Ethics for Muslim Physicians in the Light of Recent Biomedical Advancements

Muhammed A. Farooqui
University of Eastern Finland, Kuopio, Finland

Correspondence to: Muhammed A. Farooqui, University of Eastern Finland, Institute of Public Health and Clinical Nutrition, PO Box 1627, FI-70211 Kuopio, Finland. Email: muhammedfarooqui@yahoo.com

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ABSTRACT

Rapidly changing scenario of modern health care because of the scientific and technological advancements has generated a never ending debate among socio-religio-ethical segments of the society. Physicians working in traditional societies with religious inclination constantly face a dilemma due to the lack of guidelines on the issues of ethics of creation, therapeutic and reproductive cloning, assisted reproductive techniques, abortions, contraception, transplantation and euthanasia.

As in all other fields, Islamic teachings on ethics of patient care are primarily based on Qur’anic directives and the actions and guidance of the Prophet of Islam known as ‘Sunnah’.

This article analyzes some of the religio-ethical issues surrounding the modern health care system in the light of recent biomedical improvements, with relevance to Muslim physicians. There is an urgent need to have clear local and national guidelines in addition to universal ethical codes on this subject.

INTRODUCTION

Medical ethics is not merely about avoiding harming the patient, rather it is a combination of expertise in bio-medical sciences, medical research, social sciences especially their religious aspects, jurisprudence and philosophy, combined with a sound knowledge of cultural background [1-3]. Unless a rule is understood in a cultural environment and has a cross-cultural validity, it should not be called as ethical [4,5]. In addition, the rule should be applied equally across all the cultures and societies.

In Muslim societies, all moral grounds evolve primarily from the boundaries set out in the holy book, Qur'an, and the Prophet's teachings called Sunnah. In Qur'an, Allah the Almighty has outlined that His orders and directives are final. Hence, every person, including physicians, is accountable for their deeds and will be judged in line with the yardstick explained in Qur'an [6]. Achievement of academic excellence is recommended for every member of the society [7], and this applies more befittingly to the physicians due to the nature of their work and reliance of patients on their expertise.

The Prophet’s teachings are compiled in various books of Sunnah, and the most authentic of these is the As-Saheeh Al-Bukhari. This book has about 130 sayings and recommendations directly related to health. One of Prophet’s directives is that:

“O' slaves of God! Do treat and use medications because Allah, the God, has not created any disease for which He has not created the cure except old age” [8].

For the matters which come to light after the era of Prophet or his learned companions, the recommendations are to use the knowledge and tools available at the time to reach an agreement while remaining within the general parameters of Qur'anic directives and Prophetic guidance and teachings. These efforts undertaken to reach an agreement on an issue for which a definitive guidance is not apparent are further classified as: consensus (ijma), using analogy (Qiyas), and using customs and local traditions of the land (Urf) [9].

Medical ethics is a set of guiding rules, values and principles governing the ethical conduct of practicing physicians. The Islamic code of conduct has provisions within it to be able to remain relevant with all arising challenges in any time and era. The basic rules in this code of conduct regarding health care are:

1. Principle of intention which says that every act will be judged on the basis of its intention [10],
2. Preservation and safety of life [11],
3. Preservation of genealogy [12],
4. Allowance of making an otherwise prohibitory act permissible out of necessity [12], which results in ease and facilitation when hardship arises,
5. Principle of custom and old traditions, which says that any previous custom or precedent can be used to reach a decision in cases of new matters unless a clear order of Qur’an or Sunnah overrules it, and

International guidelines on ethics may only serve as guiding principles, but the countries, societies and professionals are under no absolute obligation to implement or adhere to all such guidelines. This is an inherent weakness which usually requires local and national laws to fulfill the needs. To cope with the present day evolving advancements and problems, various international advisory bodies have been set-up in the Islamic world. One prime institution is the Islamic Organization for Medical Sciences (IOMS) in Kuwait, which is functional since 1984, and exclusively studies the bioethical issues from the Islamic perspective. Others organizations are the Islamic Fiqh academy (IFA) affiliated to the World Muslim League in Makkah, Saudi Arabia, and the International Islamic Fiqh Academy (IIFA), affiliated to the Organization of Islamic Conference (OIC) based in Jeddah, Saudi Arabia. The IFA an IIFA do not exclusively deal with bioethical issues [13].

