

"...وَقُلْ رَبِّ زِدْنِي عِلْمًا" سورة طه: 114

“O my lord! Advance me in knowledge”

The Glorious Qur'an: Taha 20: 114

FIMA
Year Book 2020

Federation of Islamic Medical Associations

الاتحاد العالمي للجمعيات الطبية الإسلامية

ENCYCLOPEDIA OF ISLAMIC MEDICAL ETHICS - PART VII

موسوعة الأخلاقيات الطبية الإسلامية- الجزء السابع

***Maqasid al-Shari'ah* and Medical Jurisprudence and Bioethics**

مقاصد الشريعة والفقہ الطبي والأخلاقيات الحيوية

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موسوعة الأخلاقيات الطبية الإسلامية: الجزء السابع

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EDITORIAL

Dear FIMA members
Assalamu Alaykum
Bismillah al-Rahman al-Rahim

All praises be to Allāh (ﷻ) the Most Beneficent, Most Merciful.

Peace and blessings be upon Prophet Muhammad (ﷺ), his family, companions and followers until the end of time.

The FIMA Yearbook is the organisation’s initiative to mainstream the Islamic perspectives on various contemporary health and medical issues.

In 2013, we started the series of the “Encyclopaedia of Islamic Medical Ethics”. We have since published 6 issues which deliberated on various health and medical topics from the lenses of Islamic bioethics.

The FIMA Yearbook 2020 is the seventh in this series of the encyclopaedia. It is entitled, “*Maqasid al-Shari’ah and Medical Jurisprudence and Bioethics*”.

The authors have discussed the overarching concept of *Maqasid al-Shari’ah* and its guidance, insights, relevance and applicability when faced with varying complexities of health and medical problems.

The editorial board would like to thank all of the authors for their significant contributions to our encyclopaedia series. We hope it will prove to be very beneficial to all our members and other readers in their daily medical practise.

I have selected snippets from the 14 scripts selected for the FIMA Yearbook 2020 to interest your further reading of the subject matter.

1. The philosophy of *Maqasid al-Shari’ah* (higher objectives of the *Shari’ah*) is not based on “Rights” but on “Protection”. All human actions are grounded into five major areas. These are called the higher objectives of the *Shari’ah* and includes; Protection of *Deen* (religion), Protection of Life, Protection of Intellect, Protection of Progeny and Protection of Wealth. (Chapter 1)
2. When the primary sources of the *Shari’ah*, the Quran and *Sunnah* leaves open some questions of interpretation or application, Muslims have to look at the process of *ijtihad*. *Ijtihad* is the ability to analyze the text and context of the Qur’an within the relevant and contemporary cultural and historical circumstances and formulate an appropriate solution without violating the basic principles of the Qur’an and the *Sunnah*. *Ijtihad* is the methodology which confers Islamic law its adaptability to new situations and the capacity to tackle new issues and problems. *Ijma* and *qiyas* are not possible without the due process of *ijtihad*. (Chapter 2)
3. The 18th World Medical Association (WMA) General Assembly called the Declaration of Helsinki a set of guidelines for biomedical ethics. This declaration

was created as a result of the medical atrocities which happened in the Tuskegee Syphilis Study in the US. Islam had developed the principles and moral values for over fourteen hundred years and outran the new era's ethical considerations for quite a long time. The Islamic principles of ethical values had been followed for several centuries as mentioned in the Quran and Sunnah. (Chapter 3)

4. The Quranic texts and traditions of the Prophet (PBUH) has encouraged the believers to seek medical treatment and healing. Seeking treatment is part and parcel of the process of *tawakkul*. Forbidden substances can be used as medicines if there are no permissible alternatives and the treatment is prescribed by a trustworthy and competent doctor. A forbidden substance which has undergone biotransformation (*istihalah*), and has lost its physical quality in terms of its matter, taste or smell, become permissible and can be used as a medication. (Chapter 4)
5. A maxim in *usul fiqh* (principles of jurisprudence) is that in social and human affairs (*muamalat*) the default rule is "everything is permissible unless proven otherwise." In the absence of clear textual evidence to the contrary everything is permissible. Permissibility (*halal*) does not require textual evidence. Silence in the text means permissibility or an opportunity for *ijtihad*. To say any health intervention (eg vaccination) is not allowed (*haram*) requires textual evidence. The burden of proof that a medicine or vaccine or custom (*urf*) is not permissible falls on those who repudiate it, not on those who affirm it. Nevertheless, in borderline cases, the law prefers to err on the side of leniency, compassion and mercy. The issue of the use of impure animal products in medicines was deliberated extensively by International *Fiqh* Councils including the European Council of Research and Fatwa. (Chapter 5)
6. Developments in healthcare and biological research methods, and their outcomes, have a global impact, to varying degrees, on different communities depending on cultural sensitivities. The situation thus created raises questions as to the effectiveness of guidelines issued by international bodies, such as UNESCO and World Medical Association (WMA), attempting to standardize pertinent regulations. Sound analysis of potential cultural elements that might either advocate or impede and hinder implementation would be of great value in formulating such guidelines, and also in predicting the extent to which any given community would abide to them. (Chapter 6)
7. The four basic principles of contemporary bioethics are not only upheld in Islamic bioethics, but are also strongly enhanced. Muslims strongly believe, while making decisions that every effort should be made in conjunction with the patient. The goal is to benefit the patient, and to safeguard his/her interest. These four principles are autonomy, beneficence, non-maleficence and distributive justice. (Chapter 7)
8. The global Expanded Program of Immunization has been shown and proven to be a very safe, effective and cost savings global child survival strategy. With the exception of clean drinking water, immunization is the most powerful public health intervention program. The overriding objective of the *maqsa'id al-shari'ah* is the quest for justice with fairness and mercy, thus it follows that there is an unequivocal moral case in favour of immunization.
Justice requires that every child should have ready access to routine vaccination

- against serious childhood diseases and which should be a global priority for all governments and international health agencies. (Chapter 8)
9. Pre-Islamic cultures, especially ancient Egyptian and the territories which it ruled over, customarily practiced a form of female circumcision known as pharaonic circumcision which inflicts major injuries to the female external genitalia. This custom of female circumcision which some Muslim scholars has rationalized as being part of Islamic teachings has been strongly challenged. The evidence shows that female circumcision is not part of the Islamic tradition, it is not a *Sunnah*, it is rather a local custom, it is not required and neither is it a sign of respect (*mukarramah*). (Chapter 9)
 10. According to Islamic Law, any cultural practice (*urf*) that causes harm to a person is not acceptable. The practice of female circumcision loses its legitimacy as a requirement in Islam due to the pain, distress, damage and harm that it causes, often resulting in medical complications and has no known benefits. Contemporary Muslim scholars must be bold and display leadership qualities by denouncing the practice of female circumcision and calling for it to be abandoned. (Chapter 10)
 11. Sex-reassignment medical procedures whether by way of surgery or hormonal therapy or both, undeniably entails altering one's birth gender through painful experiences of surgery and hormonal therapy. It is changing one's nature and is prohibited in Islamic medical ethics and consider unlawful in *shari'ah*. (Chapter 11)
 12. The vast majority of climate scientists and scientific research studies agree that human-caused climate change is happening. The impact on nature, global economy and population health is serious and increasing rapidly. The crisis can be solved because we know exactly what needs to be done, the solutions are available before us and the world community must work together to get its act together to make life on planet earth a better place to live for us and our future generations. (Chapter 12)
 13. As with many food or drugs, the initial *fatwa* is that anything is licit until proven that it is *haram* by a legitimate proof. If the drug is normally harmful by nature or dose, then it becomes *haram* to use it because it violates the *maqasid as-shari'ah* protection of life and health. Since anabolic steroids and performance enhancing drugs are used in secrecy and not in public and especially in sports and competitions, it is a form of deception. The usage of anabolic agents and performance enhancing drugs in sports, even if they pose no harm to an athlete's body or life amounts to cheating and its use is prohibited. (Chapter 13)
 14. Current research seems to indicate that Genetically Modified foods are as safe as the currently consumed food products. Regulatory bodies must continue to be vigilant to ensure that all Genetically Modified foods that is rolled out into the market are safe and are appropriately labeled. Apart from safety issues, there are concerns about them being triggers for allergic reactions, the transfer of antibiotic resistance to humans and the outcrossing of genes from Genetically Modified crops to conventional crops, all of which requires better and more careful research and studies. (Chapter 14)

As with previous issues, Ms. Elham Mohamad Swaid at the Islamic Hospital, Amman-Jordan, has provided excellent secretarial support to ensure the successful publication of both the online version and hard copies of the FIMA Yearbook. For her passionate and unrelenting services and support, the Editorial Board is forever grateful.

I pray that Allah (ﷻ), the source of all knowledge and wisdom, accept and bless all our efforts in His service and pleasure. We pray for Allah's (ﷻ) guidance and mercy in all our endeavours. Unto Him (ﷻ) we seek refuge and forgiveness for our failures and shortcomings.

Yours sincerely,

Musa Mohd Nordin
Chief Editor, FIMA Yearbook

**FEDERATION OF ISLAMIC MEDICAL
ASSOCIATIONS (FIMA) IN BRIEF**

- On 31st December 1981, FIMA was formed in Florida, USA. Senior medical professionals representing ten Islamic Medical Associations (IMA), from various parts of the world, convened and laid down the foundation of the Federation.
- FIMA was incorporated in the state of Indiana as a not-for-profit corporation on 18th January 1982 and re-incorporated in the State of Illinois on 30th March 1999.
- FIMA enjoys Tax Exempt status under Section 501 (C) (3) US Federal Income Tax by the Internal Revenue Service.
- In 2005, FIMA acquired Special Consultative Status to the United Nations Economic and Social Council (UN-ECOSOC).
- FIMA membership now include Islamic Medical Associations (IMA) and associates from 50 countries.
- FIMA aims to foster the unity and welfare of Muslim medical and healthcare professionals, promote healthcare services, education and research through the application of Islamic principles, mainstream Islamic perspectives of medical ethics, mobilize professional and economic resources for medical and humanitarian relief and collaborate with partners for the mercy and healing of mankind.
- First medical jurisprudence conference, Amman 1991.
- First humanitarian relief conference, Paris 1994.
- Launch of FIMA Year Book, Jakarta 1996.
- Consortium of Islamic Medical Colleges (CIMCO), Islamabad 2001.
- Islamic Hospital Consortium (IHC), Islamabad 2001.
- International Muslim Leaders Consultation on HIV/AIDS, Kampala 2001.
- FIMA Web, Kuala Lumpur 2005.
- FIMA Save Vision, Darfur 2005.

- FIMA Save Smile, Jeddah 2008.
- FIMA Save Dignity, Makkah 2009.
- FIMA awarded American College of Physicians Linda Rosenthal Foundation Award, USA 2009.
- Encyclopedia of Islamic Medical Ethics, Kuala Lumpur 2012.
- FIMA App on Care of Muslim Patients (Elsevier), Kuala Lumpur 2012.
- FIMA Declaration on Millennium Development Goals, Kuala Lumpur 2012.
- FIMA Green Crescent, Cape Town 2013.
- FIMA Declaration on Addiction, Cape Town 2013.
- FIMA Declaration for Polio Eradication, Cairo 2013.
- FIMA Book on Immunization Controversies, Makassar 2015.
- FIMA Safe Water, Istanbul 2017.
- International Journal of Human and Health Sciences (IJHHS), Istanbul 2017.
- FIMA Life Saver, Amman 2018.
- FIMA Declaration on Climate Health, 2020.
- FIMA Save Earth, Jakarta 2021.

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CHAPTER ONE

THE IMPORTANCE OF THE HIGHER OBJECTIVES OF ISLAMIC JURISPRUDENCE (MAQASID SHARI'AH) IN MEDICINE

Najib Ul Haq *

Abstract

Maqasid Shari'ah are the foundations of Islamic Law and Code of Life. The understanding of these objectives facilitates the Islamic philosophy of actions in various situations. It also assists a person to take just decisions within the boundaries of Islamic guidelines.

It is imperative to recognize the purpose of human creation in order to understand the higher objectives (*Maqasid*) of *Shari'ah*. Man is the vicegerent of Allah in this world and is duty bound to implement His orders, for the larger benefit of mankind. The guideline and framework of implementation of these orders is called *Shari'ah*. *Shari'ah* encompasses Islamic jurisprudence but is not limited to it. It includes ethical codes and teachings on personal relations between creation and the Creator and also the inter-relationship amongst human beings and their relation to the Universe. Thus it provides a holistic guidance on the Islamic code of life (*deen*).

The philosophy of the higher objectives of the *Shari'ah* is not based on "Rights" but on "Protection". All human actions are grounded into five major areas. These are called the higher objectives of *Shari'ah* and includes; Protection of *Deen*, Protection of Life, Protection of Intellect, Protection of Progeny and Protection of Wealth.

Keywords: *Maqasid*, objectives, *Shari'ah*, protection.

Purpose of Human Creation and his role in the Universe

All human beings have two essential components i.e. the Body and the Soul. Every person has two major characters i.e. good (Angelic) and bad (Satanic). Man has the free choice and power to adopt one of these two. Some scholars and mystics attribute the Angelic characters to Allah and consider that these are the qualities which make human beings the most respected creation on earth. The orders of Allah are expressed and implemented through these qualities and characters of human beings. This role of human beings entitles them to be described as vicegerent or Caliph (*Khalifah*) of Allah. The main purpose of this role is to implement the will of Allah in this world. The Qur'an describes the historic background and the role of caliphate (*Khilafath*) in the following verses.

"وَأِذْ قَالَ رَبُّكَ لِلْمَلَائِكَةِ إِنِّي جَاعِلٌ فِي الْأَرْضِ خَلِيفَةً..."¹

"Recall! when your sustainer (Allah) told the angles that I am going to create my vicegerent ..."

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He then described his role in other verses.

"وَهُوَ الَّذِي جَعَلَكُمْ خَلَائِفَ فِي الْأَرْضِ وَرَفَعَ بَعْضَكُمْ فَوْقَ بَعْضٍ دَرَجَاتٍ لِيَبْلُوكُمْ فِي مَا آتَاكُمْ إِنَّ رَبَّكَ سَرِيعُ الْعِقَابِ وَإِنَّهُ لَغَفُورٌ رَحِيمٌ" 2

"and He made you Vicegerent in the world and made some people superior than the others, to test you (both) whether (you appropriately use) what has been given to you? No doubt your sustainer is very swift in accountability and He is all Forgiving and Merciful".

Then Allah explains it further and says:

"يَا دَاوُودُ إِنَّا جَعَلْنَاكَ خَلِيفَةً فِي الْأَرْضِ فَاحْكُم بَيْنَ النَّاسِ بِالْحَقِّ وَلَا تَتَّبِعِ الْهَوَى فَيُضِلَّكَ عَنْ سَبِيلِ اللَّهِ إِنَّ الَّذِينَ يَضِلُّونَ عَنْ سَبِيلِ اللَّهِ لَهُمْ عَذَابٌ شَدِيدٌ بِمَا نَسُوا يَوْمَ الْحِسَابِ" 3.

"O Dawood We have made you vicegerent in the world so that you rule the people with justice and do not follow your own desires because that would astray you from the path of Allah, they will be punished severely and they have forgotten the Day of Judgment".

This is the role of vicegerency. It also delineates the main frame work of human actions. This role is at the individual, community, national and universal level.

At the individual level, the beneficial action to other human beings are a means of fulfilling this role as vicegerent. The prophet (PBUH) said " If a businessman fulfills the needs of human beings through good business he will be given a place with people who martyred (their life for Islam) while the one who tries to create temporary shortage of things or involved in adulteration is not from amongst us and are condemned as abominable^{4,5,6}.

The government laws and institutions, particularly those of health and finance should be geared to fulfill the larger interest

of human beings and thus fulfill the purpose of the higher objectives of the *Shari'ah*.

What is the *Shari'ah*?

Shari'ah is the set of guidelines, principles, rules and regulations that provide the framework of practical solutions to live in accordance with the orders of the Qur'an and *Sunnah*. Following *Shari'ah* is a mean of success for human beings not only in this world but also the hereafter.

The scholars of Islam have thoroughly worked since after the era of the prophet (PUBH) to provide solutions for many problems. It is a dynamic process and always considers the current circumstances of practice and the social system. The process of "deductive knowledge" (*Qias*) has provided an open source of finding solutions of any current issue in accordance with the guidelines of *Shari'ah*.

Acquiring knowledge is obligatory as per the orders of the prophet Muhammad (PBUH).

He said: "طَلَبُ الْعِلْمِ فَرِيضَةٌ عَلَى كُلِّ مُسْلِمٍ".

Seeking education is obligatory for all Muslims (men and women). The Islamic scholars have deliberated on this *Hadith* and have concluded that based on this saying of the prophet (PBUH) every Muslim must seek enough knowledge of the following four areas to ensure that these are practiced in accordance with Islamic teachings;

1. Islamic Faith (*Aqaid*)
2. Islamic worship (*Ibadah*)
3. Dealings with fellow beings (*Muamalath*)
4. Knowledge to practice his profession in line with Islamic principles

Shari'ah has provided guidance in all walks of life and it is obligatory for all Muslims to gain the minimum basic knowledge in the above four areas.

