelligence, its application in premarital medical examinations remains subject to a number of legal and ethical restrictions, as the uncontrolled expansion of the use of these technologies may lead to the violation of the privacy of health data² or to the taking of automated decisions that affect the freedom of marriage and the dignity of individuals. The law therefore requires that supervision by specialist doctors be maintained.

One of the most prominent legal issues related to artificial intelligence in premarital medical examinations is the extent to which it is permissible to rely on medical decisions made by artificial intelligence. The law explicitly or implicitly emphasises the need for human involvement in the final decision-making process. Artificial intelligence is therefore seen as an aid rather than a substitute for the doctor, ensuring that medical responsibility is respected and preventing medical decisions from being delegated entirely to the machine.

The legal value of applying artificial intelligence in premarital medical examinations lies in the fact that it is a means.

supporting the preventive objective of the examination³, without rising to the level of

¹ Maher Abdellatif Rachid, *Artificial Intelligence in Healthcare*, 1st edition, Arab Centre, Kuwait, 2024, p. 16.
<https://www.codezone-eg.com/ar/blog/artificial-intelligence-in-healthcare> Date of access: 24-12-2025, time of access: 15:50.

² Souadi Djilali, Hemis Maamar, *The Legal Implications of Using AI in the Medical Field*, Algerian Journal of Law and Political Sciences, Volume 90, No. 1, University of Tissemsilt, 2024, p. 7.

³ Executive Decree No. 36-24 of 7/11/2024 on medical certificates, examinations and tests prior to marriage. This decree stipulates that every person seeking to marry must provide a medical certificate proving that they have undergone medical examinations, and obliging the notary or civil registrar not to draw up the marriage contract until

an independent source of medical or legal decision-making.

Accordingly, its role remains limited to providing indicative analytical results subject to medical and legal assessment, striking a balance between the requirements of technological development and the protection of individual rights.

In summary, the application of artificial intelligence in this field represents a positive development in the field of health prevention, but its legal effectiveness remains contingent on the existence of a regulatory legislative framework that defines the conditions for its use and ensures that it does not deviate from its legitimate purposes, while preserving the privacy and freedom of choice of individuals.

4- Conclusion

In conclusion, the use of artificial intelligence in premarital medical screening represents a qualitative shift in health prevention methods, given its advanced capabilities in analysing medical and genetic data with accuracy and speed that exceed traditional methods.

This technological advancement has proven effective in promoting early detection of genetic and infectious diseases and improving the quality of medical decisions, thereby contributing to improving the health of couples and ensuring the safety of future generations, while promoting family stability and reducing long-term health and social burdens.

Through analysis of the study topic, a number of conclusions were reached, the most important of which are:

1. Artificial intelligence is an effective tool for supporting premarital medical screening, as it contributes to improving diagnostic accuracy and reducing human error.
2. Relying on smart systems contributes to enhancing the preventive aspect of medical examinations through the ability to predict potential health risks before they occur.
3. The application of artificial intelligence in this field raises many issues, particularly with regard to the protection of personal health data, ensuring the confidentiality of

these certificates have been presented. The law also prohibits the notary or civil registrar from refusing to conclude the marriage contract for medical reasons against the will of the parties concerned. It is clear from the provisions of Algerian law governing medical certificates that their role is preventive, to protect spouses, children and society from diseases that prevent them from fulfilling their marital duties. Although their mandatory nature is stipulated in Article 7 bis, they are not a condition of the marriage contract. Assuming that the marriage took place without this certificate, it is not considered invalid but remains valid. However, if the patient deliberately conceals the disease and this is discovered after the marriage, the other party may request the dissolution of the marriage. Al-Arabi Belhaj, Provisions of Marriage and Their Effects in Algerian Family Law, Dar Houma, Algiers, 2013, p. 229.

results, and determining medical liability in the event of errors resulting from the use of intelligent systems.

4. The current legislative framework in many countries is still unable to keep pace with the rapid development of artificial intelligence applications in the medical field, particularly with regard to regulating its use in pre-marital medical examinations.

Based on these findings, the study concludes with a set of recommendations:

1. The need to establish a specific legal framework to regulate the use of artificial intelligence in the medical field, particularly in premarital medical examinations.
2. Clearly defining medical and legal liability when relying on artificial intelligence systems.
3. Training medical and legal staff to deal with artificial intelligence applications.

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