In the light of the Islamic principles outlined above and the various institutional guidelines formulated for present day needs, a suggested ethical approach for Muslim physicians on some of the contemporary issues is discussed below.
ETHICS OF CREATION

Abortion

Abortion is one of the most fiercely debated and controversial issues in medical ethics. Before elaborating on the Islamic viewpoints on this subject, we will first address the secular approach towards this matter. There are currently two main opinion groups with contrasting views on this matter – the pro-choice and the pro-life. The pro-choice group advocates that it is the basic and almost unconditional right of an adult woman to decide at any stage of the fetal development whether she wants to carry her fetus up to the term. The group also demands unconditional rights to abort especially in such conditions as early age when meaningful consent is questionable, pregnancies resulting from rapes or incest, war crimes, expected or confirmed diseases or medical conditions in baby, and the mother’s willingness to have the child from one or any other partner. The pro-life group advocates some fundamental restrictions to abortions, usually on the grounds, such as the expressive argument that once we accept the right to abort on the basis of expected disease etc, it will be as if saying the persons who are already living with those conditions did not deserve the life, and also based on the morality of the life of the fetus itself.

Now, here actually lies the subject of controversy - whether the 'new life' has a moral value, sentience and dignity? For pro-choicers, a fetus does not have a personhood as it is not a rational agent nor it is a social being. Whereas, the antiabortionist approach says that the 'life' is there from the moment of conception, and fetuses look like babies and fetuses possess characteristics such as genetic code which is necessary and sufficient for life [14]. Philosopher Dan Marquis has given a detailed account on the subject. After discussing the position adopted by pro-choice philosophers such as Tooley and Bassen that fetuses themselves can't value their own life or cannot express a desire to continue their existence, their abortion does not seem wrong prima facie, he stresses that abortion is wrong because it snatches from the fetus its trajectory of life which is like that of ours, its future, in a similar way as it will be in the case of killing a postnatal baby or a toddler.

When we turn towards the Islamic teachings about abortion, foundations for decision here are again the Qur'anic orders and Prophet's directives. In Islam, threatening or ending a life is forbidden per se. It is not because of snatching a trajectory or because of any philosophy of loss of 'future like ours', it is because of the respect of life itself. An important question for secular scientists has been that from which stage of development the fetus has moral value or dignity? Similarly for Muslim jurists, the question of timing of ensoulment is of basic importance which makes a radical difference in the severity of crime in case of intentional act of terminating a pregnancy. Qur'an and the Prophet's sayings describe the stages of fetal development clearly and repeatedly. The Qur'an says that "thereafter We created him as another creature" [15], and in Prophetic sayings, it is said that after three phases of forty days each, an angel is sent to breath soul into a fetus. Abdulaziz Sachedina [16] has compiled the opinion of famous Muslim jurist, Imam Qurtabi, that "there is no disagreement among the scholars that ensoulment occurs after 120 days. This is after completing four months of gestation and having entered the fifth".

Sachedina has also conveyed another ruling by a famous medieval authority Imam Ibn al Qayyim Al-Jawziyyah where he discusses the ensoulment as "does an embryo moves voluntary or has sensations before the ensoulment? It is said that it grows and feeds like a plant. It does not have voluntary movements or alimentation. When ensoulment takes place voluntary movement and alimentation is added to it". Among the Muslim scholars there is an agreement that termination of pregnancy is a culpable crime whose severity increases with the gestational age and after ensoulment it is totally prohibited except to save mother’s life. As the rewards of pregnancy are very high, the obligation and responsibility of its destruction is similarly sinful. A detailed prophetic ruling in this regards says that the fetus will haul his mother with the umbilical cord to the Paradise when he will anticipate [God to reward] him [by allowing his mother to enter the paradise] [16]. Also, there is a clear moral and legal status of fetus insomuch that it has got a share in inheritance if the father dies even before his birth. Similarly, the responsibility of terminating a pregnancy is severe e.g., if a man...
causes a lady to miscarry the penalty will be monetary compensation (Al-Ghurrah) when the fetus is unformed and if the expelled fetus is formed the compensation will be full blood money (diyāh or diyat kamla) plus two months of consecutive fasting for the forgiveness of sin (kaffarah) [16].