The higher objectives of *Shari'ah*

It is interesting to note that there is a fundamental difference between the code of Islamic system of life and other systems. Islamic philosophy revolves around the concept of fulfilling the “obligation to others” while the rest of the systems are primarily focused on attaining “rights”. Therefore the higher objectives of *Shari'ah* are based on the concept of “protection” grounded in fulfilling the obligations to other individuals and the communities.

Maqasid Shari'ah are broad based practical guidelines for life. “From a thorough examination of the *Shari'ah* we have found that it rejects illusions and fantasies of the imaginations. Therefore basing its commands on imagination is unacceptable to *Shari'ah* except in need, which means that fancies of imaginations cannot be included as part of *Maqasid Shari'ah*”⁷. Ibn Ashur further explains the purpose of *Shari'ah* in the chapter on “The general objectives of Islamic legislation” and describes that “both the general rules and specific proof indicate that all-purpose principle (*maqasid amm*) of Islamic legislation is to preserve the social order of the community and ensure its healthy progress by promoting both well-being and righteousness of that which prevails in it, namely the human species”⁸.

The higher objectives were first described by Imam Al-Harain-Abu-Almualee and then Imam Al-Ghazali, more than ten centuries ago. They later enlisted these in the present form. He explains that protection is the primary objective and purpose of *Shari'ah*. The generally agreed higher objectives of *Shari'ah* are;

1. Protection of *Deen*.
2. Protection of Life.
3. Protection of intellect.

4. Protection of progeny and
5. Protection of wealth.

The Islamic scholars have developed these objectives after deep thinking. These provide basic guidelines for human actions so that they are compliant with the *Shari'ah*. It is interesting to note that any action of a Muslim vis-à-vis human beings, will fall into one of these five intents. If an action contravenes anyone of these intents, one is obliged to reconsider the action.

The higher objectives of *Shari'ah* explain the basis and logic of the orders of *Shari'ah* and provide the understanding of relevance of actions to one another in a coherently bonded holistic concept of *Shari'ah* guidance for the welfare of human beings.

Anything that harms any of the five basic intents of *Shari'ah* will be grouped as “villainous” (*mufsidah*) or “bad” and whatever strengthens them shall be termed useful (*Masalih*) or good⁹.

But good or bad are relative terms both in terms of personal perceptions and the prevailing customs and circumstances of a society. For example “drinking” may be considered “bad” in some societies while normal or even “good” in others. Imam Shatibi (RA) has further elaborated this issue and described good or bad as those attributes which are good or bad in accordance with the explanation of the lawgiver (Allah or His messenger)¹⁰.

The commands of *Shari'ah* are directly or indirectly based on these five purposes and apply to all fields of life including medicine. Three of these i.e. Protection of Life, Protection of Intellect and Protection of Progeny are directly related to healthcare while the other two i.e. wealth and deen are indirectly related to it.

Human actions may be grouped in three categories for the purpose of application to the higher intents of *Shari'ah*. These are “essential”, “required” and “preferable” actions. The directives or commands of *Shari'ah* are applied in accordance with these categories of actions so as to accomplish the purposes of the *Shari'ah*.

An attempt is made to briefly describe the higher intents of *Shari'ah* and their relation and applicability to the health and healthcare system

Protection of *Deen*

Human actions reflect the thinking paradigm or faith and the “purpose of living of a person. Islam clearly defines the purpose and code of life. *Shari'ah* includes the principles, regulations and guidelines for life. *Shari'ah* is customarily called Islamic jurisprudence but in fact it is much more than that. It includes not only many moral and ethical codes but also methods pertaining to performing personal and community obligatory and non-obligatory action regarding *Ibdaah*, human interaction and other aspect of life. It provides the basis of moral codes in health care on issues like confidentiality, consent, end of life issues and euthanasia etc.

Shari'ah provides the platform for success in both worlds. It provides the basis of developing a strong bond between fellow humans based on love and justice on one hand while on the other it connects the person to the creator in a powerful but voluntary manner through a comprehensive system of personal and spiritual development. It motivates human beings to take steps for the benefit of other human beings and create a better and peaceful society. It also incentivises good deeds with reward of forgiveness and mercy from Allah on the Day

of Judgment. *Shari'ah* provides guidance in all fields of work and professions. It is obligatory for every Muslim to understand and follow these guidelines and this is how it leads to strengthening the concept of “Protection of *Deen*” in the concerned field of work.

When a doctor knows about the allowed and forbidden acts related to his/her field and follows the *Shari'ah* guidelines, it is protection of *Deen*. Following the Islamic perspective of ethical issue in abortion, confidentiality, doctor-pharma relations, patient issues related to fasting (*Ramadhan*), cleanliness (*Taharah*), ablution (*wudhu*) and prayers (*Salah*) and principles and guidelines of *Shari'ah* on making medical decisions etc, are all considered as protection of *deen*. The same applies to one's relations with colleagues, patients (fulfillments of their rights and obligations) and health care providers. In a nutshell all acts that are in accordance with the commands of *Shari'ah* shall be termed as protection of *deen*. It is obligatory for all Muslim doctors to acquire the relevant knowledge of Islam related to their field. The more one understands the concepts of *deen* in general and also specifically related to the field of practice, the more he/she fulfills the purpose of this higher intent of *Shari'ah*.

If any physician acts against the Islamic *Shari'ah* in his professional conduct/work, he shall stand responsible for that and accountable in both worlds as per the Islamic Law.

Protection of *deen* is the foundation of Islamic *Shari'ah* and that is why Islamic scholars have kept this on top of all other *Maqasid*. The more one knows about *Deen* the more he/she would follow it in their personal life and also pass it on to members in the community.

Protection of Life

Human life is a gift and *Amanah* from Allah. It is expected of every human being to protect this *Amanah* from all types of hazards and injuries. This is the underlying concept of the higher intent of “Protection of Life”. Islam considers human life as the most sacred thing in the world.

Allah declares in the Quran:

“مِنْ أَجْلِ ذَلِكَ كَتَبْنَا عَلَىٰ بَنِي إِسْرَائِيلَ أَنَّهُ مَن قَتَلَ نَفْسًا بِغَيْرِ نَفْسٍ أَوْ فَسَادٍ فِي الْأَرْضِ فَكَأَنَّمَا قَتَلَ النَّاسَ جَمِيعًا وَمَنْ أَحْيَاهَا فَكَأَنَّمَا أَحْيَا النَّاسَ جَمِيعًا وَلَقَدْ جَاءَتْهُمْ رُسُلُنَا بِالْبَيِّنَاتِ ثُمَّ إِنَّ كَثِيرًا مِّنْهُمْ بَعَدَ ذَلِكَ فِي الْأَرْضِ لَمُسْرِفُونَ”¹¹.

“For this reason, We decreed for the children of Isra’il that whoever kills a person not in retaliation for a person killed, nor (as a punishment) for spreading disorder on the earth, is as if he has killed the whole of humankind, and whoever saves the life of a person is as if he has saved the life of the whole of humankind. Certainly, Our messengers have come to them with clear signs. Then, after all that, many of them are there to commit excesses on the earth”

Islam recommends to take all steps and adopt all means to protect human life. The purpose of Islamic laws, regulations and punishments is primarily to protect life. That is the reason Quran calls such punishment as “Life”¹² because such deterrents in punishments prevent people from endangering any one’s life.

The primary purpose of medicine is “protection of life”. No one is allowed even to endanger or damage his own life because Islam considers life as an *Amanah* from Allah and not one’s own property. Suicide is therefore absolutely forbidden (*Haram*) in Islam and so is killing of any person as mentioned in the earlier verse.

Islam has categorized certain actions and things as absolutely forbidden (*Haram*). However when it comes to protect life and a permissible alternative is not available, Islam even allows use of even absolutely forbidden (*Haram*) things as directly decreed in Quran¹³. Abortion is strictly forbidden in Islam but when the mother’s life is endangered then Islam allows abortion. Similar is the case of using medicine with *Haram* contents which may be used in life saving situations. “Protection of Life” not only includes protection of body but also the honor of human beings. Some Islamic scholars allow abortion in cases of illegitimate pregnancies while it comes to protection of the honor and life of the lady¹⁴.

The concept and process of “protection of life” starts even before marriage. Premarital genetic counseling is one such example. It includes all ethical issues related to embryology and genetics are guided by this higher intent of *Shari’ah* to protect life at the earliest stage.

Islam offers mutual protection to the couple after marriage¹⁵ and ensures to take all measures to protect their children. The primary responsibility of the mother is bringing up children and ensuring a safe and conducive environment for their development. Quran has decreed that a mother should breastfeed her child for two years¹⁶. This is recommended even in case of divorce between the couple. Now the medical science has also confirmed the physical and emotional (psychological) benefits of breastfeeding, both for the child and the mother. The father shares this responsibility but also has the additional obligation of providing all resources for this purpose, not only for his children but also his wife – the mother of the children. Islamic scholars have decreed that if the father refuses to do so, he can even be sent to jail by the government

according to Islamic law. All the fields of health care system are actually fulfilling this purpose of higher intent of *Shari'ah*.

All ethical issues related to the protection of life shall be governed primarily by this intent of *Shari'ah*. It starts from issues of genetics and closes on “end of life” issues. In fact in certain situations the confidentiality of patients would continue even after the death of the patient to save the human honor¹⁷.

Protection of Intellect

Intellect (the ability to think and reason) is the primary quality that differentiates human beings from animals. *Shari'ah* emphasizes on development and judicious use of intellect for the benefit of mankind. It therefore urges to take all actions and measures that would protect intellect. It discourages and condemns actions that would damage or harm the intellect. The Quran emphasizes on appropriate application of intellect through creative thinking. It is clear from the fact that there are seven hundred and fifty verses in the Quran about inviting human beings to critical thinking while there are around one hundred and fifty about *Fiqh*¹⁸.

However it has to be recognized that the level of intellect varies from one person to another. Intellect also has its own limitations. We make decisions on the analysis based on our past experience, comprehension of prevailing situation (present) and anticipated future assumptions. The analysis are based on the perceptions of the five human senses. These parameters can be defined as the boundaries or limits of human intellect. The decisions would depend on the individual capability of the analysis and comprehension of these parameters. Anything that falls outside these boundaries shall be beyond the capacity of the human intellect. It might be possible to derive a calculated guess but the human intellect would need guidance in many situations. Allah, “the all-knowing” provides

this guidance through “revealed knowledge” i.e. “*Wahee*”. Therefore *Shari'ah* derives guidance from the revealed knowledge (*Qura'n and Sunnah*) through deductive methods (*Qiyas*) and provides practical solution to all prevailing problems.

Islam discourages and even forbids all those action and things that may have negative impact on the intellect. It prohibits drinking and addiction. Anger control is considered as one of the high quality of Muslims. It is for such reasons that *Shari'ah* discourages to make decisions in emotional situations or blunted intellect.

The field of psychiatry, clinical psychology, mental health and other related fields are all actually serving the purpose of this higher intent of *Shari'ah* by protecting the human intellect.

Protection of Progeny

Islam emphasises on maintaining the “institution of family”. It is considered as the basic unit of continuity of the human race. It has both physical and spiritual dimensions. Islam encourages and simplifies the spousal contract (*Nikah*). It strongly condemns adultery and declares it a forbidden (*Haram*) act, to avoid single parent (illegitimate) children. It ensures the sanctity of the family and thus guarantees that both parents are involved in the appropriate upbringing of children and secure the purity of the race. The primacy objective of all family laws in Islam is the protection of progeny.

Many medical and medico-ethical issues fall under this Intent. Some examples are;
Genetic research and its ethical dimensions.
Genetic counseling.
Embryology and related issues in various stages of fetal development and their clinical application and implications.

Termination of pregnancy and related ethical issues.

Reproductive health and concerned medical and ethical issues in obstetrics & gynecology.

Shari'ah forbids tubal ligation and other means of contraception except in the permissible conditions. It permits use of only allowed (*halal*) methods in cases of test tube babies, in order to avoid mixing of genetic material from forbidden sources (*Haram*). It ensures the sanctity of the family and rejects infringement on the intent of "protection of progeny".

Islam ensures and encourages such research and professional development that would result in "protection of progeny". In fact all fields of medicine and issues described under the intent of "protection of life" and the related ethical are also directly or indirectly associated with this higher intent as well.

Protection of Wealth

One of the basic and most important principles of *Shari'ah* is the concept of permissibility (*Halal*) and the forbidden (*Haram*). Islam has vehemently emphasized on avoidance of the forbidden. Possibly no other religion has given so much importance to this concept. One of the main purposes of this principle is to protect the wealth of people. Allah orders in the Quran

"وَلَا تَأْكُلُوا أَمْوَالَكُمْ بَيْنَكُمْ بِالْبَاطِلِ.." ¹⁹

"Do not utilize the wealth of others through wrong (forbidden) means".

This higher intent of *Shari'ah* actually protects the wealth earned through permissible (*Halal*) means. Quran encourages Muslim to spend wealth but with moderation.

"وَالَّذِينَ إِذَا أَنْفَقُوا لَمْ يُسْرِفُوا وَلَمْ يَقْتُرُوا وَكَانَ بَيْنَ ذَلِكَ قَوَامًا" ²⁰

"Do not spend too lavishly nor be miser, rather spend with moderation".

In another verse Allah instructs that;

"وَلَا تَجْعَلْ يَدَكَ مَغْلُولَةً إِلَىٰ عُنُقِكَ وَلَا تَبْسُطْهَا كُلَّ الْبَسْطِ فَتَقْعُدَ مَلُومًا مَّحْسُورًا" ²¹

"Do not spend too less nor so much that you yourself become poor".

The physicians need to recognize important areas in respect to this intent. It includes protection of one's own wealth and also of the patient's and the institution. They should optimally utilize the resources of institution and avoid its misuse or abuse.

They must also ensure that the investigation prescribed for patients are necessary for the diagnosis and management. Avoiding kickbacks (payment) from laboratories and other diagnostics, pharmacies or pharmaceutical companies, fall under the "Protection of Wealth". Contrary to this, involvement in such activities are deemed as exploitation of the patient and are considered sinful. Such activities may be punishable under Islamic Law in certain situations.

The Islamic concept of the "permissible and forbidden" (*Halal* and *Haram*) plays the pivotal role in the application of this intent of *Shari'ah*.

Application of Higher Objectives of Shari'ah

The higher objectives are applicable at individual, institutional and government level. Whereas it is the responsibility of individual doctors to learn, understand and apply these at their work place, it is also the duty of the institutional managers to provide conducive conditions and frame required rules and regulation to facilitate the implementation of *Maqasid Shari'ah* in the institutions. At a still higher level, it is the responsibility of the government to provide necessary professional and legal framework

to ensure application of higher intents of *Shari'ah* in the prevailing systems.

It is the responsibility of individual doctor to keep themselves up to date in order to provide the best possible health care to their patients. At the individual level if one follows just one Hadith of the prophet Muhammad (PBUH), it can make the real difference for health care providers. The Hadith is "Like for your brother whatever you like for yourself"²². If this is applied in true spirit at all steps of the patients' care with reference to the higher intents of *Shari'ah*, it can resolve many of the current professional and ethical issues of clinical practice and health care.

The hospitals managers and administrators are responsible to provide the required infrastructure and diagnostic facilities to facilitate implementation of the higher intents of *Shari'ah* and ensure quality and standardized healthcare.

At a higher level it is the responsibility of the government to protect the *Deen*, Life, Intellect, Progeny and Wealth of people through all its institutions. It was this concept and feeling of responsibility and accountability that the second Caliph, Hazrat Umar (RA) once said that "he feels accountable to Allah even for the death of a goat on the beach of river Farath"²³.

In fact the health systems should be geared to ensure excellent care to the patients. The government is also responsible to establish and strengthen the preventive aspects of health care including provision of clean water, vaccination against infectious diseases, sexually transmitted diseases and special measures for reproductive health.

If every level feels responsible for the implementation of the higher intents of *Shari'ah* in its true letter and spirit it can

positively change the systems at all levels and better health care to all.

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CHAPTER TWO

SHARI'AH GUIDELINES FOR BIOMEDICAL JURISPRUDENCE AND MEDICAL ETHICS FROM MAQASID AL-SHARI'AH

*Sharmin Islam**

Abstract

When the primary sources of the *Shari'ah*, the Quran and *Sunnah* leaves open some questions of interpretation or application, Muslims have to look at the process of *ijtihad*. *Ijtihad* is the ability to analyze the text and context of the *Qur'an* within the relevant and contemporary cultural and historical circumstances and formulate an appropriate solution without violating the basic principles of the *Qur'an* and the *Sunnah*. *Ijtihad* is the methodology which confers Islamic law its adaptability to new situations and the capacity to tackle new issues and problems. *Ijma* and *qiyas* are not possible without the due process of *ijtihad*.

