



Ethical Provisions and Controls of Applying AI in Health Care Practitioners

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ARTICLE INFO	ABSTRACT
Published Online: 10 August 2026	This research aims to study the emerging jurisprudence rulings related to the use of artificial intelligence in the health field, from several aspects, including A study of the ruling on the use of artificial intelligence in the health field, the benefits and harms, and the harms That may be caused to the patient, the health practitioner, and the companies that manufacture them, whether the damages are intentional or unintentional, and the study of legal effects. And the estimated and obligatory guarantees of their right when using artificial intelligence in treatment or rehabilitation, and the need to know the jurisprudential conditions and controls that must be adhered to when contracting, operating, and maintaining.
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INTRODUCTION

We are in an era of scientific specialization and rapid technical development in the manufacture of smart systems and the development of their uses, which requires the formulation of legal rulings for them , especially in the health field, due to its direct relationship to human life and health. Technology ethics organizations have made successive efforts to regulate the uses of artificial intelligence and establish ethical legislation related to it . It was imperative that we establish the legal foundations to clarify the appropriate controls and Islamic provisions for the use of healthy artificial intelligence,

Importance of research:

1. Specialists need to know the rulings related to this technology in the health field, and its legal implications.
2. The importance of the relationship between the uses of artificial intelligence and the objectives of Islamic legitimacy.
3. Lack of literature on the legal controls for the use of artificial intelligence in the health sector.
4. The modernity and development of artificial intelligence technology in health is continuous and rapid.
5. The need to consider the extent to which the law is compatible with Islamic legal controls.

Research objectives:

1. Providing researchers and technical experts with general legal controls that regulate the use of artificial intelligence in the health field.

2. Study the legal liability implications of its use for healthcare practitioners, hospitals, and AI manufacturers.

Study methodology and procedures:

The study is based on the descriptive approach to artificial intelligence applications in the health field, from a legal perspective after extrapolating scientific and legal information and facts about the uses of artificial intelligence in the health field.

Previous studies:

There are many studies on artificial intelligence, from various aspects: legal, social ,psychological, and advocacy. What I found similar to my study are two studies:

1. Ali, Zainab Masoud . 2021) *Liability Provisions Legality of Medical Robotic*. United Arab Emirates University, Master's Thesis.
2. Najat , Ahmed . (2020) *Criminal Liability for Artificial Intelligence Technology Errors* . Naif Arab University for Security Sciences . Master's Thesis.

Both focused on the legal aspect rather than the legitimacy and ethical issues.

The first topic : Definition of artificial intelligence

- Definition of artificial intelligence: It is a part of computer science that aims to design intelligent systems that give the same characteristics that we know as intelligence in human behavior (Al-Qadi, Ziad, 1433, p. 4). Artificial intelligence goes through several stages until it appears in the desired form, which are :manufacturing, system design, system

programming in the required specialization, system testing and documentation, and each of these steps has people assigned to carry it out) Imam, Amani , 09/13/2020 .(

- Definition of artificial intelligence in the health field: It is a general term that expresses the use of machine learning algorithms and programs to simulate human perception in collecting, analyzing, processing, and utilizing its outputs partially or completely according to the required health function, such as diagnosis and surgery) .Michael Luca, and others, 2, 2016 .(

The second topic: Uses of artificial intelligence in the health field and its applications

The functions of health artificial intelligence have varied according to its various uses, which can be classified into:

Two requirements:

First requirement: Health care:

There are two types of AI to be employed in healthcare.