Human Reproductive Cloning

In Islam, human reproduction has to follow certain set of rules, most important of which is that a sexual relationship should only be between a legally bound male and female. Cloning is a system of asexual reproduction by the use of somatic cell nuclear transfer technology. Results achieved through this process have shown to be unsafe and technically calamitous to date. For the purpose of description, an illustration [17] is given here to describe the nature of this technique:

Sexual reproduction: Male sperm + Female egg → Zygote → Embryo → Baby

Cloning or Asexual Reproduction: Egg with its nucleus removed + Insertion of nucleus from (male or female) body cell → Clonal Zygote → Clonal Embryo→ Clonal Baby.

The somatic cell nuclear transfer technology clearly violates Islamic rules of conduct related to the process of reproduction. It disrupts the basic rule of preservation of lineage and disengages the social fabric by distorting family formation and family relationships. It also carries widespread social, psychological, and moral issues with legal implications for the society at large. Technically, this process is unreliable and imprecise; more than hundred attempts are required for one successful result [18]. Dolly, the sheep, was the success after 276 attempts. In comparison to the natural process, cloning has ten times risk of abortion and three times higher rates of stillbirth. Cloning also compromises the gene pool and, hence, the genetic variability and diversity. A virulent pathogen may be enough to disrupt the whole cloned population [17]. Although there is no international consensus over the extent of ban on human cloning, at least for 'human reproductive cloning', most of the countries are in agreement. The IOMS in its 9th jurisprudence (fiqh) seminar in 1997 and other Islamic experts have unanimously called the human reproductive cloning being impermissible in Islam. This technology is not even permitted between the cells of husband and wife whether fresh or preserved and surrogating for this process is also disallowed.

Human Therapeutic Cloning

Fertilized egg cells are totipotential cells possessing the maximum ability to divide and develop into all types of body tissues or the entire organism. This ability is preserved up to four cells stage, where each of the cells can develop into a complete human fetus; so the twins, triplets and quadruplets may be considered natural human clones with identical genetic and cytoplasmic constitution. After further divisions, cells become sort of specialized ones like skin stem cells, blood stem cells and are called multipotent stem cells. These multipotent cells are also called embryonic stem cells (ES cells). Stem cells in adults that give rise to specialized cells like blood cells, skin and liver or brain tissues are called adult stem cells [18].

In somatic cells nuclear transfer technology, nucleus of a human unfertilized egg is removed by micro-syringes and replaced by the nucleus of an adult somatic cell of a person in need of developed tissues or organs for transplant. The cell afterwards is activated chemically or electrically for it to divide. This new development can help cure some of the diseases like diabetes mellitus, parkinsonism and spinal injuries. For the sake of better understanding, the process is illustrated [17] below:

Disease free cells from the patient in need of graft → Transfer of cell (nucleus) to egg → Egg and cell fused by electric current → Embryonic stem cells recovered → Embryonic stem cells grown in culture → Specific cell types derived from embryonic stem cells → Required cell types are reintroduced into the patient for therapy.

A valuable and added advantage here is the absence of graft versus host reaction. According to the modern scientific concepts during the pre-embryonic stage of development, from conception to the determination of primitive streak, i.e. up to 14th day, there is an inability to
feel pain or pleasure and so the pre-embryo has no moral status and can be used for research purposes, discarded or cryopreserved. Before considering the Islamic viewpoint on this, it is of significance to refer to the opinion given by the Catholic Christian authority, Pope John Paul II, on 29th August 2000 AD when he condemned the therapeutic cloning. There is a hot debate over the subject of source of totipotential cells. As far as their supply through umbilical cord blood, bone marrow, or aborted fetuses is concerned, there is almost no issue; even the usage of surplus cells from in-vitro fertilization is not a problem.

At least three Islamic Jurisprudence Councils have given this permission [17]. There is a consensus in Islamic circles that conception solely for generating totipotential cells and destroying the embryo thereafter is not allowed. A rule here deserves mentioning that in Islam, to achieve a noble goal, the way(s) should also be correct. A Muslim physician has to remember that cells obtained from the germ cell lines are not to be used so as not to create a problem with the lineage. Regarding therapeutic cloning, the opinion of a renowned Islamic scholar, Dr Yusuf al-Qardawi, is that "if it becomes possible through research to clone organs such as heart, liver, kidney or others, which may benefit those who are in dire need of them, then this is permitted by the religion and the researchers and scientists will receive reward from Allah because this research will confer benefit to humanity without loss to others or infringing upon their rights. Therapeutic cloning with this noble research pursuit is permissible and it is encouraged. In fact in some circumstances, it may become mandatory to enhance this research in accordance with the needs of the society."