Keywords: *Shari'ah, Ijtihad, Ijma', Qiyas.*

Sources of Islamic Ethics

Islam means submission to the will of Allah (SWT) in all aspects of life and in fact is a complete way of life. As such, unlike in the West, Muslim societies make no distinction between the spiritual and the secular. Islam aims at shaping both individual lives as well as society as a whole in ways that will ensure that the kingdom of Allah is established on earth and that peace, contentment and wellbeing fill the world¹. Islam is translated into practice through the codification of divine revelations to the Prophet Muhammad (PBUH) by way of instructions (prescriptions and proscriptions) that regulates daily life. These are hereafter referred to as the *Shari'ah* or Islamic Law. The *Shari'ah* is the epitome of the Islamic spirit, and next to the *Qur'an*, the most revered manifestation of the Islamic way of life. Indeed, it is the kernel of Islam itself². The four sources of the *Shari'ah* in descending order of importance are: the *Qur'an*, the *Sunnah* (practice of Prophet Muhammad), 'consensus of the *ulama*' (*ijma*), and analogy (*qiyas*).

The basic framework for jurisprudence is the *Qur'an*, which is the prime directory on all matters of human life. It is God Almighty's revelation to the Prophet Muhammad (PBUH), and no Muslim can adopt a view that contradicts it. However despite its comprehensive guidance and rich variety of specific rules and general principles, the *Qur'an* does not explicitly focus on every possible situation that a Muslim may face. For cases not explicitly addressed in the *Qur'an*, Muslims resort to the *Sunnah* as a secondary source of guidance.

Where the *Sunnah* itself is not clear-cut and open to interpretation or application, Muslims seek guidance from learned Islamic jurists (*ulama*) by way of consensus (*ijma*). The *ijma*' usually takes the form of official pronouncements or *fatwas* that provide specific guidance on the issues at hand. In certain situations, Islamic jurists also invoke analogies (*qiyas*) from the *Qur'an* and *Sunnah* in order to clarify the rules relating to the issues raised.

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The highly complex and technologically advanced nature of the modern world is giving rise to problems of immense difficulty particularly in the area of medicine. These include genetic engineering, the permissibility of eating genetically altered food, gene therapy, in vitro fertilization, organ transplants and so on. These types of issues cannot be addressed by the *Shari'ah* in a limited sense without recourse to its fifth component, *ijtihad*, introduced by the Prophet Muhammad (PBUH) to solve complex problems such as these. *Ijtihad* is independent reasoning. Technically, this term refers to the effort exerted by a qualified jurist (*faqih/mujtahid*) to arrive at the meaning intended by the Lawgiver in the textual sources of Islamic Law and apply it to its subject matters in the real life of human beings. The door to *ijtihad* although shut for centuries is now beginning to open. *Ijtihad* requires that a Muslim, man or woman, should be thoroughly familiar with the sciences of the *Qur'an* and *Sunnah*, comprehend the wider purposes of the *Shari'ah* and understand Arabic correctly. According to Syed, *ijtihad* in complex issues of law should be undertaken by trained scholars³.

The *Qur'an* is considered immutable and absolute and Muslims must be faithful to the *Shari'ah*. Nevertheless, from this universal *Shari'ah* the '*ulama*' are expected to formulate specific and precise laws and rules adjusted to the geographical and historical context. This is the task of *ijtihad*. When the *Sunnah* also leaves open some questions of interpretation or application, Muslims have to look into *ijtihad*. *Ijtihad* is a very broad source of Islamic law and comes after the *Qur'an* and the *Sunnah*. It is the ability to analyze a verse of the *Qur'an* or a typical situation within the relevant cultural and historical context and then form an appropriate solution without violating the basic principles of the *Qur'an*

and the *Sunnah*. *Ijtihad* is the source or methodology which gives Islamic law its adaptability to new situations and the capacity to tackle all new issues and problems. The sources of Islamic law other than the *Qur'an* and the *Sunnah* are essentially manifestations of *ijtihad*. *Ijma* and *qiyas* are not possible without the approach of *ijtihad*.

Islamic jurisprudence amidst modern medicine

Islamic medicine, like philosophy, has passed through distinct (broadly three) stages of development, with each of its three stages being characterized by a dominant mode of *ijtihad*. In the initial stage (0-1370 AH) scientific developments were such that the *Qur'an* and *Sunnah* were sufficient to derive any law concerning medicine. The intermediate stage (1370-1420 AH) witnessed a different character due to drastic technological and social changes. This paved the way to deriving medical laws from secondary sources: (a) the two transmitted ones, '*masadir naqliyyah*' of analogy, *qiyas*, and secondary consensus, *ijma*, and (b) the logical ones, '*masadir aqliyyah*', that are *istihsan*, *istishab*, and *istirsal* etc⁴.

Istihsan (Equity in Islamic Law)

Istihsan is a highly important branch of *ijtihad* and has played a prominent role, and made important contributions in the adaptation of Islamic Law to the changing needs of society. *Istihsan* literally means to deem something preferable. In its juristic form, *istihsan* is a method of exercising personal opinion in order to avoid any rigidity and unfairness that might result from literal application of the law⁵.

An example of *istihsan* is the decision taken by Umar ibn al-Khattab (RA) to suspend amputation of the hand (*a'hadd* penalty for theft prescribed by the *Qur'an* and *Sunnah*)

due to the existence of a famine at the time which was forcing people to steal. In this case Islamic law was suspended as an exceptional measure due to an exceptional circumstance, Al-Sarakhsi, a major jurist, considers *istihān* as a method of seeking ease in legal injunctions believing it to be in accordance with the *Qur'an* (2:185), Hashim Kamali remarks that the Prophet's Companions (*Sahabah*) and successors (*Tabiun*) were not mere literalists, but often based their rulings on their understanding of the spirit and purpose of the *Shari'ah*. Kamali provides a modern example: oral testimony was once the standard form of evidence in Islamic law, today in some cases photography, video footage, sound recordings and laboratory analysis have become a more reliable means of proof, able to replace oral testimony in many cases. A clear method of *istihān* is applied here⁶.

There is no *qati* (definitive) authority for *istihān* in the *Qur'an* and the *Sunnah*⁷. Nevertheless, verses 34:18 and 39:55 of the *Qur'an* have been quoted in support. Similarly, a very famous *hadith*, "*La darara wa la dirar fi al-islam*" (no harm shall be inflicted or tolerated in Islam), has also been used. *Istihān* is intimately related to '*ra'y*' (opinion) and *qiyas* (analogical deduction). *Ra'y* is an important component in both *qiyas* and *istihān*. The *Sababah* were careful not to apply *ra'y* at the expense of the *Sunnah*. *Ahl al-Hadith* mostly avoided using *ra'y*. On the other hand, most *fuqaha'* (experts in Islamic jurisprudence) liberally used *ra'y* in deducing law.

Many view that one kind of *istihān* is essentially *qiyas khafi* (hidden analogy) and that *istihān* is a departure from '*qiyas jali*' (obvious analogy) to '*qiyas khafi*'. Modern jurists have stated that the essential validity of *istihān* is a fact.

***Istishab* (Presumption of Continuity)**

Istishab literally means courtship or companionship. In *Usul al-Fiqh*, *istishab* denotes the presumption of the existence or non-existence of facts. It can be used in the absence of other proofs of the *Shari'ah*, A large number of scholars have validated it. In its positive sense, *istishab* presumes the continuation of a fact (marriage or a transfer of ownership for example) till the contrary is proved. However, the continuation of a fact would not be proved if the contract is of a temporary nature (for instance, *ijarah*, a type of leasing). *Istishab* also presumes the continuation of the negative. Due to having a basis in probability, *istishab* is not a strong ground for the deduction of the rules of the *Shari'ah*. Hence when it comes in conflict with another proof, the latter is given priority. There are four types of *istishab*:

1. *Istishab al-adam al-asli*, which means that a fact or rule which had not existed in the past is presumed to be non-existent.
2. *Istishab al-wujud al-asli*, which signifies that the presence of that which is indicated by law or reason is taken for granted. For example, a husband is liable to pay '*mahr*' by virtue of the existence of a valid marriage,
3. *Istishab al-hukm*, which presumes the continuity of general rules and principles of law. For example, when there is a ruling in the law (whether prohibitory or permissive), it will be presumed to continue.
4. *Istishab al-wasf*, which means to presume continuity of an attribute until the contrary takes place (such as, clean water will be continued to be treated as clean water)⁸.

The 'ulama' of *usul* are in general agreement on the first three types of *istishab*. More disagreement takes place regarding the fourth. Some important legal maxims have been found on *istishab*. These are:

1. Certainty can not be disproved by doubt (*al-yaqin la yazül bi al. shakk*).
2. The presumption of generality until the general is subjected to limitation.
3. The presumption of original freedom from liability (*baraah al-dhimmah al-asliyyah*).
4. Permissibility is the original state of things (*al-asl fi al-ashyä' al ibahah*)⁹.

Urf (Custom)

Urf literally means custom. Custom therefore, has some place in determination of rules regarding 'halal' (lawful/permissible) and 'haram' (forbidden) in the *Shari'ah*. The rules of *fiqh* which are made on juristic opinion (*ra'y*) or *ijtihad* have often been formulated in the light of prevailing custom. There is nothing wrong in departing from them if the custom on which they are founded changes in the course of time. This rule is applicable in the case of *urf* of the Muslim nations and when the *urf* is not in conflict with the rules, essence and spirit of *Shari'ah*. *Urf* of non-Muslims must be very carefully examined.

It should be remembered that *urf* and *ijma* are not the same in meaning. *Urf* is essentially a local or national practice whereas *ijma* is an agreement of 'ulama' across places and countries. There are other differences which are not substantial in character¹⁰. Although 'urf' is not an independent proof in its right, it can play a useful role in interpreting and implementing Islamic law. It is also mentioned that the rise of codified statutory legislation in modern states, has to some extent minimized the demand of *urf*.

Maslahah Mursalah (Considerations of Public Interest)

Maslahah literally means benefit or interest. *Maslahah mursalah* refers to unrestricted public interest. Al-Ghazali notes that *maslahah* consists of considerations which secure a benefit or prevent harm but are harmonious with the objectives (*maqasid*) of the *Shari'ah*. These objectives consist of protecting the five essential values: religion, life, intellect, lineage and property¹¹.

The majority of scholars have advocated *maslahah*. The following conditions are essential to validate *maslahah*: (a) The *maslahah* must be genuine, (b) The *maslahah* must be general (*kulliyah*) — that is it secures *maslahah* for all. (c) It must not be in conflict with clear *Naas*. To face situations in a changing world, *maslahah* is a major instrument in the hands of jurists of Islam¹².

Revealed Laws Prior to the Islamic Shari'ah and the Fatwas of the Sahabah

The *ahkam* (laws) of Islam (*Shari'ah*) are self-contained. The rules of Islamic *Shari'ah* should not be sought in other religions because the rules of other faiths do not constitute a binding proof for Muslims.

The Qur'an refers to the previous Shari'ah in three forms:

1. The Qur'an may refer to a previous *Shari'ah* and make it also obligatory on the Muslims. For example, fasting was prescribed on earlier nations and has also been prescribed for Muslims (2:183). Such rulings of the previous *Shari'ah* are parts of the Islamic *Shari'ah*.
2. The Qur'an (or *Sunnah*) may refer to a ruling of a previous *Shari'ah* and may abrogate it. For instance,

- some Jewish restrictions on food have been withdrawn for Muslims in the *Qur'an* (6:146).
3. The *Qur'an* may mention a ruling of a previous *Shari'ah* without mentioning whether it is upheld or abrogated (5:35, 5:48). The majority of jurists consider these to be part of the *Shari'ah* of Islam which must be followed by Muslims.
- The *fatwa* of the *Sahabah* means an opinion reached by a Companions by way of *ijtihad*. The *fatwa* of a Companion is a source of guidance which merits careful consideration (though not binding except in the case of their clear *ijma*)

***Sadd al-Dharai* (Blocking the Means)**

Sadd means to block, while *dharai* signifies means. In *usul*, it signifies blocking the means to evil. *Sadd al-dharai* is often used when a lawful means is expected to produce an unlawful outcome. The concept of *Sadd al-dharai* is based on the idea of the prevention of evil before it materializes. There are examples of *Sadd al-dharai* in the *Qur'an* (for instance, 6:108, 2:104).

A general principle adopted by jurists regarding the matter is that 'preventing harm takes priority over securing a benefit. Authority for *Sadd al-dharai* is also available in the *Sunnah*. Prophet Muhammad (PBUH) forbade a creditor to take a gift from a debtor (as it could lead to incurring interest). He also forbade the killing of hypocrites (as it could lead to dissention within the community, and also to wrongful killing based on suspicion).

According to Abu Zahra and Shatibi, most *ulama* have accepted it in principle and differ only in its application. On the basis of their probability of leading to evil ends, *dharai* have been divided into the following four types:

1. Means which definitely lead to evil. These means are completely forbidden.
2. Means which are most likely to lead to evil and rarely lead to benefit. For instance, the selling of weapons during war time and selling grapes to a wine-maker. Most of the scholars have invalidated such means.
3. Means which frequently lead to evil, but there is uncertainty or even dominant improbability. Scholars differ widely on the illegality of such means.
4. Means which rarely lead to harm such as digging a well in a place which is not likely to cause harm, or speaking a word of truth to a tyrannical ruler. Scholars have ruled in favor of the permissibility of these means¹³.

Reflection of Islamic Law In the Modern Period of Medicine (1420 AH Onwards)

Towards the end of the intermediate period, further advancements in medical intervention strained *qiyas*, with the result that its analysis and conclusions were no longer robust or even reliable. The underlying cause is that current issues of medicine are drastically different in nature and context to be analogous. For example, surrogate motherhood is analogous to foster motherhood on biological grounds. But would it be justified? The obstacles in the application of *qiyas* can be overcome in the modern period of law of medicine by using the theory of purposes of the Law, *maqasid al-shari'ah*, to derive robust and consistent legal rulings. *Maqasid al-shari'ah* is not a new theory. It has been around and there was no serious necessity to apply it⁴. *Maqasid al-shari'ah*, or the higher objectives, intents and purposes of Islamic law, is geared towards:

1. *Hifz al-Din* (protection of religion);
2. *Hifz al-Nafs* (protection of life);
3. *Hifz al-Nasl* (protection of progeny);
4. *Hifz al-Aql* (protection of the mind);
and
5. *Hifz al-Mal* (protection of wealth).

This classification is permanent and clearly describes the paramount and basic necessities of human beings. These aims need protection, preservation and promotion.

The first purpose is the protection of *din* (*hifz al-din*). Protection of *din* within the domain of medicine refers to the maintenance of health. Health here stands for both physical and mental health. Nobody is capable of doing *ibadat* (worship) properly if he is not sound both physically and mentally. Every act done according to the way of Allah is a form of worship or *ibadat* according to Islam.

The second purpose is the protection of life (*Hifz al-Nafs*). In Islamic teachings, both birth and death are controlled by Allah in the absolute sense. But as long as man is alive he deserves a better life. Herein lies the role of medicine, which should ensure a good life for every human being. Medicine is able to offer an enhanced quality of life. The preservation and continuation of life is possible when the physiological function of the body remains in equilibrium. Medicine is also able to relieve patho-physiological stress by preventive, curative and rehabilitative measures.

Life is sacred and its sanctity is guaranteed by the *Qur'an* (2:84-85, 4:29, 5:32, 6:151, 17:33, 18:74, 25:68). Every life is as important as any other life. So destroying the life of one person is equivalent to destroying the life of all humans (5:32).

Therefore, the first principle of Islamic medical ethics would be to preserve life. The protection of life is the second most important goal of the *Shari'ah*, coming second only to the protection of the *din*.

Legal compensation for bodily damage is regarded as the replacement of lost earnings, and not paying for the value of life. Here the compensation stands for the legal provision to provide sustenance to surviving relatives in case of death. It is also a token for sustenance to a person whose organ has been severed and who cannot therefore work to support himself. The quality of life is multidimensional and it can be improved physically (making it free from disease and offering a comfortable environment and basic necessities), mentally (through calmness, the absence of neurosis and anxiety and having a purposive life) and spiritually (having a correct relationship with Allah)¹⁴.

The third purpose is the protection of progeny (*Hifz al-Nasl*). The protection of progeny bears significance in medicine when medicine aims at caring for children so that their health is ensured. For the successful birth of children, care for pregnant women, prenatal medicine and pediatrics are important. Good health is a prerequisite for healthy adulthood, procreation and the continuation of human life. As Islam encourages reproduction, it advocates the treatment of infertility.

Protection of the mind (*hifz al-aql*) in relation to medical ethics signifies the necessity of treatment of any physical or mental disease. Recovery from a disease surely brings about mental tranquility.

The fifth purpose is the protection of property or wealth (*Hifz al-Mal*). The wealth of any community depends on the productive activities of its healthy citizens. Medicine contributes to the generation of wealth by the prevention of disease, promotion of health and the treatment of disease.

