

Ethical medical innovations and their applications: an Islamic perspective

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Abstract: Creativity and innovation is very part of human nature (*fitrah*) which makes human beings different from other beings that are so far found on the planet. The outcome of creativity can be both harmful and beneficial. And most of it depends on the moral standing of those to whom end products of such creativity are available. Islam gives high importance to health and the Muslim civilization that flourished in Bagdad and Spain during the medieval period made original contributions to medical science. The contributions of the scholars of the age were led by religious ethics and spirit in pursuing, using, and creating knowledge. On the other hand, with the advent of modernity, science has received freedom to a greater extent to be ethics-free, neutral, and value-free. This approach has produced new important innovations in medical science and ways of their applications. Some of these innovations and their applications are beneficial and some others are beneficial too if guarded by appropriate ethics, yet some of the applications are questionable. After discussing the ethical repercussions of these innovations and applications, a general ethical framework on the subject is formulated on Islamic guidelines.

Keywords: Medical Science, Ethics, Bioethics, Islam, Innovation, Principles

Introduction

Creativity and innovation are very part of human nature (*fitrah*) which makes human beings different from other beings thus enabling them with power, control, and capacity to bring change and make progress. One of such areas in which human creativity and innovation has manifested concretely over centuries and of course with a fast speed in modernity is medical science. Medical science has become much diversified with subspecialties and areas and its progressing and developing nature continues however there are concerns about it.

There are *Why*, *When*, and *How* questions. These questions are philosophical in nature. And they are tackled by the scholars who are narrowly being classified as bioethicists. Regarding any proposed innovation in the field one could plausibly may have *Why* question in his mind. The person may ask why humanity needs such a technology or drug. If there is some drug or technology available then one may still ask *when*

such drug or technology should be put to use. And furthermore there will still remain the question *how*. Any solutions for these questions are possible when scientists and ethicists work and brainstorm issues together. This article is therefore restricted to above mentioned questions from Islamic perspective. Having a religious perspective on bioethical issues is important as much as demography of religionists is important by their presence, freedom, and right to choose. Therefore, the researcher will make, in a brief manner, some conclusions on the subject by drawing on Islamic sources.

Islam and Medical Science: Medical science is a field in which new issues and innovations emerge very often. The necessity of having discipline of medical science is indisputable. In Islamic tradition it is appropriate to mention Imam Al-Shaffi who says that only two sciences are worth studying: the science of religion and the science of medicine [1].

He further says, “After the knowledge of what is lawful (*halal*) and what is unlawful (*haram*), I do not know of any type of knowledge more noble for a Muslim to acquire than that of Medicine”[2]. The quotation is just to show the importance of the knowledge of the medical science and encourage people to pursue it as it is recorded in the history that in his time majority of learners were more inclined to theology than to other disciplines especially medical science which humans are in need of very often. And, in fact, Imam Al-Shaffi besides being a theologian and jurist was a poet and logician as well.

The primary sources of religion in Islam are the Quran (the scripture) and Sunnah (the practice of the Messenger). A study of these sources shows that there is high importance for maintaining good health and to a great degree encouragement for and emphasis on medication. The Sunnah, the second source of Islam, guides on health care in a detailed manner. The Prophetic Traditions on the subject of medicine are numerous and there are particular chapters in the various canons of Hadith (collections of the narrations of and about the Messenger) on the subject of medicine e.g. Book of Medicine in Sahih al-Bukhari. This shows Prophet's extraordinary concern of the health and medicine and thus a special area of study has developed called as Prophetic Medicine (*al-tibba alnabawi*). Many Muslim scholars contributed to this field of study e.g. Ibn Qayyim Al-Jawziyya (691/1292 - 751/1350) wrote one of the most influential works on the subject called as *Al-Tibb al-Nabawiyy*.

The concrete manifestations of the Islamic teachings on the health and medicine materialized in the Muslim civilization that flourished in Bagdad and Spain and it made very original contributions to medicine in the areas including diagnosis, pharmacology, and medical technology. Some of the famous scholars who made contribution to medicine include names such as Muhammad Ibn Zakariyya Al-Raazi (d. ca 925/312 H), Ibn An-Nafees (d. 1288/687 H), Abu Al-Qaasim Al-Zahraawi (died in 1013 /428 A.H.), and Ibn-Sina (died in 1037 /428 H). Some of the scholars were encyclopedic and their works served as main references in the medical science for centuries. For example, Ibn Rushd (1126 – 1198), in addition to his various medical works, wrote wrote a *al-Kulliyat fi al-Tibb* (Colliget) [3].