**Assisted Reproductive Technology (ART) and Pre-implantation Genetic Diagnosis (PGD)**

Modern times have posed unique opportunities and challenges due to the advent of innovative technologies and newly generated philosophical theories. Under the Islamic codes, acceptable parenthood is only the legally arranged biological one. Surrogacy is not appreciated whether paid or voluntary. Any type of reproductive technology where gametes or organs of reproduction of persons not married together are involved is not allowed. Even the stored gametes of a married couple cannot be used after divorce or death of husband [17]. According to Qur’an, Islam allows social parenting and adoption; provided that the biological or genetic parenthood is preserved, not curtailed and adopted children carry the names of their genetic and biological fathers [19].

The subject of fertility is discussed in detail in Holy Qur’an. Allah has made it clear that "to Allah belongs dominion of heavens and earth. He creates what He wills (and plans). He bestows (children) male or female according to His will (and plan), or He bestows both males and females, and He leaves barren whom He will: for He is full of Knowledge and Power". In Islamic faith, infertility should not lead to any feelings of inferiority, but at the same time, Islam accepts the natural human desire to have children and to save the family lineage. Thus, one has to strive for rectification of the problems leading to infertility. This phenomenon is also conveyed in Qur’an when the Prophet Zakaria (Zachariah) prayed and requested for children after remaining childless and Allah fulfilled his wish [20]. The teachings of the Holy Prophet Muhammad (PBUH) in this regard are "marry women who will love you and give birth to many children, for I shall take pride in the great number of my followers [21]. Further, about the disease and treatment, the Prophet has informed that "for every disease there is a cure" [22].

From the time of birth of the first test tube baby, Louise Brown, in 1978, there is an ever growing interest in ART. During in-vitro fertilization the mating of gametes is extra-corporeal followed by one of several available probabilities like in-vitro fertilization and embryo transfer, pronuclear stage tubal transfer (PROST), zygote intra-fallopian transfer (ZIFT), and tubal embryo stage transfer (TEST) [23]. In PGD, the use of polymerase chain reaction (PCR) has enabled study of embryos through minute amounts of DNA material. Florescent in-situ hybridization (FISH) technology in combination with chromosomal probes makes it possible to analyze embryonal sex and different aneuploidies. Again, this technology has
provoked debate in different sections of the society.

A good example to discuss here may be the case of baby Manji [24]. She was developed through the sperm of a Japanese physician - the intended father, and an unknown Nepalese ovum provider living in India [25] under a contract in an Indian fertility clinic through a surrogate uterus of an Indian lady. Because of divorce between Japanese couple before the birth of baby Manji, there remained no legal mother of the baby although there were four such probable - the one who developed Manji in her womb, the unknown egg provider, the one who was the wife of intended father at the time of contract, and lastly, the one who breastfed the baby during her hospitalization. This case may be treated as a typical example of modern day biotechnical product with multiple religio-socio-ethical challenges. In this case, gametes of two persons were fertilized together and a surrogate uterus was hired while a lady breastfed the baby during her infantile age. As indicated above, in Islam there is no place for combining gametes of unmarried male and female partners. Additionally, by Qur'anic orders and Prophet's directives, any lady who breastfeeds a baby during infancy gets the status of motherhood [26] as far as the personal respect and the marital relationship is concerned with herself or her immediate family members. As mentioned before, Islam does not permit surrogacy of any type - neither the uterus may be surrogated nor the sperm, embryo or fetus. Sanctity of legal marriage contract is to be guarded. Keeping in mind complexities of this subject, a Muslim physician is expected to take maximum advantage of available tools remaining within the limits of Islamic codes of ethics. There is, however, no permission of surrogacy in these rules. Any procedure that disturbs the family lineage is to be ruled out.

Desire to select and design the babies is not new. Nowadays PGD is not only used to avoid some severe diseases but also to select the required sex or to design the baby solely to serve as a tissue match for another existing child [27]. Currently, the situation is worse than the ideas of Sir Francis Galton's "Possible Improvement of Human Breed" [28] as now the PGD is becoming a market-based and tailor-made commodity. There are immense psychological impacts on children made for particular traits or as per parent's desires [29]. Muslim physicians' duty is to discourage such trends [30].