Thus, the *Shari'ah's* rules and principles fall under one of three categories and their preservation: (a) absolute necessities (*daruriyyat*), (b) exigencies (*hajiyyat*) and (c) embellishments (*tahsiniyyat*).

The five items listed above belong to the necessary (*daruri*) category. If they are disrupted, then the stability and equilibrium of an individual and family are disrupted, as well as social life itself. Any civilization that wishes to survive must uphold and protect these five essentials.

Having explained the concept of ethics based on the purpose of the *Shar'iah*, we now address the ethical philosophy of Islam. We begin by introducing the standard of judgment delineated by Islam with regards to ethical and unethical behavior as well as outlining the motivating force that, according to the tenets of Islam, should play a major role in opting for the 'good' and avoiding the 'bad'. As stated previously, the five items of preservation belong to the category of absolute necessity (*daruri*). If disrupted, the stability and equilibrium of an individual, family and social life are disrupted. Any civilization that wishes to survive must preserve and protect these five elements. Underlying this thinking is Islam's doctrinal position that man is the vicegerent of God on earth.

Regarding the relationship between the primary purposes which represent the absolute necessities, Imran Ahsan Khan Nyazee writes¹⁵.

"The relationship that exists between the primary purposes may be highlighted by visualizing outer shells serving or protecting the inner shell or shells.

Thus, the innermost shell is represented by the preservation (*ibqa*) and protection (*hifz*) of *din*. This represents the foremost purpose of the *Shari'ah*. The relationships described above indicate purposes have a higher priority than others, that is, they would be preferred in case of clash between two interests". Thus, the preservation and protection of religion (*din*), as we have pointed out earlier, has preference over the preservation and protection of life; life has a higher priority than progeny; progeny is

prior to intellect (*aql*); and intellect is preferred over wealth or property.

According to the *Qur'an*, a Muslim has to discharge his moral responsibility to all of humanity society, and creation. The *Qur'an* urges us to purify our souls from self-seeking egotism tyranny, a lack of restraint and indiscipline. It calls towards piety (*taqwa*) and God-consciousness. The *Qur'an* says:

"Consider the human self, and how it is formed in accordance with what it is meant to be, And how it is imbued with moral failings as well as with consciousness of God! To a happy state shall indeed attain he who causes this [self] to grow in purity, and truly lost is he who buries it [in darkness]" (1:8-10).

The *Qur'an* induces feelings of moral responsibility and fosters the capacity for self-control. Furthermore, it generates kindness, generosity, mercy, sympathy, peace, disinterested goodwill, scrupulous fairness and truthfulness towards all creation in all situations

What has been highlighted is a summary of the Qur'anic inspired concept which offers humanity an integrated, balanced equilibrium for the sustained improvement in well-being of all mankind. The scheme has wide connotations in relation to well-being, far beyond mere fulfillment of psychological, mental and bodily needs. What it demonstrates is the need for physical health as well as economic growth and development to run parallel with efforts to fulfill spiritual and mental needs.

Rules in Solving Conflicting Cases

Cases such as that of terminal illness may cause the principles of protection of life and protection of wealth to come into conflict. Care for the terminally ill consumes a lot of resources and resolution must refer to the

principles of the Law, *qawdid al-shari'ah*, that are described below¹⁶.

First Principle: Intention

Intention is extremely important in decision-making. If a man tries to kill a man but fails he will still be judged on the basis of his intention to murder though he failed. Although ancient the medical profession has always suffered the same tug of war, an oscillation between respect for patients and their wishes and the tough responsibility of

duty and obligation with regards to their medical needs. Renowned Muslim scholar and jurist, Al-Shāfi'i, once remarked, "People cannot dispense with two groups of individuals: the scholars for their (the people's) religion and the physicians for their (the people's) bodies¹⁷".

There are many issues concerning medical procedures and decisions that are hidden from public view. A physician may carry out a procedure for a stated reason that overtly seems plausible while hiding a different intention within.

Table 1: Legal Maxims on the Principles of Intention

Islamic Maxim	Description	Example of Application
Intention: Matters are to be considered in light of their objectives.	All work is recognized according to the intention behind it. It calls upon the physician to consult his inner conscience.	A practical example is use of morphine for pain relief in terminal care when the actual intention may be to cause respiratory depression that will lead to death.
What matters are the intentions and not the literal meaning.	This sub-principle is used to refuse use of legal arguments based on literal translation of the text to justify immoral acts.	The interpretation of the <i>hadith</i> on embryological development to justify abortion on demand before ensoulment.
Means are judged with the same criteria as the intentions	This sub-principle implies that no useful medical purpose should be achieved by using immoral methods.	This implies that no useful medical purpose should be achieved by using immoral methods.
Doubtful things are better avoided.	This principle protects against unnecessary medical interventions in long-standing anomalies or deformities that do not appear to cause any discomfort	This principle protects against unnecessary medical interventions in long-standing anomalies or deformities that do not appear to cause any discomfort.
The origin of things is permissibility	All medical procedures are considered permissible unless there is evidence to prove their prohibition.	Medicine should contribute to the preservation and continuation of life by making sure that physiological functions are well maintained. It also should find ways and means to relieve pathophysiological stress by preventive, curative, and rehabilitative measures.
All matters related to the sexual	This is an exception to the above general rule of permissibility i.e. there are certain	Biomedical ethics in Islam is not value free.

Islamic Maxim	Description	Example of Application
function are presumed forbidden unless there is evidence to prove permissibility.	conditions and procedures related to the sexual and reproductive functions.	

Second Principle: Cause No Harm

Harm must be removed¹⁸. This principle has been derived from the hadith that “no harm shall be inflicted or tolerated in Islam” (*La darara wa la dirar fi al-Islam*). Some of the variant renderings of the maxim *ai-cjararu yuzal* read as follows; “Harm must be eliminated but not by means of harm” (*al-daruru yuzal wa lakin la bi darar*); and “Harm is not eliminated by another harm” (*al-daruru la yuzalu bi al-darar*). The

hadith under discussion has provided the basis of numerous other maxims on the subject of *darar*, including for example, “A specific harm is tolerated in order to prevent a more general one” (*Yutahammal al-darar ai-khas li daf al-darar al-am*) “Harm is eliminated to the extent that is possible” (*al-dararu yudfau bi-qadr al-imkan*) and “A greater harm is eliminated by means of a lesser harm” (*yuzal al-darar al-ashaddu bi al-darar al-akhaff*).

Table 2: Legal Maxims on the Principles of Do No Harm

Islamic Maxim	Description	Example of Application
Cause no harm. Harm must be eliminated.	The physician should however cause no harm in the course of his work.	The physician should however cause no harm in the course of his work.
Injury should be prevented or mitigated as much as is possible.	Any potential harm to the individual and society has to be prevented as much as possible. This resembles the proverb “prevention is better than cure”.	Medical intervention is justified on the basic principle that at injury, if it occurs, should be relieved.
To repel a public harm a private damage is preferred.	One has to succumb to the damage which is private in nature in order to prevent social harm,	As above
The prevention of harm has priority over the pursuit of a benefit of equal worth.	If the benefit has far more importance and worth than the bane, then the pursuit of the benefit has priority.	
A lesser harm is committed in order to prevent a bigger harm.	If confronted with two medical situations both of which are harmful and then is no way but to choose one of them, the lesser harm is committed	Combating communicable diseases, the state may have to restrict movements of a citizen or even destroy his property to be achieved.
Prevention of harm has priority over pursuit of	An injury should not be relieved by a medical procedure that leads to an	In a situation in which the proposed medical intervention has side effects.

Islamic Maxim	Description	Example of Application
a benefit of equal worth.	injury of the same magnitude as a side effect.	
The individual may have to sustain a harm in order to protect public interest.	Medical Interventions that are in the public interest have priority over the consideration of individual interest.	The state cannot infringe on the rights of the public unless there is a public benefit too.

Third Principle: Certainty

What is to be done when there is no clear rule? All acts are permissible unless there are clear prohibitions¹⁹.

Table 1: Legal Maxims on the Principle of Certainty

Islamic Maxim	Description	Example of Application
Predominant conjecture.	Everything in medicine is probabilistic and relative.	Medical practices cannot operate at the level of conjecture (<i>zann</i>), or pure doubt (<i>shakk</i>).
Predominant conjecture.	Treatment decisions are based on a balance of probabilities.	The principle protects against unnecessary medical interventions in long-standing anomalies or deformities which do not appear to cause any discomfort

Fourth Principle: Hardship

Hardship begets facility (*al-mashaqqah tajlibu al-taysir*). This is in accordance with the general Islamic principle that Islam is an easy religion which cannot be made

difficult or a burden for its followers. The Qur'an says, "God wills that you shall have ease, and does not will you to suffer hardship"

Table 2: Legal Maxims on the Principle of Hardship

Islamic Maxim	Description	Example of Application
Hardship: its meaning in a medical setting	Any condition that will seriously impair physical and mental health if not relieved promptly.	Hardship mitigates all the <i>Shari'ah</i> rules and obligations
Hardship shall bring alleviation, or hardship begets facility.	The presence of difficulty requires that allowances be made to effect ease. This principle embodies the fact that Islamic Law is built upon achieving ease and not upon imposing hardships.	Medical interventions that would otherwise be prohibited actions are permitted under the principle of hardship if there is a necessity (<i>darurah</i>).
Necessity legalizes the prohibited, <i>al-</i>	The genuine difficulties are considered as necessity (<i>darurah</i>). Whenever difficulties present themselves, the	Under the principle of hardship secrets may be

Islamic Maxim	Description	Example of Application
<i>darurat tubithu al-mahzurat</i>	Law makes provisions to facilitate. The condition for such measures to be taken is that the difficult are real and not imagined.	revealed under necessity, (<i>darurah</i>), in cases of court litigation, the caregiver could testify in criminal cases that involve injustices

Fifth Principle: Custom

The generally accepted standard of medical care is defined by custom. What is considered customary is what is uniform, widespread and predominant. The customary must also be old and not a recent phenomenon so that there is a chance for a medical consensus to be formed.

Relevance for Bioethics

Morality deals with (1) what behavior we ought to do and (2) what kind of person we ought to be. Islam has laid down some universal fundamental rights for humanity as a whole which are to be observed and respected under all circumstances. In order to achieve these rights, Islam prescribes not only legal safeguards but also a very dynamic and effective moral code.

The Qur'an states:

It is not righteousness that you turn your faces towards East or West; but it is righteousness to believe in Allah and the Last Day, and the Angels, and the Book, and the Messengers; to spend of your substance, out of love for Him, for your kin, for orphans, for the needy, for the wayfarer, for those who ask, and for the ransom of slaves; to be steadfast in prayer, and practice regular charity; to fulfill the contracts which you have made; and to be firm and patient, in pain (or suffering) and adversity, and throughout all periods of panic. Such are the people of truth, the Allah-fearing.

However, according to the ethical philosophy of Islam, knowledge of good

and evil, that is the standard of distinguishing between the two, is a part of man's primordial nature. Amongst many other concepts this human nature also includes moral concepts such as justice, truthfulness, honesty, helping the weak, freedom in one's personal affairs etc. And although their application may differ in practical life in response to varying circumstances, yet the concepts themselves have never been questioned and are, and have mostly remained, universally accepted. It is for this reason that ethical values such as justice, honesty, trustworthiness and truthfulness etc. have never been questioned philosophically, even though considerable practical deviation or a huge difference in their practical application may exist.

Conclusions

It should be apparent from the preceding discussion that the Qur'an remains the primordial Islamic epistemological premise. Furthermore, it should be clear that the authentic *Sunnah* forms the supportive instrumental-cum-normative epistemological premise, and that *ijtihad* forms the instrument of *Ahkam* formation and is subject to continuous evolution, change, extension and determination. It should also be obvious secondly, that the methodology of deriving knowledge is presented in the Qur'an as a discursive, that is, interactive-integrative phenomenon, incessantly occurring both inter- and intra-systems. Thirdly, the precept of *Tawhid* forms the essence of the Qur'anic reality in which is premised the universally

discursive process of unification of knowledge.

Islamic bioethics is nothing but an extension of its legal dimension. Ethical guidelines in Islam are both fixed and variable. The fixed moral and legal principles are broad enough to encompass the needs of all times and places. The detailed applications are variable and change according to the environment and time. There is an elaborate system of checks and balances as well as legal directions provided in the Islamic legal system within the framework of Qur'anic epistemology. The moral imperative of Islam, encompassing biological and medical ethics, is intimately related to its epistemology.

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CHAPTER THREE

CONTEMPORARY INTERNATIONAL PRINCIPLES OF MEDICAL ETHICS

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Abstract

In the current era, a great deal of attention has been given worldwide to ethics and regulations in various areas of research. This global concern is due to many reasons such as: broadening of research areas and addressing emerging issues not previously touched, in order to set boundaries for the problems arising due to advancement in research. Thus, ethical guidelines would assist to solve the current problems and clear misperception in medical research and socio-economic sectors. Since medical research is no longer an individual domain but has turned into globalization and investment, it becomes necessary to set guidelines and ethical regulations to protect the values of patients and their families. An ethical principle provides a set of rules to protect humans or animal's life, health and ensure safety. It is a process that directs the researcher to decide what would be the right decision to make. Medical research requires a set of ethical rules for those in practice to control interventions in biomedical research especially those using humans and animals as subjects. Thus protecting subjects or outcomes from exploitation and considering conflicts of interest. It would be deluding to consider that the research process is merely following the principles and steps to address a specific problem or idea by: collecting data, analysing, and documenting it; rather these are set of ethical rules and regulations at each step of the research process which the researcher must be fully aware of and strictly followed.

Keywords: Research, ethics, biomedical.

History

Tuskegee incidence 1932¹⁻³

In Macon County in 1932, the U.S. Public Health Service (PBS) doctors conducted an experiment on the rural African American men infected with syphilis (sexually transmitted bacteria causing painful sores and insanity or death in severe cases). The study was done in cooperation with U.S. public health departments and the Tuskegee Institute without the consent of the participants but was deluded for being treated for bad blood. The participants were left untreated and the PBS convinced the physicians at the County not to treat the subjects in order to track the disease progression. Therefore, the participants were not provided with any effective health care which led to the death of some participants, while the rest experienced severe problems, went blind or insane in other cases.

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The Post WWII dreadful experiments^{4, 5}

The most dreadful of all atrocities was possibly the experiments conducted by Nazi doctors using humans as guinea pigs for their trials after the Second World War II. The Nazi doctors performed various harmful experiments on prisoners in the German concentration camps in Dachau, Ravensbrueck, Baranowicze, Auschwitz, Buchenwald, etc.

High altitude experiments: To determine the maximum altitude from which crews of damaged aircraft could parachute to safety.

Experiments to test drugs and treatments: Tested immunization compounds and antibodies for the prevention and treatment of contagious diseases, including malaria, typhus, tuberculosis, typhoid fever, yellow fever, and infectious hepatitis.

Sterilization Experiments to advance Nazi racial and ideological goals: Mass sterilization was performed to test a number of methods in an effort to develop an efficient and inexpensive procedure for subjects considered to be racially or genetically undesirable.

Euthanasia Program: The systematic killing of those deemed "unworthy of life", including the mentally ill and physically impaired patients.

Experiments on twins: Experiments done on about 1500 sets of imprisoned twins in concentration camps to test if their bodies can be manipulated artificially. The individuals would be forced for the experimentation where dyes would be injected in one of the twin's eyes while the other one kept as a control. The twins may later be killed to examine the changes in each of the twins.

Bone, muscle, and nerve transplantation experiments: The sections of muscle, bone, and nerve were removed and transplanted without anaesthesia and thus such experiments led to many victims ending with disability.

Head injury experiments: A young boy of 11-12 years of age was tied to a chair and bitten on his head by a hammer until he turned insane due to torture.

Freezing experiments: prisoners exposed to open air as low as -6 °C for several hours to study the physical effects of low temperature on their body. The survivors were also tested for the re-warming effects where some were even thrown in boiling water. Many subjects died in the process.

Gas burns experiment: Individuals were exposed to mustard gas to test the most effective treatments of burn treatment as a result of which the subjects suffered from severe burns.

Sulfonamide experiments: To test Sulfonamide for its antibacterial property, subjects were infected through inflicted wounds with *Streptococcus*, *Clostridium perfringens*, and *C. tetani* and then aggravating the wounds by inserting ground glass and wood shavings in them. The wounds were then treated with sulphonamide to test the effectiveness.

Various other experiments were also done using prisoners of war by treating them inhumanly e.g., sea water drinking, electric shocks, poison administration, limb amputation, operations done with anaesthesia, starvation, and phenol injections.

The discovery of these experiments stunned the whole world which led to the formulation of the Nuremberg code.