The first type :It is a computer and electronic tools used by health sector workers to help them perform their tasks, such as diagnosing diseases, displaying the results of clinical research, types of bacteria, blood analysis, and X-ray images. (Moaz ,Muhammad, 10/27/2020.(

The second type: consists of smart applications and automated robots, and is considered an independent entity that works to a large extent like humans, except that it is not biological but electronic in nature, and these serve patients by distributing medicines and supporting those with special needs. (Moaz.(2020/27/10 ,

Its applications in health care include:

1. Personal assistance:
 - a. For the elderly, from several aspects:
 - Installing smart sensors in the home to protect the elderly .
 - Companionship :by talking to him and entertaining him in his solitude.
 - Remind him of treatments and give him recommendations, especially for those suffering from dementia.
 - Help with walking and sitting. (Moaz, Mohammed, 11/8/2020. (
- b. Helping the blind, by reading texts aloud, describing the scenes around them, and alerting them to danger, through large technology companies ,such as :IBM and Google ,using artificial intelligence algorithms (NHS using Google technology to treat patients, 22, 11, 2016) , such as the free “Artificial Intelligence to Help the Blind” application) Seeing AI), and Microsoft applications for cognitive services and machine learning (APIs ,(and it can be paired with another application from Microsoft called “ Soundscape ,”as this application enables individuals with blindness or low vision to be able to explore the

world around them by using a three-dimensional audio experience. (Microsoft) (2019/1/10 ,Artificial Intelligence, the Doctor of the Future, 10/8/2019.(

2. Its use in psychiatry, through:
 - Applications that use artificial intelligence to try to predict episodes of depression or potential self-harm .)Moaz, 2020.(
 - Efficiency in clinical interviews by digital people helps the patient to reveal his secrets without hesitation or shame (Moaz, 11/8/2020).
 - Chatbots ,such as Woebot , a smart assistant that improves people’s moods by showing empathy, providing an opportunity to talk about problems, and getting advice and counsel) Moaz, 8/11/2020.(
3. Diagnosis, tests and scientific experiments, including:
 - Using AI algorithms to analyze large amounts of data from electronic health records for research and disease prevention. Examples include: Mayo Clinic, Memorial Cancer Center, and the NHS . (Lee K, 4/1/2016)
 - Diagnosing brain tumors and predicting hematoma expansion. The system, called BioMind ,correctly diagnosed 87% of 225 brain tumor cases in just 15 minutes, while human doctors spent more than 10 hours completing the same task, achieving only 66% accuracy .The results obtained by the AI system were 20% more accurate than human results) AI, the doctor of the future.(
 - Predicting patients’ transfer to the intensive care unit, by guiding doctors to the point of starting treatment after referring to their records, and addressing patients’ conditions before they deteriorate) Artificial Intelligence, 8/3/2021.(
 - Employing artificial intelligence to reduce waiting time in emergency departments; while maintaining productivity, safety, quality and management of waiting times .For example, Universal Hospital in Abu Dhabi, UAE, introduced the first pharmacy operated by robots in the Middle East; with the aim of reducing waiting time to receive medication, reducing the possibility of human error and crowding (Salama, Safaat, et al., 2014, 196 , 45).

The second requirement : surgical operations:

It focuses on employing robots to perform surgery on patients.

Robotic surgical systems are divided into three categories, namely (Lanfranco, AR, and others, (2004), 239(1), 14-26) :

- 1) Controlled and supervised surgery systems.
- 2) Telesurgery systems.
- 3) Autonomous surgery systems.

Here are the details:

- 1) Controlled and guided systems: In this system, the surgeon directs the movements of the machine (

Lanfranco, AR, and others, (2004), 239(1), 14-26), as this system provides more facilities than the traditional one ,such as the smallness and accuracy of the surgical opening. This system monitors the surgeon’s performance and provides stability and support to the surgeon (Sulbha, S. (6/30/2020).

- 2) Remote control: such as using the Da Vinci robot : which is a robotic surgical system approved by the FDA .American since 2000 , designed to facilitate complex surgical operations . It is a computer-supported device that includes a camera and arms, and is controlled remotely by the doctor to perform operations. Surgical) RAO, Pradeep P. Robotic, 2018, 36.4: 537-541).