**ORGAN TRANSPLANTATION AND DONATION**

Organ transplantation is nothing new to a Muslim physician. Ibn-e-Sina (Avicenna) has discussed the grafting of bones in his famous book, Al-Qanoon, as early as 1037 AD, but present day wide spread use of this form of treatment has been a subject of serious discussion among academic and ethical philosophers in all parts of the world. In Islam, a dead person has similar respect as that of a living human being. Prophet of Islam has taught that "the sin of breaking the bones of a dead man is equal to the sin of breaking the bones of a living man" [31]. The subject of bones and teeth transplantation has been discussed at large by great Islamic jurist, Imam Al-Nawawi (631-671 AH/1231-1272 AD), in his book Al-Majmoo' and Minhajuttalibeen [32]. Although mutilation of corpses is not allowed, the organ donations from corpses do not fall under mutilation or disrespect.

The International Islamic Jurists Council in October 1986 at Amman, Jordan recognized that brain death is a sign of death in line with the Islamic rules. This opinion paved a way for organ transplants from brain dead donors, and thereafter organ transplantation was made legal in the Muslim world. A list of important Fatwas (legal opinions) in this context is given in Table 1.

**EUTHANASIA AND END OF LIFE CARE**

In Islam, the creator and owner of life is Allah and no one has a right to kill anyone including himself except in lieu of specific and legal reasons. So, a Muslim physician cannot hasten the process of death in any manner. End-of-life care in modern times has posed an array of complicated problems, not only on technological grounds, but because of new legal philosophies as well. In end-of-life care, surrogate decision making that is transferred to the descendants or
Although death is an inevitable phenomenon, but in many cultures it is still a taboo [35]. Physicians take it as a challenge, sometimes rightly so, and family finds it difficult to accept the loss of their dear ones. Pain and agony attached with the last chapter of life pushes the patients and caregivers to opt for something easier, which may be to end the life itself before it takes its “natural course”. One comparatively positive approach is to go for better palliative care and improved hospice services. A large majority of international medical bodies have clearly announced their policy that euthanasia of all types, active or passive, voluntary, non-voluntary or involuntary or the physician-assisted suicide are not to be performed by physicians because of physicians’ ethics and morality and because “it could weaken society’s prohibition on killing and society could embark on a slippery slope with undesirable consequences” [36]. An incidence of using euthanasia inadvertently is already on records when in Germany under 'Aktion T4 Programme', only up to August 1941; about 70,000 persons were killed to get a stronger Aryan race [37].

As outlined above, in Islam, the creator and owner of life is Allah and because He only is the creator, therefore, no one else has the right to kill anyone including the person himself except in lieu of specific and legal reasons. This rule directly results in prohibition of euthanasia or physician-assisted suicide or death with any means. Instead, a physician should go for best possible palliative and hospice care supported by spiritual strengthening. Even in cases where

the health care workers is an important matter of discussion. United States courts have ruled in favour of descendants in cases of established brain death after surgeries or during pregnancies [33].

A decision to pronounce the death is similarly important. Although the criteria based on irreversible loss of brain function i.e. irresponsiveness, absence of respiration, absence of reflexes and a confirmation by electroencephalogram (EEG) are clear, the

philosophic debate that ultimate respect should be attached to life itself or the quality of life poses controversy in discontinuation of life support. American Medical Association (AMA) has referred to conditions where in the end-of-life care sometimes due to extreme duress such as suffering from a terminal, painful, debilitating illness, death may be preferable to life. Further, AMA states that "requests for physician-assisted suicide should be a signal to the physician that the patient's needs are unmet and further evaluation to identify the elements contributing to the patient's suffering is necessary. Multidisciplinary intervention, including specialty consultation, pastoral care, family counselling and other modalities, should be sought as clinically indicated" [34].

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death seems to be pertinent, continuity of feeding and basic life support is to be provided irrespective of the ‘do not resuscitate’ instructions.

CONCLUSIONS

In Islam, Muslims are instructed to tread a middle path away from all types of extremisms. Muslim physicians are at liberty to train in ART and can advise it for the couples during their marital life, and may take advantage of the benefits of therapeutic cloning. But the Muslim physicians have to discourage euthanasia, germinal cells/tissues’ transplant, and issues such as single parenthood in married and unmarried persons. Above all, Muslim physicians have to be aware of the Islamic rulings applicable to all types of modern technologies. This article supports and stresses on the need for further discussions among the physicians, Islamic legal experts and the community at large to work in collaboration towards filling the gaps and finding solutions to the modern day challenges in line with Islamic principles.

CONFLICT OF INTEREST

Author has declared that no competing interests exist.

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