Thalidomide drug tragedy^{6, 7}

In the year 1957 a German pharmaceutical company "Chemie Grünenthal GmbH" released a drug "Thalidomide" a mild-sleeping pill and claimed to be safe for use as an over-the-counter remedy even during pregnancy. Thalidomide was marketed to 46 countries by 1960 and proved high sales until 1961 when an Australian obstetrician Dr. William McBride associated birth defects with the claimed harmless compound in the babies delivered by him. The birth of thousands of babies with

malformed limbs increased in Germany and elsewhere due to thalidomide usage by pregnant women. The company should have withdrawn the drug soon as it received warning reports but instead, it continued selling it without additional safety testing. This led to tougher testing and rigorous procedures with a long criminal trial in Germany and campaign in Britain leading to the drug being banned. The company had to settle for 100 Million Marks as it was never determined if the company could foresee the teratogenic effects of Thalidomide.

Nuremberg Code ^{8,9}

As a result of the dreadful experiments that happened 70 years ago on humans, after World War II, a document called the Nuremberg code was made to establish 10 ethical points regarding human rights and protection in medical research. The code states the following points:

1. "The voluntary consent of the human subject is absolutely essential.
2. The experiment should be such as to yield fruitful results for the good of society.
3. The experiment should be so designed and based on the results of animal experimentation and knowledge of the natural history of the disease.
4. The experiment should be so conducted as to avoid all unnecessary physical and mental suffering and injury.
5. No experiment should be conducted where there is an a priori reason to believe that death or disabling injury will occur.
6. The degree of risk to be taken should never exceed that determined by the humanitarian importance of the problem to be solved by the experiment.
7. Proper preparations should be made and adequate facilities provided to protect the experimental subject

against even remote possibilities of injury, disability, or death.

8. The experiment should be conducted only by scientifically qualified persons.
9. During the course of the experiment, the human subject should be at liberty to bring the experiment to an end.
10. During the course of the experiment, the scientist in charge must be prepared to terminate the experiment at any stage, if he has probable cause to believe, in the exercise of the good faith, superior skill, and careful judgment required of him that a continuation of the experiment is likely to result in injury, disability, or death to the experimental subject".

Belmont report^{10,11}

The Belmont Report is the summary of the basic ethical principles indicated by the National Commission for the Protection of Human Subjects of Biomedical and Behavioural Research held at the Smithsonian Institution's Belmont Conference Center in February 1976 which established the ethical guidelines involving problems regarding the use of human subjects in medical research.

The National Commission for the Protection of Human Subjects of Biomedical and Behavioural Research was charged to identify the basic principles of biomedical ethics involving human subjects and to set guidelines to assist the researchers to work according to such principles. The following points were considered for the development of guidelines:

1. To confine the limits of biomedical and behavioural research along with the medical routine practice.
2. The role of evaluation of risk-benefit and its measurement of the relevance of the human subjects' involvement.
3. Specific principles to guide the selection of human subjects involved in the research.

4. The informed consent type and description in various research settings. The Belmont report consists of three basic principles for practice and research and their ethical principles:

- a) **Boundaries between practice and research:** research and practice may go on together without confusion regarding the review of actions. The protection of human subjects should be considered and safety and efficacy ensured.
- b) **Basic ethical principles:** involves the justifications for various ethical and cultural considerations regarding research ethics involving human subjects. The three principles involved in research ethics include:
 - Respect for persons
 - Beneficence
 - Justice
- c) **Applications:** the principles involving the human subjects to conduct research leading the following requirements to be considered:
 - Informed consent
 - Risk/benefit assessment
 - Selection of subjects of research.

The World Medical Association (WMA) and the Helsinki Declaration^{12, 13}

The 18th World Medical Association (WMA) General Assembly called the Declaration of Helsinki a set of guidelines for biomedical ethics. This declaration was created as a result of the medical atrocities which happened in the Tuskegee Syphilis Study in the US with the guidelines laid by the Belmont report in 1979 regarding human subjects in research.

General principles: Ensures the protection of life, health, privacy, and dignity of the human subject involved in medical research. The protection and cautious actions must be considered when involving

animals as subjects in research. Methods and designs of experimentation involving human subjects must be clearly formulated. The research subjects should be volunteers and informed consent should be taken from them. The physician must protect the life, health, integrity, privacy, and ensure confidentiality of research subjects for their personal information.

Risks, burdens, and benefits: Medical research involving human subjects must be carried once the careful evaluation and measurement of all possible risks and burdens are studied. Minimum risks must be implemented with continuous monitoring of risks throughout the research.

Vulnerable groups and individuals: Vulnerable subjects are excluded to avoid chances of wrong analysis or harm.

Research ethics committees: Prior to initiation, the research protocol should be submitted for evaluation, review, and approval from the ethical committee which must be qualified, transparent, and independent of researchers.

Privacy and confidentiality: The privacy and confidentiality of research subjects should be protected.

Informed consent: Human subjects must give voluntary informed consent for being involved in a research study and no research can be done until the subject freely agrees on all the aims and methods of the study. Adequate information must be provided to the subjects regarding the nature of the study, objectives, expected benefits, possible risks, conflicts of interests, and any other information affecting the subject.

Use of placebo: A placebo is used when no proven treatment exists or is acceptable and when no intervention is required to measure its efficiency and safety.

Provisions in post trials: Participants still in need of the intervention that had been used in the research trial and proved beneficent must be provided with the treatment even in the post-trial process. The details of this information must be shared

with the participants during the process when informed consent is taken.

Research documentation and publication: In each research study conducted on human subjects, the study should be registered in a public database accessible to others prior to first subject recruitment. It is the duty of the researcher to publish and document complete and accurate reports stating all the results inclusive of all the positive and negative outcomes from the conducted study. The researcher should also state the funding source, affiliations, and conflict of interest when publishing their research study.

Unproven interventions: In specific cases of individual patients where no proven treatment exists, the physician after being able to measure the consequences and judging the use of an unproven intervention that can save life or offer relief to the patient's suffering may use the unproven treatment if informed consent is obtained.

The Council for International Organizations of Medical Sciences (CIOMS) ^{14, 15}

The Council for International Organizations of Medical Sciences (CIOMS) in collaboration with the World Health Organization (WHO) established an "International Ethical Guidelines for Biomedical Research Involving Human Subjects" in 1982 in order to manage guidelines for research in developed and developing countries emerged as a result of pharmaceutical industrialization. The organization made progress in various social values related to research and decision-making effects such as:

- Public policies creation
- Research development in low-resources areas
- Groups or subjects involved in the research process
- Informed consent variations
- Identification of subjects included or excluded in research.

Though the guidelines provided many improved changes related to scientific, social, and technology harmonized

together, while some issues still remain unresolved such as:

- Management of minimal risk for subjects involved in research,
- Conflict of interest
- Development of research in low-income settings.

The influence of CIOMS Ethical Guidelines must be evaluated regularly specifically in the cases of inequities regarding socio-sanitary and conflict of interest in medical research issues.

Committee On Publication Ethics (COPE) ^{16, 17}

Not only do general ethics have implications on research, but ethics related to publication have also been an important element in biomedical research ethics. For over 20 years, the Committee on Publication Ethics had been supporting academics, publishers and organizations globally. COPE developed a strategic plan to guide and support the organization and its proceedings to strive with their members in academics and research institutes to develop resources in various sectors including arts, science and technology. The biomedical journal editors should be accountable for the content of their journals by striving to fulfil the need of the authors and readers, improving quality, material relevance, integrity of scientific data, preventing business needs to undermine in the rational of the scientific standards, and having the readiness to amend or publish corrections and accept mistakes. The COPE had set the code of ethics in publication and any deviation from this code is reported to be misconduct which is thus expected to be reported to the COPE. The core practices of the committee on publication ethics are as follows:

Quality and record correction: The editors of the journal should take all responsibility to improve the quality of research published with accuracy and precise statements. Any fraud or major errors discovered should be retracted and subsequently corrected.

Authorship and contributor-ship: The journal should have clear policies for transparency for the contribution of authors in the published work according to the capacity of the work of each author for managing their potential contribution.

Complaints and appeals: The journal should have clear policies and be open to taking complaints against any of the editors, staff, or publishers. The editors should also respond promptly to the complaints submitted.

Conflicts of interests: The issue regarding conflict of interests should be handled by the editors through their management systems by themselves or their staff. The funding agency should be mentioned and their role in funding the research clarified for the readers.

Reproducibility of data: The journals should state policies for the availability, reproducibility, study designs, and clinical practices according to the standard practices in the concerned discipline.

Ethical oversight: The use of humans or animals as research subjects, the publication consent, confidentiality of data, ethical business practices, and vulnerable population publishing should all be ethically considered.

Intellectual property: Clear description of the copyright, publishing license, publishing costs, redundant publication, and plagiarism should be obvious in the journal to the authors and readers.

Journal management: The journal should have a well-structured infrastructure for its policies, software running, business model, and efficient training and management for its editorial board and staff.

Peer review process: The journal should have a transparent and robust peer review process and their editorial team and reviewers be provided with training for handling reconsiderations, conflict of interests, and disputations.

Post-publication discussion and correction: Journals should have established mechanisms of revising and

retracting published articles after publication and be open for correction.

Islamic Principles in Medical Ethics

Our religion Islam strongly encourages us on high moral values in all aspects of life. It does not only urge ethics in everyday life but also in our work, studies, and research in various fields. Scientific research is based on honesty and trust among researchers and publishing bodies. Quran and *Sunnah* have insisted on the protection of human rights, eliminating harms and integrity in regard to all aspects of life which goes in relevance with biomedical research and medical ethics. Some of the Islamic principles that should be applied in medical research ethics are as follows:

1. Objectives of *Shariah* in medical ethics:

The objectives of *Shariah* to achieve: Preservation of religion, life, intellect, lineage & property. These objectives are stated by Al-Ghazali:

مقصود الشرع من الخلق خمسة وهو أن يحفظ عليهم دينهم، ونفسهم وعقلهم ونسلهم ومالهم.¹⁸

Thus, any research study should only be approved if it fulfils the protection of human privacy, confidentiality, and the human subject's mind, health, wealth, life, and race accounted to be safe.

2. Islam encourages quality research:

On many occasions, the teaching of Islam has emphasized quality and content which reflect its usefulness for mankind. In this context, biomedical research should be based on the quality of research and its benefits rather than quantity with no focus on how important for a particular study to be conducted. For instance, Abu Naem Al-Asfhani said,

ليس العلم ما حُفِظ، العلم ما نَفَع¹⁹

i.e., Knowledge is not what is learned, but it is how it benefits.

3. Avoiding stringency for unachievable research:

It is important for a researcher to be flexible and reasonable when conducting medical

research regarding the feasibility and rationality of the research methods.

وَلَا تَقْفُ مَا لَيْسَ لَكَ بِهِ عِلْمٌ إِنَّ السَّمْعَ وَالْبَصَرَ وَالْفُؤَادَ كُلُّ أُولَئِكَ كَانَ عَنْهُ مَسْئُولًا²⁰

“And pursue not that of which thou hast no knowledge; for every act of hearing, or of seeing or of (feeling in) the heart will be enquired into (on the Day of Reckoning).”

A researcher should never depend on uncertainties regarding information and publications, rather must always be precise and document their data with reason, evidence, and proof. The phrase “قُلْ هَاتُوا بُرْهَانَكُمْ”²⁴⁻²¹ meaning “Produce your proof” has been repeated four times in the Quran reflecting the importance of giving evidence in the case of filling in the gaps of knowledge.

4. The concept of Harm and its prevention

Islam stresses on the concept of not harming or developing any object which could be a source of harm for humankind. Similar is the case in biomedical research, the basis of Islamic ethics works on the principle of preventing any harm to the life of any living organism. The Prophet Muhammad (PBUH) said in his Hadeeth:

“لَا ضَرَرَ وَلَا ضِرَارَ”²⁵

“There should be neither harming (darar) nor reciprocating harm (dirar).”

The medical research should offer only useful and safe services which include in research ethics. This concept relates to the saying of Prophet Muhammad (PBUH):

“أَحَبُّ النَّاسِ إِلَى اللَّهِ أَنْفَعُهُمْ لِلنَّاسِ”²⁶

“The most beloved people to Allah are those who are most beneficial to people.”

The medical ethics also prioritizes the benefits of the research conducted for mankind rather than any other benefit. A Hadith mentions the reward of a person who does well to benefit others as follows:

“مَنْ دَلَّ عَلَى خَيْرٍ فَلَهُ مِثْلُ أَجْرِ فَاعِلِهِ”²⁷

“He who guides (others) to an act of goodness, will have a reward similar to that of its doer.”

5. **Being open for consultation from experts:** a researcher should always be willing to discuss and get advice from experts of concerned fields. Knowledge must be taken from all authentic sources and from all experts regardless of their religion or beliefs. The Khalifa Ali (Allah be pleased with him) said:

“العلم ضالة المؤمن فخذوه، ولو من ايدي المشركين، ولا يأنف احدكم ان يأخذ الحكمة ممن سمعها”²⁸

“Knowledge and wisdom are really the privileges of a faithful Muslim. If you have lost them, get them back even though you may have to get them from the apostates.”

6. **Scientific research is based on trust and integrity:**

Islam emphasizes sincerity and truthfulness when reporting information especially concerning matters which can affect the life or safety of individuals. The medical research is based on reporting only reliable and true data or results. The Hadith stating the importance of honesty and keeping away from cheating or false reporting:

“مَنْ عَشَنَا، فَلَيْسَ مِنَّا”²⁹

“He who cheats us is none of us.”

The Hadith shows the importance of being true and honest while reporting the results of a research study without any manipulation or alteration.

7. **Concept of Ibadah in medical research:**

A good worshiper is a person whose actions are always for the sake of Allah, the end goal and aim of such person is to please Him. The essence of every action is based on the intention. Thus, if the intention of a researcher is to conduct a study for the sake of Allah and the benefit of humanity then the reward will be according to the intentions made. The Hadith of the

Prophets states the importance of intentions:

"إِنَّمَا الْأَعْمَالُ بِالنِّيَّاتِ ، وَإِنَّمَا لِكُلِّ امْرِئٍ مَا نَوَى" ³⁰

"The deeds are considered by the intentions, and a person will get the reward according to his intention."

Every deed can turn into an 'Ibadah' if the intention of the action is done for the sake of Allah.

8. **Collaboration among researchers should be based upon righteousness:**

Islam encourages teamwork and collaboration with reliable and righteous individuals. This provides the basis in medical ethics where integrity in conducting research and transparency is considered substantial. The scientific research is no more an individual domain; therefore it is highly encouraged to work together in cooperation under standards of virtue and high ethical values. Allah says in the Quran:

"تَعَاوَنُوا عَلَى الْبِرِّ وَالتَّقْوَىٰ وَلَا تَعَاوَنُوا عَلَى الْإِثْمِ وَالتَّعَدُّوا" ³¹

"And cooperate in righteousness and piety, but do not cooperate in sin and aggression."

9. **Commitment to justice and objectivity in medical research:**

Medical research should be based on objectivity and must be ethically permissible when research involves humans or animals as the subject of treatment. Care and safety must be the priority of research and the subject's rights protected with no violation of any of the ethical values. The Quran stresses this concept:

" وَلَا تَبْخَسُوا النَّاسَ أَشْيَاءَهُمْ وَلَا تُفْسِدُوا فِي الْأَرْضِ بَعْدَ إِصْلَاحِهَا ذَلِكُمْ خَيْرٌ لَّكُمْ إِن كُنْتُمْ مُؤْمِنِينَ" ³²

"And do not cheat people out of their rights, and do not corrupt the land after its reformation. That is better for you— if you are believers."

The Declaration of Helsinki from the Islamic perspective

Islam had developed the principles and moral values for over fourteen hundred years. Thus, Islam has already outrun the new era's ethical consideration for quite a long time. The Islamic principles of ethical values had been followed for several decades as mentioned in the Quran and Sunnah as follows:

1. **Life is the right of every individual and no one has the right to violation:**

Allah has created the body and soul of humankind with honour and valued it over other creatures. Therefore, no individual has the right to violate or exploit their values be it for research or any other purposes. The Quran mentions the value of a human as follows:

"وَلَقَدْ كَرَّمْنَا بَنِي آدَمَ" ³³

"We have honoured the sons of Adam"

Thus, while conducting any kind of medical research, ethical considerations should be fulfilled in order to preserve the right and protection of humans as subjects.

2. **Reinforcement of the concept of quality in research work:**

The quality of research is not a matter to compromise when conducting a biomedical study; a concept stressed upon globally as well as a general rule in Islam for every activity in our life. The quality of research should constantly be improved and precise statements must be documented. A Hadith states the importance of doing things in the best manner (Ihsan):

"إِنَّ اللَّهَ كَتَبَ الْإِحْسَانَ عَلَىٰ كُلِّ شَيْءٍ" ³⁴

"Verily Allah has prescribed Ihsan (kindness) for everything."

In the Quran, Allah Almighty says:

"وَأَحْسِنُوا إِنَّ اللَّهَ يُحِبُّ الْمُحْسِنِينَ" ³⁵

"Do good to others, and verily Allah loves the doers of good to others."