Avicenna authored *Al-Qanun fit-Tibb* (Canon of Medicine) [4].

The bright side of innovation of medical science under Muslim scholars was led by Islamic ethical spirit in pursuing and creating knowledge generally and particularly in the field of medicine. On the other hand Muslim scholars were actually polymaths with a good command on religious subjects, thus aware of following certain ethical guidelines besides being virtuous. These reasons could be well argued for by studying the biographies of Muslim scientist in the medieval period that these scholars had knowledge of religion, philosophy, and science.

Medical Sciences and Modernity: Modernity is characterized with free thinking and inquiry and secularization, and it gives freedom to human beings to pursue knowledge and conduct research without any constraints from any religious institution or cultural dictation. It makes human beings main actors if not in cosmos at least on the Earth. The aspirations of this spirit and pursuing its call manifested in speedy developments in the hard sciences, social sciences, and humanities. Especially science in modernity has been focused on knowing nature and its causes and finding ways to gain control over it. The most of the developments and progress made since the beginning of the modernity has been in the scientific world and it could be said that one of the most beneficiaries of the age has been the medical science. The spirit of modernity gave way to medical science to flourish in an environment that is understood and treated as ethics- free, neutral, and value- free.

The ethical framework within which the research in the medical science is being done is largely dominated by utilitarianism, based on consequences than meeting certain ethical needs or moral standing. Therefore a host of developments have emerged which call for ethical evaluation such as cosmetic surgery, in vitro fertilization, artificial insemination, sterilization, human cloning, sex reassignment surgery, gene mutation, neural coding, recombinant DNA technology, gene doping, human genetic engineering etc. Though scientists in the field follow research ethics in

conducting their researches, however a professional treatment of the subject has become subject matter of bioethics, public policy of governments, legislatures, and various organizations.

Innovation in Medical Science: Three Types: The innovations and applications in medical science are three types. The first type of developments is beneficial for humanity without any harm. To this type belong the most of the developments in the medical science; for instance, vaccinations, diagnosis of many diseases, cure of various diseases and ailments, development of medical equipments, sophisticated technology etc.

The second type of developments includes those advancements which in their nature are beneficial, but are prone to abuse and harm; for instance, artificial insemination, cosmetic surgery, invitro fertilization etc. Using these medical techniques is in need of an ethical framework because their implementations have ethical and sometimes legal consequences.

The third type of developments includes those innovations and developments which are by their very nature harmful and against human sanctity. Among them are attempting human cloning and using humans in research. Therefore, this third type of developments calls for serious attention of ethicists to look into the question of innovation and application in medical science. From the very nature of medical science, its emergence is aimed at human good, although biodiversity and environmental issues have also become its concerns. However, this research is limited on human beings.

Islamic Ethical Criteria: Considering the above exposition on the three types of the applications and innovations in medical science, there is a need of looking for ethical criteria which could be used in judging ethical actions especially on the subject of finding ethical principles for innovations and their applications in the medical science. The criteria which could be used have to be well founded on the basic sources of Islam, the Quran and Sunnah.

The Quran states regarding the messenger (SAW), "...He commands them what is good (*maroof*) and forbids them what is evil (*munkar*);

he allows them as lawful what is good (*taibat*) and prohibits them from what is bad (*khabith*); he releases them from their heavy burdens..." [5]. This verse of the Quran is guiding foundation on Islamic ethics. It includes the revelation as the source of ethics, to know permissible and permitted *acts* and *things*, and, at the same time, it describes permissible as *maroof* and *taibat*, and prohibited as *munkar* and *khabith*; therefore, leaving a space to decide over matters that are intrinsically (*li-zatihi*) or extrinsically (*li-garehi*) *maroof* and *taibat* or *munkar* and *khabith*, which are not explicitly included in the Quran and Sunnah, by using sound and legitimate methods in such categorizing.