Contribute Da Vinci In reducing the number of workers in operating rooms , and working longer hours, it also reduces medical costs . For the patient in the long term ,)Richard, S., 5/1/2020 ,(and among the applications of this, the robot was used, at King Khalid University Hospital in the Kingdom of Saudi Arabia, to perform a rare surgical operation in pediatric surgery related to gastric banding via robot for a child suffering from extreme obesity, as well as a cholecystectomy, and heart surgery, and at King Faisal Specialist Hospital, a robotic operation was performed to remove two benign tumors from a woman’s liver (Salama, Sifat, 2006, p. 45).

- 3) Autonomous surgical robots: Surgeons must do extensive preparatory work with patients before the robot can operate, and the surgeon enters instructions into the robot in a way that leaves no room for error and deviation) (Shweta, G., 4/2/2021).

It should be noted that scientifically, the surgical robot will not take the role of the doctor; and the health practitioner will not be dispensed with as some claim. The health practitioner diagnoses by looking at the patient, listening to him, and analyzing his data, while the device analyzes the data, prescribes treatment, and implements instructions. Human communication with the patient is important) artificial intelligence is the doctor of the future.(

The third topic

Advantages and disadvantages rtificial intelligence, and the balance between them

It contains three requirement:

First requirement: advantages of artificial intelligence:

1. Medical care, facilitation of daily life, and personal care.
2. Working continuously and efficiently without getting tired or bored, such as distributing medicines, or organizing patients to enter clinics.
3. Store, sort and organize massive amounts of data.
4. Providing high accuracy, reducing the margin of error while performing tasks.

5. Performing difficult tasks that humans cannot accomplish, such as reaching difficult areas during surgical operations.
6. Providing health advice and guidance via smart applications) Artificial Intelligence , 2021.(

The second requirement : The disadvantages of artificial intelligence:

- 1- The costs of designing and maintaining AI systems are very high.
- 2- Artificial intelligence systems do not understand human feelings , they do not sympathize with pain, and they do not grieve with the patient. They only implement what they were designed to do (Eduard, V., 2017) .
- 3- Damage and harm that may be caused to the patient, due to:
 - Medical surgery error, resulting in organ damage, complications, or death of the patient.
 - Misdiagnosis and laboratory test results.
 - A patient falls and is injured by a robot while caring for an elderly person, due to a machine malfunction, a programming error, or poor manufacturing) .Artificial Intelligence , 2021.
- 4- (Dispensing with many workers) .Artificial Intelligence , 2021.
- 5- (Possibility of hacking and infringement of intellectual property ,and failure to maintain patient confidentiality and privacy) WIPO Talk , 5/21/2020
- 6- (The machine is sometimes biased because of its programmer, choosing a specific nationality, gender or age) .Towards the Ethics of Artificial Intelligence, 2019.

The third requirement: Balancing the advantages and the disadvantages of artificial intelligence:

Looking at the positives of artificial intelligence, we find that it addresses many problems, including:

First :Overcrowding of patients, which is one of the problems that exhausts the patient and exacerbates his suffering.

Second: The burden of health work is exhausting for health professionals, which may lead to serious medical errors that can be comparable to the error of artificial intelligence. Using artificial intelligence will undoubtedly reduce the burden and error significantly.

Third: Humans are affected by psychological factors such as sadness, anger, and depression that affect the degree of accuracy and dedication to work. This is in contrast to artificial intelligence, which is devoid of feelings.

Fourth :Surgical operations that are difficult for doctors to perform except with artificial intelligence, and their success has actually been proven in many fields, which I mentioned previously.

Fifth: Access to patients easily and conveniently at any time and place, through smart and functional applications.

Sixth: Contributing significantly to preserving data, reducing it, and making use of it in research and archiving, which is something that no human mind can do) . Qamoura , Samia, 11/2018.(

As for the disadvantages of artificial intelligence, they can be discussed as follows:

First: The high costs, and this does not prevent countries that are able to pay the costs from moving forward to benefit from them and seeking to find economic solutions to reduce their costs.