3. Prevention of harm and providing ease to others:

Allah has forbidden all the harm on mankind including the ones affecting themselves, family, wealth, and honour. Just like the Helsinki ethical code considers the protection of human subjects and their safety, the same is the case with Islamic teachings. The Quran states the value of ease and prevention of hardships:

"يُرِيدُ اللَّهُ بِكُمُ الْيُسْرَ وَلَا يُرِيدُ بِكُمُ الْعُسْرَ" ³⁶

"Allah intends for you ease and does not intend for you hardship."

4. Ethical consideration is acquiring high moral values:

The prominent elements that should be considered as ethical principles in biomedical research or be acquired by scientific researchers are:

• **Integrity and honesty:**

"وَالَّذِينَ هُمْ لِأَمَانَاتِهِمْ وَعَهْدِهِمْ رَاعُونَ" ³⁷

"And those who faithfully observe their trusts and their covenants."

Allah mentions the fineness of those who are keepers of their trusts and covenants, [made] between them, or between them and God, just like [the observance of] prayer and so on.

• **Humbleness:**

Researchers should be humble and always ready to apologize for any mistake that could happen since every human can err and there is always room for improvement and correction.

"وَفَوْقَ كُلِّ ذِي عِلْمٍ عَلِيمٌ" ³⁸

"But overall endowed with knowledge is one, the All-Knowing."

• **Kindness and Mercy:**

The medical research is based on removing or relieving the suffering of patients and thus being kind and merciful are the basis of ethical values. The Hadith states the value of mercy on others:

"ارْحَمُوا مَنْ فِي الْأَرْضِ يَرْحَمَكُم مِّنْ فِي السَّمَاءِ" ³⁹

"Be merciful to those who are on the earth and He Who is above the heavens will be merciful to you."

The merciful people will be treated with mercy by the Most Merciful (Allah).

• **Fairness and moderation:**

Being moderate and fair is the best strategy in all matters. Allah Almighty has stressed this concept on many occasions, stating as:

"إِنَّ اللَّهَ يُحِبُّ الْمُقْسِطِينَ" ⁴⁰⁻⁴²

"For, verily, God loves those who act equitably."

Allah assures that He loves those who deal with each other justly. Assuredly God loves the just.

• **Self-accountable:**

The self-reproaching keeps an individual in constant accountability of themselves and improving oneself and retracting when mistaken. This characteristic is a great value for research ethics where a researcher is always ready to recheck their achievements and retract or apologize when needed.

"وَلَا تُقْسِمُ بِالنَّفْسِ اللَّوَّامَةِ" ⁴³

"And I swear by the self-reproaching soul (at the doing of an evil deed as evidence to the truth of Final Resurrection)."

In the Tafseer of Al-Qurtubi, he said that the phrase "النَّفْسِ اللَّوَّامَةِ" refers to the person who constantly practices self-accountability. Allah almighty values the (self-) reproaching soul, the one that reproaches itself, even if it should spend great effort in being virtuous.

• **Sacrificing one's self and wealth for others:**

Preference of others over oneself is the highest of the values in Islam. Those who prefer others to themselves, though they are in need of that which they prefer for others to have been successful in the standards of Islam. The Quran mentions such people as follows:

"وَيُؤْتِرُونَ عَلَىٰ أَنفُسِهِمْ وَلَوْ كَانَ بِهِمْ خَصَاصَةٌ" ⁴⁴

“They gave them (Refugees) preference over themselves, even though they themselves have a need.”

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CHAPTER FOUR

SHARI'AH CONCEPT OF MEDICINE AND SEEKING REMEDY

Siti Aisyah Ismail, and Agus Setiawan***

Abstract

The Quranic texts and traditions of the Prophet (PBUH) has encouraged the believers to seek medical treatment and healing. Seeking treatment is part and parcel of the process of *tawakkul*. Forbidden substances can be used as medicines if there are no permissible alternatives and the treatment is prescribed by a trustworthy and competent doctor. A forbidden substance which has undergone biotransformation (*istihālah*), and has lost its physical quality in terms of its matter, taste or smell, become permissible and can be used as a medication.

Keywords: Healing, *tawakkul*, biotransformation, *istihālah*.

It is mentioned in the *Glorious Qur'ān*, with regards to honey:

".. يَخْرُجُ مِنْ بُطُونِهَا شَرَابٌ مُخْتَلِفٌ أَلْوَانُهُ فِيهِ شِفَاءٌ لِلنَّاسِ .."

"There emerges from their bellies a drink, varying in colours, in which there is healing for people".¹

Imām al-Qurṭubī has elaborated on the meaning of this particular verse as follows: "Allah (SWT) uses the term 'in which there is healing for people' which is proof and guidance on the necessity of taking medicine or other substances for healing purposes."²

There are also many narrations in the *Ḥadīth* literature where the Prophet Muḥammad (PBUH) has allowed and sometimes ordered his companions to seek treatment. In a *ḥadīth* narrated by *Imām Muslim* from a Prophet's companion, Jābir bin Abd Allāh (ra), the Prophet (saw) said, "Every illness has a cure, and when the proper cure is applied to the disease, it ends it, Allah willing."³

Another companion of the Prophet (PBUH), Usāmah bin Syariik (ra) said, "I was with the Prophet when the Bedouins came to him and said, 'O Messenger of Allah, should we seek medicine?' He said, 'Yes, O slaves of Allah, seek medicine, for Allah has not created a disease except that He has also created its cure, except for one illness.' They said, 'And what is that?' He said, 'Old age'.⁴

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Imām al-Nawawī opined, from the abovementioned *Aḥādīth*, that seeking medical treatment and healing is *mustahabb* (recommended). The same conclusions were derived from the *'ulama'* (scholars) of the *Shafii' Madhhab* (School of Islamic Jurisprudence)⁵.

Imām Abū Ishāq al-Ash`arī, the author of the book *al-Muhazab*, said: "If a Muslim falls ill, it is compulsory for him to be patient and if he so wishes, to seek medical treatment/healing"⁶.

Hence, in seeking medical treatment/healing, the initial *ḥukm* (legal ruling) is that it is "permissible", but can become "compulsory" under certain circumstances.

One example is when there is omission in seeking medical treatment or healing, by someone who is suffering from an illness, which would endanger him or cause his death, then the *ḥukm* is derived from the basis of a strong assumption of the outcome, and not necessarily from a confirmed outcome. When a particular medicine has been well-researched and scientifically proven to cure a particular illness and non-treatment may lead to definite mortality (death) or morbidity (sickness), the benefit of treatment is clear. Scholars of law would rule that refusal of treatment is *ḥarām* (forbidden). This is rationalized as the preservation of life as stipulated in the *maqasid al-Sharī'ah* based on the Qur'anic injunction "saving one life is as though saving the lives of entire humankind."⁷.

Seeking treatment is part of *tawakkul*

Tawakkul is relying on Allah in the hope to achieve something that is desired and preventing something that is feared, accompanied by carrying out their respective causative efforts. Thus,

in *tawakkul*, two prerequisites must be fulfilled. First, truly relying on Allah. Secondly, working on the efforts permitted by *Sharī'ah*. These two fundamentals must be interdependent. Whoever depends more on the effort, his degree of *tawakkul* is lacking. But on the other hand, depending only to Allah without any effort is also insulting the *hikmah* and wisdom of Allah. Rejecting the law of cause and effect, is a violation of the very concept of *tawakkul*.⁸.

Therefore, when a person falls ill and seeks treatment, he does not contradict with the concept of *tawakkul*, as long as he believes it is Allah who heals. Ibn Qayyim al-Jawziyyah says about the hadith on seeking remedy:

"In these authentic *Aḥādīth*, there is an order to seek treatment. Medical treatment does not conflict with *tawakkul*. Likewise, relieving thirst, hunger, heat, or cold from its causes does not conflict with *tawakkul*. In fact, the essence of *tawhid* (monotheism) is not fully satisfied unless by carrying out causes which determine the effects, substantially and *Sharī'ah* accordingly."⁹.

So, it is clear that *tawakkul* is an active manner.

Ḥarām (forbidden) substances in medical treatments

From the views of most *'ulamā'* on the *ḥukm* of using forbidden substances in medical treatments, the widely accepted view permits usage with certain cautions or pre-conditions. This view is held by most *'ulamā'* from various Schools of Islamic Jurisprudence (*Madhāhib*), namely *madhhab* Ḥanafī (*Imām* al-`Aynī and others) and *madhhab* Zuhri (such as *Imām* ibn Ḥazm and others). The cautions or pre-

conditions are:

1. There is no alternative medicine made from permissible (*ḥalāl*) substances.
2. The usage is recommended by a trustworthy and competent doctor, who is of the opinion that its use is mandatory and there are no alternative medications.

There are examples during the time of the Prophet (pbuh):

It was narrated by *Imām* al-Nasā'ī, in his book *Al-Sunan*, that Arfajah bin As'ad sustained injury on his nose at *Yawm al-Kilāb* in pre-Islamic times. It resulted in him reconstructing his injured nose in silver. When that led to a foul smell, then he approached the Prophet (pbuh) who ordered him to have it replaced with gold instead.¹⁰

A companion of the Prophet, Anas bin Mālik (ra), said that Prophet (saw) even gave some leeway to `Abd al-Rahman bin `Awf and Zubayr bin `Awwām to use silk shirts because of their skin itchiness¹¹.

The use of gold and silk, which by default is forbidden for use by men, is allowed for use in healing and medical treatments. This allowance is not specific for the three aforementioned companions, but is applicable as a general concept for Muslims in the state of *ḍarūrāt* (emergency).

In fact, the book *Al-Fatāwā al-Hindiyah* (5:128), (Indian Legal Edicts) states: "It is permissible to use as medical treatment the drinking of blood, urine or eating carcasses, if it is recommended by a Muslim doctor, and that there are no other medications from substances that is permissible. If the use of forbidden substances is for the hastening of cure, then there are two

views amongst the Hanafi School: one view is that it is permissible and the other is that it is forbidden."

Mixture of permissible and forbidden substances

Some modern medicine contains alcohol or other forbidden substances in the form of solid or liquid. In this case, what is the *ḥukm* of its use in the state of *ḍarūrāt* (emergency)?

1. When there is no alternative

If there is no alternative apart from that mixed-substance medicine, then it is permissible. Since a totally forbidden substance is allowed for use in healing under certain condition, all the more so for a medicine which only partly contains forbidden substances.

2. When there is an alternative

If there is an alternative medication which is pure from forbidden substances, but that medication is hard to procure, or the price is outrageously high, or the need for such medication is necessary but not to the level of *ḍarūrāt* (extreme necessity), then the rule is: When a forbidden substance has been mixed and has lost its physical quality in terms of its matter, taste or smell (*istiḥālah*), then that medication is permissible for use. The reason being that the physical quality of the forbidden substance has become non-existent.

Imām al-Kasānī, explained the use of forbidden substances which have undergone *istiḥālah* (bio-transformation). *Istiḥālah* is the concept of a forbidden substance which has undergone physical or chemical changes to become a different substance altogether. For example, if the hide of a carcass is washed and the *samak* (cleansing) done accordingly, then the hide becomes clean and

purified. Or if alcohol is subjected to the distillation process to become vinegar, likewise, it becomes permissible. He said, When a forbidden substance has undergone physical changes in its matter, taste and smell, then that substance is considered to have been purified. A substance is labelled as 'forbidden' because of what it contained. So when its content is purified in any way, then the substance's characteristics have also changed."¹².

Imām Ibn Ḥazm said: "When a forbidden substance undergoes *istiḥālah* or transformation, then it shall no longer be called as a forbidden substance but a new substance which is *ḥalāl* and pure"¹³.

Imām Ibn al-Taymiyyah explained: "*Khabā'ith* which are forbidden by Allah like carcasses, blood, swine and other species, which fall into the water or stream, later die and, its body decompose in the water, then the reason of it being labelled as 'forbidden' has also ceased. The same concept can be applied to alcohol use. When the core substance of alcohol in a solution ceased to exist for whatever reason, then those who drink that solution, must not be called an alcoholic drinker."¹⁴.

Imām al-Nawawī explained in his book, *al-Majmū`* about a dish with dissolved human flesh: "That dish is not *ḥarām* (forbidden), because the flesh has dissolved. It is the same as urine or any forbidden substances which has dissolved into water, the volume of which is more than 2 *qullah*. It is permissible to drink that water, as long as the property of the water has not changed. This is on the basis that the water does not possess the property of the dissolved urine, and urine in that stage, is considered non-existent."¹⁵.

Imām Ibn al-Qayyim said: "Allah has extracted the pure from the soiled, and the soiled from the pure. The standard ruling does not lie on the physical matter alone but the substance of that matter [in that particular time]. And it is not permissible to rule a substance as *najis* (soiled) if it has lost the property which makes it *najis* and 'turned' into a different matter under a different name"¹⁶.

From the various evidence, it can be concluded that if a substance which is considered *najis* or *khabā'ith* (impure or offencing) and all other forbidden substances are mixed with medicine which is *ḥalāl*, or when they have been boiled or processed or hydrolysed and bio-transformed, thereby then distinct and different in form, taste or smell, then the medicine is categorised as *mubāḥ* (allowed) and can be used for treatment purposes.

If a forbidden substance has not totally changed its form, or that there is still a significant amount of the substance in its original form due to its quantity or insoluble state, this is considered in the same manner as evaluating the use of a forbidden substances for healing. In other words, it is permissible for use as long as the use of the medicine is necessary, that there is no other alternative medicine permissible for use, and recommended by trustworthy medical professionals.

Rulings surrounding immunisation

Now that we understand the basics on the *Sharī`ah* rulings of seeking medical treatment, it is somewhat easier to put into context the status of the rulings surrounding immunisation.

Immunisation is often understood as defence or protection against illness. In the context of healthcare, immunisation

is seen as the administration of vaccines to prevent the occurrence of a vaccine preventable disease. It is usually given in the form of injections or orally to infants, children and adults. They have been demonstrated to be effective in global public health programmes, diminishing, eliminating and eradicating dangerous diseases. Close and vigilant monitoring of safety issues from formulation, research studies, clinical trials and post-licensure monitoring have shown vaccines to be safe, while adverse effects following immunisation (AEFI) are far and few and are usually mild and transient.

The medical, social and economical benefits conferred by immunisation programmes are impactful and unprecedented compared to other public health programmes. Except for a few conservative Muslim scholars, virtually all distinguished Muslim scholars, National Fatwā Councils and International *Majma` al-Fiqh al-Islāmī* (Islamic Jurisprudence Academy) endorse global immunisation programmes and urge all believers to prevent the spread of infectious diseases and protect themselves from the scourge of vaccine-preventable diseases.

The custodians of the two holy cities, Makkah and Madīnah, has even made it mandatory for all pilgrims to immunise against invasive meningococcal disease and other diseases, namely polio and yellow fever (if coming from endemic countries) prior to embarking on the

journey to perform *Hajj* or *Umrah*.

The European Council of Fatwa and Research (ECFR), chaired by *Shaykh* Dr Yūsuf al-Qaraḍāwī, and which includes more than 100 Muslims scholars from all over the world, has reviewed many medical issues including immunisation from the perspective of the *Sharī'ah*. On allowing the use of the oral polio vaccine (OPV); the ECFR issued a most powerful call and reminder to all Muslim scholars and leaders:

“The Council urges Muslim leaders and officials at Islamic Centers not to be too strict in such matters that are open to considered opinion and that bring considerable benefits to Muslim children, as long as these matters involve no conflict with any definite text.”

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CHAPTER FIVE

THE PERMISSIBILITY OF JUDICIALLY PROHIBITED AND IMPURE SUBSTANCES IN MEDICINES FROM THE PERSPECTIVE OF CONTEMPORARY FIQH COUNCILS

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Abstract

A maxim in Islamic law is that in social and human affairs (*muamalat*) the default rule is “everything is permissible unless proven otherwise.” In the absence of clear textual evidence to the contrary everything is permissible. Permissibility (Halal) does not require textual evidence. Silence in the text means permissibility or an opportunity for *ijtihad*.

To say any intervention (eg vaccination) is not allowed (*haram*) requires textual evidence. The burden of proof that a medicine or vaccine or custom (*mu'amalat*) is not permissible falls on those who repudiate it, not on those who affirm it. Nevertheless, in borderline cases, the law prefers to err on the side of leniency, compassion and mercy.

The issue of the use of impure animal products in medicines was forwarded by the World Health Organization's (WHO) office in 2001 to IOMS (Islamic Organization of Medical Sciences) based in Kuwait and the response of the European Council of Research and Fatwa (ECFR) is narrated.

Keywords: *Muamalat*, permissible, halal, *Ijtihad*, haram, fatwa.

Introduction

Suffice to begin the narrative by quoting a verse each from the *Quran* and the *Hadiths* (authentic traditions of the prophet) which sums up the compassionate and human nature of Islam.