The ethical criteria relevant to medical science include the following items in formulation of an ethical framework;

1. The worldview which is embedded in the Quran and authentic Sunnah, most importantly, understanding the ontology, divine wisdom, and the meaning and purpose of human life.
2. The virtues (*fadil*) which are scattered throughout the Quran and sound Prophetic traditions (*Sunnah*). Particularly, understanding how virtues could find practical manifestation in action, rather being just personal attributes. In the same manner, knowing vices (*radiil*) and learning how to avoid them in practical matters.
3. Commandments (*awamir*) and prohibitions (*nawahii*) as mentioned in the Quran and sound Prophetic traditions (*Sunnah*). In the same manner, there are matters and things which are permissible (*halal*) and reprehensible (*haram*) as mentioned in the Quran and sound Prophetic traditions (*Sunnah*). Understanding how this halal/haram distinction could be made relevant to practical issues.
4. Reason and intellect that is grounded in the Quran and Sunnah by using sound methodologies such as analogical deduction (*qiyas*).
5. Understanding the very important, crucial concepts as public good (*maslaha*), public policy (*siysah shariah*), rationale (*ilah*),

- need (*hajah*), necessity (*darurah*), hardship (*mashaqah*), and the concept of removing harm (*aldarar*).
6. Consideration of the higher intentions of Shariah (*maqasid al-shariah*). They include preservation and protection of religion (*deen*), life (*nafs*), lineage (*nasl*), intellect (*aql*), and property (*mal*).
 7. Relative application of the ethical criteria to space, time, circumstances, and conditions of the people including their own qualification, their capacities, and capabilities.
 8. Flexibility and toleration in making ethical choices within the permissible framework of Islamic ethics.

Three Ethical Principles for Innovations and Applications: The researcher after researching religious sources in Islam thinks that there is possibility of developing three ethical principles for innovations and their applications in medical science and they are principle of human beneficence, principle of human sanctity, and principle of protecting essential human nature.

1. *Principle of Human Beneficence:* The first principle is that creativity and innovation in medical science should be aimed at promoting and enhancing human beneficence. This principle is applicable to developing medical technology, manufacturing drugs, developing tools etc. Therefore the subject of this principle is specifically innovation and creativity that is beneficial and not harmful.

The beneficial knowledge (*al-ilm al-nafiah*) is highly valued in Islam. Muslims are encouraged to supplicate by praying: "O Allaah, indeed I ask You for beneficial knowledge (*al-ilm al-nafiah*) ..." [6]. From Islamic perspective beneficial and useful creativity and innovation in all kinds of knowledge including medical science is rewarding and merit making both in this world and hereafter (*ahkirah*), and as long as people benefit from such knowledge, the reward will go to the person who created such a knowledge, the Prophetic tradition states, "When a man dies, his deeds come to an end except for three things: *Sadaqah Jariyah* (ceaseless charity), a knowledge which is beneficial..." [7].

Knowledge could be used properly and abused in many ways; Islam therefore makes a

knowledgeable person responsible before Allah (God), the Prophetic Tradition states, "A servant of God will remain standing on the Day of Judgment until he is questioned about ... his knowledge and how he utilized it ..." [8].

Therefore, any progress, creativity, and innovation in knowledge should be beneficial and not harmful. Most of all, it should be for the human beneficence because everything else than human is created for human beings, "He it is who created for you all that is in the earth" [9]. But, of course, in making use of what is created for humans, Islam sets ethical guidelines to avoid abuse and harm. Thus, the end of any creativity and innovation should be aimed at enhancing and maximizing human beneficence. It is greatly emphasized in the Quran, as it states, "... and who saved a life it would be as if he saved the lives of all mankind" [10]. In the similar way, the Prophetic traditions on human beneficence are various, for example, "The best of you is he from whom good is anticipated and safety from his evil is assured; ... [11].

In brief, the relevance of the principle of human beneficence to the medical science is to make sure that creativity and innovation in medical science should be for the benefit of humanity.