Second: The robot may not be sympathetic when dealing with the patient, but that does not matter as much as mastering the job is more important, and there is no doubt that the patient understands very well that this is a robot and not a human being.

Third: Damage and harm, which occurs with every new technology, such as some medical devices and means of transportation ,for example, and it has not been prevented, but with development and progress it can be reduced or avoided.

Fourth: Security breaches can be avoided by putting in place appropriate codes, algorithms, and clauses that prevent the leakage of confidential information of the patient and the medical device, and this can only be successful through practical experimentation.

Fifth: Humans cannot be completely dispensed with in work, but rather it is a reshaping of jobs, as there will still be a need for maintenance workers, programmers, and manufacturers of artificial intelligence, and even its trainers.

Sixth: It is true that biases emanating from humans may be difficult to stop, but they can be controlled and monitored in artificial intelligence. (Qamora , S., 11/2018).

Conclusion : By comparing the advantages and the disadvantages of using artificial intelligence in the health field, it is clear that its success outweighs its harms , in which can be reduced by establishing legal systems and controls to regulate its work.

The fourth topic

The provisions for using artificial intelligence in experiments ,diagnosis, and treatment facilities.

Learning artificial intelligence for the purpose of benefiting and treating patients is considered one of the medical sciences that includes good interests, such as helping people and meeting their needs, and providing treatment that may be difficult for a doctor to treat without artificial intelligence , such as microsurgery .

Therefore, it is permissible and recommended in general, and it may be obligatory if necessary and there is no other options for treatment or to save life, the Almighty's says: (And whoever saves one - it is **as if he had saved mankind entirely**) . Al-Ma'idah: 22(

The uses of artificial intelligence in the health field are considered among the means which rulings are

based on their objectives. If the objectives are legitimate, then the means are legitimate and permissible, otherwise they are not. If the objectives are legitimate, then the extent of the benefits and harms resulting from them is based on them , considering the extent of their suitability for application and implementation (Ibn Ashour, 1425, 2/568). If artificial intelligence leads to preponderant benefits ,then it is permissible in Islamic law to apply it, and if it leads to harm ,then its application is forbidden. Accordingly .

I find its rulings that revolve around its benefits and harms, are divided into four cases:

First: Uses that are purely harmful and not beneficial, in which case it is not permissible to use artificial intelligence, such as using it as a tool to kill patients, as a form of mercy killing, or as an aggression, or using it to manufacture spoiled or adulterated medicines or distribute medicines that are not suitable for patients, in order to gain money without justification, or programming it to forge false certificates or reports, or incorrect data, based on the saying of the Prophet, may God bless him and grant him peace: "Actions are but by intentions" (Al-Bukhari, 1422, 1/3, No. 1), and the legal principle states: Whenever the purpose is not considered, the means is not considered (Ibn Nujaym, Ibrahim, 1406, 134).

Second: If there is no benefit from using it, then it should not be used, based on the rule: The dependent is dropped when the dependent is dropped, and the branch is dropped when the root is dropped (Al-Suyuti, 1403 .(119-118 ,If the purpose is gone and is nonexistent, which is treating the patient or it is impossible to achieve and reach it, then there is no point in directly using its means, and the Shari'ah does not require using it, as it is a kind of futility that rational people are above, let alone the wise Lawgiver (Al-Qarafi, 1344, 2/33), (Al-Shatibi ,1997 , .(212/2Examples of this include: Artificial intelligence performing operations that do not lead to improving patient outcomes, as a study published showed that the average cost of operations using a robot was (\$868.8), compared to (\$679.6) in other operations , and it was not There is a significant variation in other measures such as treatment complications , blood transfusion rates , etc .. (Howe, R.D., & Matsuoka, Y., 1999)