Allah SWT says in the Quran;

“وَجَاهِدُوا فِي اللَّهِ حَقَّ جِهَادِهِ هُوَ اجْتَبَاكُمْ وَمَا جَعَلَ عَلَيْكُمْ فِي الدِّينِ مِنْ حَرَجٍ...”
“And strive for Allah with the striving due to Him. He has chosen you and has not placed upon you in the religion any difficulty.”¹

And an authentic tradition narrated by Aisha (RA);

حدثنا يحيى بن بكير حدثنا الليث عن عقيل عن ابن شهاب عن عروة عن عائشة رضي الله عنها قالت ما خير النبي صلى الله عليه وسلم بين أمرين إلا اختار أيسرهما ما لم يأتهم فإذا كان الإثم كان أبعدهما منه والله ما انتقم لنفسه في شيء يؤتى إليه قط حتى تنتهك حرمة الله فينتقم الله.

“If given an option between 2 actions, the Prophet (SAW) would surely choose the easier one, as long as it is not sinful”².

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And we firmly believe this spirit and approach pervades the corpus of the jurisprudence of facilitation (*Fiqh Taysir*). And at no point in time does it blemish the belief nor practise of the faithful because the earlier scholars have anticipated these challenges of modernity and have reiterated;

“Allah will bless the believer who recognises and engages with the new world, yet remains true to his religious values.”

The Islamic medical legacy

History will testify that the Muslim scientists dominated virtually all aspects of knowledge and research from 600 – 1700 AD. Az-Zahrawi (930-1013 AD) the father of modern surgery was pioneering new surgical instrumentations when Europe was restricted by a religious edict in 1163 AD which instructed as follows;

“All forms of surgery must be stopped in all medical schools by all surgeons.”

Is it any wonder that Martin Kramer, an American Historian wrote?

“Had there been Nobel Prizes in 1000, they would have gone almost exclusively to Muslims”³.

Somehow, the Muslims lost it along the way but the following hadith continues to inspire Muslims to catch up on lost ground and rejuvenate their quest for leadership in the health sciences:

هذا الحديث رواه الترمذي وابن ماجه من حديث أبي هريرة - رضي الله عنه - ولفظه: الكلمة الحكمة ضالة المؤمن فحيث وجدها فهو أحق بها.

“A word of wisdom is the lost property of a Muslim. He should seize it wherever he finds it.”⁴.

And it is in this vein that the contemporary Muslim scholar, Syakh Dr Yusuf al-Qaradhawi has said to the effect;

“Two areas of human activities (*muamalat*) which requires cutting edge edicts (*fatwa*) are economics and medicine.”

The role of contemporary *Fiqh* Councils

Hence, it is not surprising that the many Councils of Jurisprudence, all over the world, eg the European Council of Fatwa & Research (ECFR) chaired by Syakh Dr al-Qaradhawi, has deliberated profusely on the many issues related to medicine and biotechnology. These Councils like the ECFR were kept informed of the latest and best practices in medicine by regular meetings with the likes of the Islamic Organisation of Medical Sciences (IOMS) based in Kuwait.

To illustrate the “cutting edge *fatwas*” that emanated from IOMS, the issue of human cloning is a pertinent example. In 1983, whilst deliberating on issues related to In-Vitro Fertilisation (IVF), two papers were presented discussing the probability and permissibility of cloning humans⁵. Then the science was at the level of cloning plants and marine life. Sixteen years later, Dolly the sheep was cloned in 1996 and the IOMS immediately updated their human cloning *fatwa*, whilst the scientific world were still bedazzled by this new science⁶.

The issue of the use of prohibited and impure substances (eg porcine origin) in food and medicines is actually an archaic one. Nonetheless, the ECFR has comprehensively dealt with it, when deliberating the permissibility of the use of Oral Polio Vaccine (OPV) which is manufactured using porcine based trypsin. This was published in their 11th Session of the ECFR held from 1-7 July 2003, in Stockholm.

The ECFR argued as follows:

- a) What God forbids is the partaking of pork, and trypsin has nothing to do with pork
- b) Even if we admit that trypsin is forbidden, the amount used in preparing the vaccine is negligible, if one applies the rule

that “when the amount of water exceed 2 *qillas* (343 litres)”, impurities no longer affect it”

c) Supposing that trypsin is unclean, it is thoroughly filtered, that it leaves no traces whatsoever in the final vaccine

d) In case the three arguments forwarded are still insufficient, the *haram* (forbidden) is made permissible in cases of necessity.

In their concluding remarks they emphasized,

“The Council urges Muslim leaders and officials at Islamic Centers not to be too strict in such matters that are open to considered opinion and that bring considerable benefits to Muslim children, as long as these matters involve no conflict with any definite text.”

Such is the latitude of rationale and magnanimity of our religious scholars (*fuqaha*) in addressing the bigger picture of child health, child survival strategies and the advocacy of life saving vaccines.

In an even much earlier seminar in 1995, the Eastern Mediterranean Regional Office (EMRO) of the World Health Organisation in collaboration with IOMS deliberated on “The judicially prohibited and impure substances in foodstuffs and medicines.” This was attended by 112 religious scholars and medical experts.

Amongst others, the IOMS issued the following recommendation in relation to bio-transformation (*istihalah*);

“Transformation which means the conversion of a substance into another substance, different in characteristics, changes substances that are judicially impure, or are found in an impure environment, into pure substances, and changes substances that are prohibited into lawful and permissible substances”⁷.

Accordingly IOMS added;

“The gelatin formed as a result of the transformation of the bones, skin and tendons of a judicially impure animal, is pure and judicially permissible to eat it.”

This is essentially back to basics biochemistry, whereby the gelatin through a process of hydrolysis is broken down to a mixture of individual amino acid which is not specific to any animal species. Bovine sources of animal collagen is specifically avoided based on safety reason to prevent the risk of Transmissible Spongiform Encephalopathy (TSE).

The regional director of EMRO wrote to all 22 countries and territories in the Middle East, the North Africa, the Horn of Africa and Central Asia the following instruction;

“In the light of the above (fatwa); you may wish to issue a statement that includes this legal opinion, in order to relieve all Muslims in the nation, whether adults or youths, men or women, from the embarrassment they feel when taking drug gelatinous capsules and similar gelatinous capsules as vitamins...”

We have learnt and read fatwas from religious scholars in many Muslim countries which unlike the ECFR and IOMS et al are individual-centric, random, ill-researched and anecdotal in nature. Their lack of grasp and understanding of the new science have made them ultra-conservative, restrictive and prohibitive in their religious edicts.

We have endeavoured to mainstream evidence based medicine (EBM) of the highest quality and which should henceforth dictate our best clinical practices. And importantly, it is sanctioned as *Shari'ah* compliant by the highest authorities of jurisprudential scholarship among global Muslim scholars deliberated in International *Fiqh* Councils.

Conclusions

This excellent collaboration of the best brains in medicine and jurisprudence has lightened the burden upon the Muslim *Ummah* (community). It has not only truly embraced the jurisprudence of facilitation (*Fiqh Taysir*) but also the jurisprudence of priorities (*Fiqh Awliyaat*), realities (*Fiqh Waqi'ah*) and the jurisprudence of balance (*Fiqh Wasatiyah*).

All of these are undertaken in response to the call of *Allah* in the *Quran* which reads;
 "إِنَّ اللَّهَ يَأْمُرُ بِالْعَدْلِ وَالْإِحْسَانِ..."
 "Allah commands doing justice, doing good to others..."⁸.

This is primarily the end point of the *Maqasid as-Shari'ah* (priorities of Islamic jurisprudence), which is the transformation towards justice, the preservation of public interest (*maslahah ammah*) and mutual benefit (*masalih mushtarakah*)

We urge all Muslim religious authorities to take cognisance of the invaluable heritage

of medical *fatwas* that is before us and not attempt to reinvent the wheel. They should instead incorporate these *shari'ah* compliant best clinical practise into the corpus of jurisprudence in medicine.

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CHAPTER SIX

BIOMEDICAL ETHICS: CHALLENGES OF CULTURAL DIFFERENCES AND POLITICAL POWER GRADIENT CONFRONTING INTERNATIONAL GUIDELINES

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Abstract

Developments in healthcare and biological research methods, and their outcomes, have a global impact, to varying degrees, on different communities depending on cultural sensitivities. The situation thus created raises questions as to the effectiveness of guidelines issued by international bodies, such as UNESCO and World Medical Association (WMA), attempting to standardize pertinent regulations. This challenge is further exacerbated by the fact that implementation of such guidelines can be hampered by cultural factors. Therefore, sound analysis of potential cultural elements that might either advocate or impede and hinder implementation would be of great value in formulating such guidelines, and also in predicting the extent to which any given community would abide to them. Failure to adopt such an approach might result in ambivalence, or tardiness at best.

Some countries that have specific political power, such as the USA (and subsequently Israel), UK and China, in an unabashed and insolent manner disregard many items of these guidelines and simply get away with it.

The following chapter attempts to provide analysis on East-West, cross-cultural analogies and comparisons in order to depict scenarios of authenticity.

Keywords: Culture, politics, biomedical ethics, international guidelines.

Introduction

International guidelines, rules and regulations that attempt to govern conduct in medical practice and biological research resort to ethics rather than law to ensure the application of sound methodologies. Ethics itself draws on human values. Therefore, statements along these lines can be encountered, whenever the issue at hand has bearings on these values. One of the most renowned references in international governance and ordinance is the UNESCO Universal Declaration on Bioethics and Human Rights¹. It recognizes that health does not depend solely on scientific and technological research developments, but also on psychosocial and cultural factors. The declaration also recognizes that a person's identity includes biological, psychological, social, cultural and spiritual dimensions.

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These statements establish a culture-based approach to ethics. The paradox, however, is that cultural norms differ from one place to another. Also, the paradigms of these norms can in some cultures undergo gradual shifts in varying forms and degrees. So, how could such rules and regulations be best served, if social and cultural factors are to be considered for consolidation and support? What would define the suitability of cultural factors for application within such declaration? Would stability/rigidity of these factors, if arbitrarily and collectively defined as religion, be considered of positive or negative impact in this context?.

Religion, being the major driving force of meta-ethics to most communities, needs to be put into focus in order for any analysis to be meaningful. Does it have a genuine impact on ethical attitudes and how can we tell?.

On another tone, many aspects of these international guidelines are being repeatedly violated by certain countries brimmed with immense political power, either self-attained (USA) or by proxy (Israel). The international bodies that issue such guidelines keep silent, or shyly utter a few words of mild admonition at best. Would that only allow violators to get away with their infractions, or would it also encourage them to commit further perpetrations?.

The following text will attempt to address the main elements implied in these questions, focusing on the UNESCO Universal Declaration in the light of the Islamic faith as a major world religion, on the cultural aspects, and taking the USA, Israel, UK and China as examples on the political aspects.

Deduction and Induction vs Assumptions and Postulates

It is certainly not easy to measure the impact of religion on ethical attitudes in

the bioethics domain in secular societies. The reason being that – contrary to religion-guided societies – secularist guidelines do not draw on tenets and beliefs. However, it may just be possible to take a lead from statistics, inductively, from specific observations to a general conclusion. The Euristic Project² was a European concerted action on information for parents and ethical decision-making in neonatal intensive care in selected European countries. Despite established secularism and atheism throughout Europe, the study showed that there was still a significant difference in attitude between the North and South, with the exception of Ireland. The study unequivocally stressed the fact that religion and religiousness remain important factors in Irish society, and that the attitudes of neonatal staff are still closer to those of southern rather than northern European countries³. It is quite remarkable that the Netherlands, in particular, where “religiousness” is lowest amongst other northern European countries (Catholics 29% (majority) and Protestants 19%)⁴ is peculiar in ethical attitudes to healthcare. It was the first country to legalize euthanasia, cannabis etc. Therefore, it can be inductively concluded that religion constitutes one factor that can impact ethical attitudes in the healthcare domain. Whether the UNESCO declaration is alluding to these facts in the following statement is a good question for debate. UNESCO recognizes that its role in identifying universal principles is based on the assumption that ethical values are shared, “to guide scientific and technological development and social transformation in order to identify emerging challenges in science and technology.” When it comes to the global southern hemisphere, the discrepancy is apparent in the fact that ethical values and social transformation

are not necessarily parallel variables. Some societies can cling strongly to values that draw on their own tradition, thereby rendering the statement flawed, or perhaps inaccurate at best. UNESCO also believes that “questions of bioethics, which necessarily have an international dimension, should be treated as a whole, drawing on the principles already stated in the Universal Declaration on the Human Genome and Human Rights and the International Declaration on Human Genetic Data, and taking account not only of the current scientific context but also of future developments.” UNESCO stresses the need to “reinforce international cooperation in the field of bioethics, taking into account, in particular, the special needs of developing countries, indigenous communities and vulnerable populations.” The concern sounds noble, being dedicated to developing countries, indigenous communities and vulnerable populations. It very much appeals to our emotions. But what makes us believe that it would be welcomed with applause by the said populations? In such populations the usual high rate of illiteracy and the limited chance to gain insight into the public policies of modern society may distort the bona fide intentions of these declarations. Also, due to the legacy of a long history of east-west conflicts throughout the world, it would be valid to assume that these populations might suspect, or even resent, any move from the west, envisaging it as a form of neocolonialism – via cultural influences this time. The intentions are expected to be subject to scrutiny until unequivocally proven innocent of touching the sanctity of tradition and cultural constants. The example of the UN endeavour to set trends for Women and Family affairs contrary to the traditions of many countries throughout the globe is quite vivid. If religion were

to be ignored or down-regulated in order to minimize its countering effect, the act might back-fire. Populations that strongly adhere to their traditions would more readily abide by international rules and regulations if they formed common-ground with their traditions. The ethics equation runs as a function of meta-ethics, ultimately impacting the product in terms of acceptance and implementation, positively or negatively. Thus, it becomes obvious that religion constitutes a corner-stone of a dual function in the analysis of the interplay between universal declarations and local traditions: a) Acceptance; b) Implementation. These elements are to be considered as postulates if efforts to warrant cooperation to implement Universal Declarations are to be successful.

Islam: Role in the Era of Universal Ethics Declarations

It may sound gratifying to some, but provoking to others, to say that Islam in general can offer a reasonably comprehensive framework for ethics and morality. Even more so, if this statement was in relation to ethics in the biomedical spheres. Before attempting to shed light on this subject, it would perhaps be sensible and fair to pose the following questions: How wise and tactful is it to link Islam to any undertakings in the contemporary modernity of our world today? Is there any precedence that could be indicative of the success of this tenuous link other than morality and ethics? Can the bearings of tenet and belief on human conduct be justified and if so, would the benefits be of value only to the followers of a given faith, or would these transcend to others – whether positively or otherwise? The banking system analogy to answer the first question, we should recall the days when shy talk began in the Muslim

world as the western commercial banking system was implemented in several Muslim countries, without considering its impact on the sentiment and conviction of the community. The burning question was: Isn't their system based on *riba* (usury) which is not permitted in Islam? So, why not retain Islamic finance and banking systems when conducting our economic affairs? The submissive (rather defeatist) counterargument was: How could Islamic economic principles compete with the ultra-modern sophistication of contemporary financial systems, let alone prevail? Is it wise to enter outspokenly such challenging competition? The world is becoming a small village, and we cannot act on our own using our economic tools, we would be left behind. The fear of defeat was justified considering the overwhelming wave of modern banking and finance systems which dominated the world (apart from the then Socialist/Communist block system), and the fact that the confrontation between the two sharply conflicting interest-based and partnership-based principles would inevitably be head on. Now, over three decades on, according to CIMB Group Holdings, Islamic finance is the fastest growing segment of the global financial system and sales of Islamic bonds were predicted to have risen by 24% to \$25 billion in 2010⁵. The same statement was previously promulgated by the New York-based International Swaps and Derivatives Association, which represents more than 830 organizations active in the \$592 trillion derivatives market that started working on its *Shari'ah*-compliant master agreement with the Bahrain-based International Islamic Financial Market in 2006⁶. Professor Rodney Wilson, a prominent expert in banking and finance systems at Durham University, one of the top 3 UK universities (Sunday Times University

Guide 2012), provides the following account on the topic: Why Islamic Banking Is Successful? Islamic Banks Are Unscathed Despite of Financial Crisis⁷. The collapse of leading Wall Street institutions, notably Lehman Brothers, and the subsequent global financial crisis and economic recession, are encouraging economists worldwide to consider alternative financial solutions. Attention has been focused on Islamic banking and finance as an alternative model. What lessons can be learnt, and how resilient have Islamic banks been during the current crisis? Islamic banking principles and subprime lending the religious teaching underpinning Islamic finance is concerned with justice in financial contracts to ensure that none of the parties is being exploited. The bank may advance the clients an interest-free loan to enable them to continue their payments during the recession in anticipation that they will pay in full when the economy rebounds. *Riba* (interest or usury) is one source of exploitation, especially, as in the case of subprime lending, the highest rates were charged to lower earners. Such discriminatory charging by conventional banks was justified as being a reflection of the risks involved. Those on lower incomes, with poorer prospects of finding new employment in the event of redundancy, were less likely to be able to service their interest payments. Islamic housing finance involves risk sharing between the bank and the client, rather than transferring all the risk to the latter. The Islamic Banking Record when the credit crunch came and borrowing from wholesale markets was halted, Islamic banks were not exposed. In contrast to conventional banks, no Islamic bank has failed and has needed government recapitalization which ultimately becomes a burden on hard pressed taxpayers. All Islamic banks comply with the Basel II capital

adequacy requirements and the Islamic Financial Services Board (IFSB) - the body which advises regulators with respect to Islamic finance - has produced detailed guidelines on compliance. The soundness of Islamic banks is accounted for by the fact that they use a classical banking model, with financing derived from deposits, rather than being funded by borrowings from wholesale markets. Consequently, when the credit crunch came and borrowing from wholesale markets was halted, Islamic banks were not exposed. Islamic financial stability investors seeking *Shari'ah* compliance have portfolios which are more heavily weighted in sectors such as healthcare or utilities where revenue streams are maintained even during cyclical downturns.