2. *Principle of Sanctity of Life:* The second principle is that creativity and innovation in medical science should be aimed at protecting the sanctity of life. There is seemingly an overlap between the first and this second principle. However, this principle applies to proper use of medicine, technology, and whatever comes under medical science because having even a beneficial medicine or technology could become harmful. Therefore, this principle is related to applications. The Quran regards the human life as sacred and respectable. The Quran states, "Assuredly We have honored the children of Adam (with many distinctions)..." [12].

Therefore, dehumanization is against the Quranic spirit. The Quran states, "...if any one slew a person - unless it be for murder or for spreading mischief in the land - it would

be as if he slew the whole people...”[13]. The Quran clearly opposes killing that includes suicide and homicide, the Quran states, “... and do not kill your people...”[14]. The Quran states, “...take not life which Allah has made sacred” [15].

Connected to the principle of sanctity which is actually on maintaining the sanctity, respect, and dignity of life is other aspect of the same principle which is on avoidance of harm. Harming human beings is prohibited in Islam. In many verses of the Quran, the harm is mentioned and is prohibited [16]. The Messenger of Allah (SAW) said: “There should be neither harming nor reciprocating harm”[17].

The principle of sanctity of life is to maintain life and avoid any kind of dehumanization in the areas of medical research, surgery, diagnosis, and cure. The ultimate aim of biomedical research, creativity, and innovation should be aimed at protecting and maintaining the human sanctity and not harming human beings and their vital interests. The sanctity principle is to protect the sanctity of human beings in a way to protect their life, respect, dignity, rights, and liberties.

3. Principle of Protecting Essential Human Nature: The third principle is on the prohibition of changing human nature. This principle is relevant to applications as well. The recent developments in medical science such as genetic engineering have given concern to ethicists. In the similar way if the human will and action is controlled by any medical intervention in neurological systems then what would be the moral responsibility of a person. These concerns are very serious. The developments in the field are growing and it is anticipated many developments will unfold in future. On the other hand there are developments in artificial intelligence (AI), attempting to make machines like human beings with much more energy and intelligence than human beings. In such a situation and ethicist finds himself in a dilemma between artificial intelligence and genetic engineering: are machines going to be like humans or are humans going to be like machines? Ethicists have every right to question it. Humans by their intervention have benefited and at the same time lost many things. Humans have damaged environment, ozone layers are

threatened, poles are melting, biodiversity is undermined, natural resources are scarce, and oceans are polluted. After losing so many good things, now humanity finds itself at the doors to lose itself, not in the abstract sense of the word, but in the concrete sense of the word as human beings.

Human beings are created with their particular nature; it is called *fitrah* in the Quran. *Fitrah* is of two types: – one is non-physical, natural disposition that includes the faith and religion and the second is physical, which is biological and physical make-up of humans. In medical science the concerns and issues are related to the second type of *fitrah*: physical and biological make-up of human beings. Therefore, the principle of the prohibition of changing the human nature is concerning the biological and physical constitution of a human being. The Quran states, “We have indeed created man in the best possible shape” [18]; and “He made you in the best shapes and forms” [19]. It is the challenge of devil that he will lead human beings into changing their given nature, the Quran states, “[Iblees said] ‘...and indeed I will order them to change the nature created by Allah’” [20]. Muslims are supposed to maintain the original nature of being human beings without corrupting it.

Conclusion

The subject of innovations and their applications in medical science deserves to be addressed from Islamic perspective because some creativity and innovation are by their very nature harmful, against human sanctity, and aimed at corrupting human nature. In addressing this issue, a general ethical criterion is needed which is based at Islamic worldview and the primary sources of Islamic law and ethics with inclusion of fundamental concepts and sound methodology that helps in formulating guiding principles applicable to innovations and their applications in medical science. These principles are three that protect and promote human beneficence, human sanctity, and human nature.

The principle of human beneficence aims at making sure that creativity and innovation is aimed at human beneficence. Because beneficial knowledge is encouraged in Islam

and a knowledgeable person is responsible before his creator. The principles of sanctity of life is aimed at protecting the sanctity of life, maintaining life and avoiding any kind of dehumanization in the areas of medical research, surgery, diagnosis, cure and not harming human beings and their vital interests. The principle of

prohibition of changing human nature is aimed at protecting physical and biological human nature from corruption and change. These principles provide basic ethical framework for creativity and innovation in medical science.

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