Third: Uses that are purely beneficial, or predominant, with rare and minor harms, then it is permissible to use it, and rare errors have no effect, and what matters is the predominant, not the rare. (Al-Qarafi, 4/174) ,and its applications are many in the field of health, such as the use of artificial intelligence in conducting laboratory and radiological examinations and clinical trials, and exploring new ways to combat antibiotic-resistant bacteria, as an algorithm used by researchers was able to

determine the ability of bacterial strains to resist drugs with an accuracy of up to 95%. As well as diagnosing esophageal cancer in its early stages, which is difficult to diagnose by humans by 97%, and in 2017, the percentage of digital health care bills in the Netherlands reached 97% for scientific tests and experiments). Artificial Intelligence Technologies Revolutionize the World of Medicine.(2020/06/12 ,

Fourth: Uses in which the degree of benefit and harm are close, and the ruling on them is that they are suspended based on the degree of interest, its strength and consideration (Al-Nasafi, Abdullah, 1316) ,(950 ,Badshah , Muhammad, 1403, 2/424), if the harms are overwhelming and the benefits are few and weak, then the rule is: preventing harms takes precedence over bringing benefits (Al-Suyuti, 87), and the scholars stated that whenever the benefit outweighs with the passage of time and the advancement of material science, then it is permissible to use them, such as the prohibition of cutting open the abdomen of a dead woman to remove her pregnancy, it was prohibited and contemporary jurists permitted it because surgery has developed and this act has become closer to benefit than to harm (Al-Saadi, Abdul-Rahman, 1402-189 , ,190and this is supported by the rule: rulings change with the change of time. (Ibn al-Qayyim, Muhammad, 1374, 3/3), (Al-Borno, 1416, 253), and examples of this include: home robot care for the elderly with the possibility of giving them the wrong medicine or causing the elderly person to fall instead of sitting them up . In this case, artificial intelligence is not used except after the Medical Ethics Committee has studied it and issued a decision regarding it. (Contemporary Issues in Jurisprudential Seminars, 21-24/6/1418, 77 *The second issue: The provisions for using robots in surgical operations:*

The surgical robot is considered one of the dangerous applications for the patient. We have explained its types, which are either remote or with joint assistance with the human surgeon or self-surgery of the robot. The more the robot is independent of the human surgeon, the more the need for legal evaluation and the extent to which it takes into account the modernity of the technology and its complexity in determining responsibility increases. If the effectiveness and success of the surgical robot are proven and its significant benefits outweigh its harms ,it is permissible .Jurists have permitted traditional medical surgery despite the damage that may lead to the patient's death or damage to a part of his body, but with conditions that are considered in Islamic law, the most prominent of which are:

- That the surgery is for a legitimate purpose.
- That the patient needs it.
- The surgeon is confident that the operation will be successful.
- Lack of a less harmful alternative) .Al-Shanqiti , Muhammad, 1415, 1/102(

By comparing robotic surgery to traditional surgery, based on the legitimacy of the reason, which is treating the patient with permissible means and for a greater benefit, the conditions of traditional surgery apply in the same way to robotic surgery, taking into consideration the cases of using the surgical robot, in terms of the benefits and harms that result from it, and they branch out as follows:

1. If the success rate of the robotic procedure is high, and it is most likely that no harm will result, or the harm is minor and can be remedied, or if achieving the intended purpose or not is equal, then it is permissible in principle (Al-Zarkashi, 1402, 1/75)) .Al-Shatibi, 1/251.(
2. If the success rate of the robotic operation is low or non-existent and it is likely that it will cause serious harm to the patient, and there is a better alternative, then it should not be performed, based on the rule :Preventing harm takes precedence over bringing benefits, and there should be neither harm nor reciprocating harm (Al-Shatibi, 6/446).
3. If the success rate is high and the damage rate is rare but severe if it occurs, such as death or permanent disability, then if the surgical operation is necessary and there is no other way, then it is permissible out of necessity, and necessity is measured according to its degree (Al-Suyuti, 84) .Among the applications of this are robotic surgeries for dangerous and sensitive areas of the body that are difficult to reach with traditional surgeries. With robotic surgery, the area can be determined with extreme precision and reached with the least possible damage with the possibility of error, which is the fear of damage to the patient's soul or to one of his organs if the surgery is not performed with the robotic surgery.

To determine this need and necessity, it should be:

- By decision of the relevant committees in the surgical and technical specialization.
- Regulating the cases in which robotic surgeries are permitted, so that they are not misused or exploited commercially) Contemporary Issues in Jurisprudential Seminars , 6/21-24/1418, 77. (

StudyResults:

- 1- The basic principle of using artificial intelligence is permissibility, and in the field of medicine it is more certain and recommended whenever its benefit outweighs its effect, due to its connection to the health of bodies, whether in diagnosing patients' ailments or treating them.

- 2- The uses of artificial intelligence in the health field entail many great benefits, but they may cause intentional and unintentional, serious and minor harms. Therefore, the expected guarantees must be determined and estimated before the harm occurs, and this has not yet been activated in hospitals by medical ethics committees.
- 3- A medical robot cannot take the place of a health practitioner, or act alone and of its own free will.
- 4- Islamic law does not agree with granting legitimacy or legal capacity to a robot, due to its lack of capacity and responsibility, even if it acts in an autonomous manner outside the will of its manufacturer, operator, or owner.
- 5- There are regulations that criminalize assault on the patient by misusing artificial intelligence, but they lack detail and lack an Islamic legal character.
- 6- There are Arab and international initiatives, including :the Saudi National Center for Artificial Intelligence (SDAIA), the UAE Council for Artificial Intelligence , and the World Committee on the Ethics of Medical Robotics, with the participation of UNESCO and the United Nations.

RECOMMENDATIONS

- 1- The need to allocate an academy for artificial intelligence medical technology, and to teach the legal provisions and controls related to it, and the applications of medical liability for health artificial intelligence and its resulting effects, especially for the General Syndicate of Doctors and medical liability committees.
- 2- The need to codify and document the legal controls related to robotic surgery, especially autonomous surgery, and the penalties for violations and related disciplinary measures.
- 3- AI Sharia and co-insurance regulations should be adjusted ,considering the credits distributed among the healthcare practitioner, hospital and manufacturer.
- 4- Setting up surveillance cameras, AI black box, writing reports and meeting occupational safety regulations, programming AI to show results and post-use report.
- 5- Classification of damages that may be incurred by the health practitioner, their degrees and the resulting effects.
- 6- Informing the patient of his legal rights before performing the robotic operation, and obtaining his written consent.
- 7- Linking the work of the user of artificial intelligence to medical integrity and the sanctity of violating his dignity, under the pretext of medical treatment, so achieving transparency and credibility is through a living conscience linked to the fear of God Almighty and His observation.
- 8- When conducting artificial intelligence experiments on a patient ,the patient's interest must prevail, with the patient being informed and given written consent.
- 9- Encouraging healthcare practitioners to use artificial intelligence to serve patients, by calculating the reward of the benefit that extends, based on the saying of the Chosen One, may God bless him and grant him peace: “Whoever fulfills the need of his brother, God will fulfill his need) ”. Al-Bukhari, 9/22, No.: 6951 (
- 10- Establishing specialized forensic research centers for artificial intelligence, to conduct some forensic medical studies, such as the artificial intelligence womb and embryo nurse, and to perform cosmetic surgeries.
- 11- Praising the achievements of our scientists and doctors in developing the medical uses of artificial intelligence and supporting them financially and practically.
- 12- Appointing a legal representative for artificial intelligence, by a neutral party, to investigate and follow up on it and the patient and determine who is responsible for the error. He can also claim and collect compensation for the resulting damages, for the benefit of the patient.
- 13- Programming artificial intelligence and setting it to boundaries that should not be crossed with the patient, such as revealing secrets ,transparency, and the intention to reform and not sabotage.
- 14- Taxing AI users to solve the problem of increasing unemployment.

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