Prospects of Islamic financial systems
There are already five wholly Islamic banks in London, and the first Islamic bank opened in France in 2009. Islamic banking provides a viable alternative to conventional banking and is less cycle prone. The spread of Islamic finance into western markets demonstrates that it is now being treated seriously by regulators and finance ministries. The experience of Islamic banking in the United Kingdom has been extremely positive. There can be no doubt that Islamic finance has an exciting future, and the quest for a financial system based on moral values rather than greed and fear, is bound to enhance its position in the global system.

Criticism and Supposition of the System

There are critics, of course, who claim the system is not entirely Islamic, where managers invest in *Shari'ah* non-permissible practices, such as gambling. However, these target application rather than theory, which – if true, and on a wide scale – would have hampered the success rate of

Islamic banking and finance. In contrast, it is steadily growing.

Reflection on the Banking System Analogy

However, the analogy is quite obvious to the impartial reader. The impressive success in finance and banking stems from trust of the public in their traditional system. If this is true in relation to the banking and finance system, which is far more tricky and volatile than the domain of ethics and morality, it would seem quite possible to envisage a similar effect on the latter. But, if any success is to be foreseen for ethics in the biomedical domain, would it be due solely to the common factor(s) identified in this analogy, or rather a function of other factors? Muslim scholars claim that human conduct, including the spheres of character, ethics and morality, is being attended to with particular emphasis in Islamic teachings. Amazingly, Muslim populations, in general, show willingness with great passion to implement these teachings. So, what are the specific features that make Islamic morality and ethics stand out and be readily acceptable?

Features of Islamic Human Conduct Teachings:

1. Of divine origin: As such, the abidance by what they ordain becomes obligatory to the followers of the faith;

" إِنَّ اللَّهَ يُأْمُرُ بِالْعَدْلِ وَالْإِحْسَانِ وَإِيتَاءِ ذِي الْقُرْبَىٰ وَيَنْهَىٰ عَنِ الْفَحْشَاءِ وَالْمُنْكَرِ وَالْبَغْيِ يَعِظُكُمْ لَعَلَّكُمْ تَذَكَّرُونَ "

"Lo! Allah enjoineth justice and kindness, and giving to kinsfolk, and forbiddeth lewdness and abomination and wickedness. He exhorteth you in order that ye may take heed." (Quran; 16:90)

2. Of devotional purpose: Associating an act with the ultimate purpose of

fulfilling God's purpose is seen in Islamic culture as a worship.

"اتْلُ مَا أُوحِيَ إِلَيْكَ مِنَ الْكِتَابِ وَأَقِمِ الصَّلَاةَ إِنَّ الصَّلَاةَ تُنْهَى عَنِ الْفَحْشَاءِ وَالْمُنْكَرِ وَلَذِكْرُ اللَّهِ أَكْبَرُ وَاللَّهُ يَعْلَمُ مَا تَصْنَعُونَ"

"Recite that which hath been inspired in thee of the Scripture, and establish worship. Lo! worship preserveth from lewdness and iniquity..." (Quran; 29:45)

3. Realistic: Dealing with life in a realistic, non-idealistic, approach renders a deontological perception applicable in all situations.

"لَا يُكَلِّفُ اللَّهُ نَفْسًا إِلَّا وُسْعَهَا لَهَا مَا كَسَبَتْ وَعَلَيْهَا مَا اكْتَسَبَتْ رَبَّنَا لَا تُؤَاخِذْنَا إِنْ نَسِينَا أَوْ أَخْطَأْنَا رَبَّنَا وَلَا تَحْمِلْ عَلَيْنَا إصْرًا كَمَا حَمَلْتَهُ عَلَى الَّذِينَ مِنْ قَبْلِنَا رَبَّنَا وَلَا تُحَمِّلْنَا مَا لَا طَاقَةَ لَنَا بِهِ وَاعْفُ عَنَّا وَاعْفُ لَنَا وَارْحَمْنَا أَنْتَ مَوْلَانَا فَانصُرْنَا عَلَى الْقَوْمِ الْكَافِرِينَ"

"Allah tasketh not a soul beyond its scope. For it (is only) that which it hath earned, and against it (only) that which it hath deserved. Our Lord! Condemn us not if we forget, or miss the mark! Our Lord! Lay not on us such a burden as thou didst lay on those before us! Our Lord! Impose not on us that which we have not the strength to bear! Pardon us, absolve us and have mercy on us..." (Quran; 2:286)

4. Consistent: Not pivoting around personal gain, it does not accept compromises.

5. Comprehensive: It is multidirectional, covering man-man, man-God, man-duties and man-family relationships.

"قَدْ أَفْلَحَ الْمُؤْمِنُونَ، الَّذِينَ هُمْ فِي صَلَاتِهِمْ خَاشِعُونَ، وَالَّذِينَ هُمْ عَنِ اللَّغْوِ مُعْرِضُونَ، وَالَّذِينَ هُمْ لِلزَّكَاةِ فَاعِلُونَ، وَالَّذِينَ هُمْ لِفُرُوجِهِمْ حَافِظُونَ، إِلَّا عَلَىٰ أَزْوَاجِهِمْ أَوْ مَا مَلَكَتْ أَيْمَانُهُمْ فَإِنَّهُمْ غَيْرُ مَلُومِينَ، فَمَنْ ابْتَغَىٰ وَرَاءَ ذَلِكَ فَأُولَٰئِكَ هُمُ الْعَادُونَ، وَالَّذِينَ هُمْ لِأَمَانَاتِهِمْ وَعَهْدِهِمْ رَاعُونَ، وَالَّذِينَ هُمْ عَلَىٰ صَلَوَاتِهِمْ يُحَافِظُونَ، أُولَٰئِكَ هُمُ الْوَارِثُونَ، الَّذِينَ يَرِثُونَ الْفِرْدَوْسَ هُمْ فِيهَا خَالِدُونَ"

"Successful indeed are the believers. Who are humble in their prayers, And who shun vain conversation, And who are payers of the poor-due; And who guard their modesty - Save from their wives or the (slaves) that their right hands possess, for then they are not blameworthy, But whoso craveth beyond that, such are transgressors - And who are shepherds of their pledge and their covenant, And who pay heed to their prayers. These are the heirs. Who will inherit paradise. There they will abide." (Quran; 23:1-11)

6. Of social dimension:

"وَلَا تُقْرَبُوا مَالَ الْيَتِيمِ إِلَّا بِالَّتِي هِيَ أَحْسَنُ حَتَّىٰ يَبْلُغَ أَشُدَّهُ وَأَوْفُوا بِالْعَهْدِ وَالْعَهْدُ أَوْفَىٰ لِلْعَيْنِ وَأُولَٰئِكَ هُمُ الصَّادِقُونَ وَالَّذِينَ هُمْ بِعَهْدِ اللَّهِ إِذَا عَاهَدُوا فَوَقَّارُونَ وَالَّذِينَ هُمْ بِعَهْدِ اللَّهِ إِذَا عَاهَدُوا فَوَقَّارُونَ وَالَّذِينَ هُمْ بِعَهْدِ اللَّهِ إِذَا عَاهَدُوا فَوَقَّارُونَ"

"And approach not the wealth of the orphan save with that which is better, till he reach maturity. Give full measure and full weight, in justice. We task not any soul beyond its scope. And if ye give your word, do justice thereunto, even though it be (against) a kinsman; and fulfil the covenant of Allah. This He commandeth you that haply ye may remember." (Quran; 6:152)

"يَا أَيُّهَا الَّذِينَ آمَنُوا اجْتَنِبُوا كَثِيرًا مِّنَ الظَّنِّ إِنَّ بَعْضَ الظَّنِّ إِثْمٌ وَلَا تَجَسَّسُوا وَلَا يَغْتَب بَّعْضُكُم بَعْضًا أَتُحِبُّ أَحَدُكُمْ أَنْ يَأْكُلَ لَحْمَ أَخِيهِ مَيْتًا فَكَرِهْنُمُوهُ وَاتَّقُوا اللَّهَ إِنَّ اللَّهَ تَوَّابٌ رَّحِيمٌ"

"O ye who believe! Shun much suspicion; for lo! some suspicion is a crime. And spy not, neither backbite one another. Would one of you love to eat the flesh of his dead brother? Ye abhor that (so abhor the other)! And keep your duty (to God). Lo! God is Relenting, Merciful." (Quran; 49:12)

7. Personal attitude:

"يَا بَنِيَّ أَقِمِ الصَّلَاةَ وَأْمُرْ بِالْمَعْرُوفِ وَانْهَ عَنِ الْمُنْكَرِ وَأَصْبِرْ عَلَىٰ مَا أَصَابَكَ إِنَّ ذَلِكَ مِنْ عَزْمِ الْأُمُورِ"

“Establish worship and enjoin kindness and forbid iniquity, and persevere whatever may befall thee. Lo! that is of the steadfast heart of things.” (Quran; 31:17);

“وَلَا تُصَعِّرْ خَدَّكَ لِلنَّاسِ وَلَا تَمْشِ فِي الْأَرْضِ مَرَحًا
إِنَّ اللَّهَ لَا يُحِبُّ كُلَّ مُخْتَالٍ فَخُورٍ”

“Turn not thy cheek in scorn toward folk, nor walk with pertness in the land. Lo! Allah loveth not each braggart boaster.” (Quran; 31:18);

“وَأَقْصِدْ فِي مَشْيِكَ وَاعْضُضْ مِنْ صَوْتِكَ إِنَّ أَنْكَرَ
الْأَصْوَاتِ لَصَوْتُ الْحَمِيرِ”

“Be modest in thy bearing and subdue thy voice. Lo! the harshest of all voices is the voice of the ass.” (Quran; 13:19);

“يَا أَيُّهَا النَّاسُ إِنَّا خَلَقْنَاكُمْ مِنْ ذَكَرٍ وَأُنثَىٰ وَجَعَلْنَاكُمْ
شُعُوبًا وَقَبَائِلَ لِتَعَارَفُوا إِنَّ أَكْرَمَكُمْ عِنْدَ اللَّهِ أَتْقَاكُمْ إِنَّ
اللَّهَ عَلِيمٌ حَبِيرٌ”

“O mankind! Lo! We have created you male and female, and have made you nations and tribes that ye may know one another. Lo! the noblest of you, in the sight of God, is the best in conduct. Lo! God is Knower, Aware.” (Quran; 49:13)

Based upon these features, common aspects of biomedical ethics will be set out. Some will be compatible with the universal standards acceptable to human beings regardless of tenet and geographical location. Others will incorporate the input of Islamic teachings to varying degrees. Starting with the basic definition of, and the span between, good and evil will aid comprehension of the following points: In a world of ever changing trends and norms, the line between what is and what is not socially acceptable can become blurred. How to distinguish by

definition between good and evil acts in a given communal time and space?.

The concept of *ma'ruf* and *munkar* in the Islamic faith. The Qur'an speaks of these in specific terminology, whose eloquent Arabic origin implies subtleties that translation fails to reflect:

- *Ma'ruf*, something that is peaceable, gaining consensual approbation of the community living within the ken of the traditionally dominant value system; and

- *Munkar*, something that is excessively abominable and outrageous, consensually resented by the ken of the traditionally dominant value system. The former (*ma'ruf*) is to be advocated and enjoined, and the latter (*munkar*) is to be abstained from. Now, *ma'ruf* is something indisputably recognized as such by the vast majority of the community, and considered by reason to be good. *Ma'ruf* is, therefore, commanded in Islam. *Munkar*, by contrast, is something indisputably recognized as evil, and hence denounced by everyone. *Munkar* is an act considered by reason to be evil. It is, therefore, forbidden in Islam. Spanning these two extremes is the list of wide concepts of Islamic morality. Using reason to assess the preponderance of acts in either direction allows for divergence of opinion, and hence debate. So, reason in the sense used here speaks for Islamic judgment. Therefore, while practicing usury in financial transactions is outspokenly regarded as *munkar*, working for a usury-based business would be seen by reason of the Islamic faith as tainted by a certain degree of *munkar*. The law in this regard is showing respect for the individual judgment of the public, and confidence in their wisdom (for further analysis, see reference 8). Are there any landmarks and signposts that could guide individuals through the blurred borderlines dividing these concepts? Muslim scholars resort to Quranic text

and Prophetic traditions to guide the community in the right direction. The following narrations are heavily relied upon in this context. Their essence is to give vivid, real-life examples for individuals to pursue, which they usually do with no hesitation.

Pertinent guidance on ethics and morality as given by Prophetic Traditions⁹.

- “He who is not merciful to others, will not be treated mercifully.”
- “Enjoining all that is good is a Sadaqa (alms/ charity).”
- “(O people!) Save yourselves from the (Hell) Fire even if with one half of a date fruit (given in charity), and if this is not available, then (save yourselves) by saying a good pleasant friendly word.”
- “Best among you are those who have the best manners and character.”
- “The worst people in the Sight of Allah on the Day of Resurrection will be the double-faced people who appear to some people with one face and to other people with another face.”
- “Beware of suspicion, for suspicion is the worst of false tales; and do not look for the others’ faults and do not spy, and do not be jealous of one another, and do not desert (cut your relation with) one another, and do not hate one another; and O Allah’s worshipers! Be brothers (as Allah has ordered you!)”
- “Truthfulness leads to righteousness, and righteousness leads to Paradise. And a man keeps on telling the truth until he becomes a truthful person. Falsehood leads to Al-Fojoor (i.e. wickedness, evil-doing), and Al-Fojoor (wickedness) leads to the (Hell) Fire, and a man may keep on telling lies till he is written before Allah, a liar.”
- “The signs of a hypocrite are three: Whenever he speaks, he tells a lie; and whenever he promises, he breaks his promise; and whenever he is entrusted, he betrays.”

- “The strong is not the one who overcomes the people by his strength, but the strong is the one who controls himself while in anger.”

- “For every betrayer (perfidious person), a flag will be raised on the Day of Resurrection, and it will be announced (publicly) ‘This is the betrayal (perfidy) of so-and-so, the son of so-and-so’.”

- “It is those who are perfect in their manners are perfect in their faith”. (Tabarani “Awsat & Saghir”; Bayhaqi “Shu’ab Al-Iman”).

- “The best of you is the best to his family (wife), and I am the best of you to my family” Tirmithi.

- “Your smile in your friend’s face is charity” AlBukhari (Al-Adab Al-Mufrad).

THE TEST: APPLICATION

The theoretical basis of Islamic philosophy on ethics and morality needs to be assessed in terms of applicability. When this territory is reached, no talk would be of value without reference to *Al-Maqasid*. *Al-Maqasid* (literally means The Objectives, The Intendment). It was first mooted by Imam Al-Shatby (born circa 1320 C.E.)¹⁰.

Al-Maqasid is the branch of *Shari’ah* inquisitive pursuit for the systematic gauging of its degree of serving utility. As the basic agenda of Islam is not to manipulate people, but rather to serve their needs, *Al-Maqasid* enjoins that actions that take place anytime, anywhere should serve the purpose of preserving the five necessary entireties, namely faith, human life, intellect, progeny and property. Should an act fail to preserve at least one of these entireties, it would fall short of fulfilling *Shari’ah* objectives. It would then be branded as void of purpose for utility. An act intended to serve these

entireties could fall under one of the following categories:

- 1) Requirements; such as policies, laws etc.
- 2) Embellishments; such as mannerisms and morality etc.
- 3) Complementary; any supplementary act that would enforce the previous categories leading to its realization. None of the realms of Islamic Jurisprudence (worship, dealings, criminology etc.) is free of these elements. Therefore, fulfilling *Al-Maqasid*, unfolding its opaqueness and pursuing its ramifications is the right path to the essence of the Islamic law. A scholar would be expected to possess a good command of inductively reaching general injunctions starting with the details of *Al-Maqasid*. Following this brief preamble on *Al-Maqasid*, an example for testing its application will be investigated:

Physician and Patient

An individual patient–physician relationship is formed on the basis of mutual agreement on medical care for the patient. So, it fulfills the purpose of preserving life, which is one of the five essential entireties of *Shari’ah* objectives. The relationship entails mutual rights and obligations, which places it in the requirement category.

- The physician’s primary commitment must always be to the patient’s welfare and best interests, whether the physician is preventing or treating illness or helping patients to cope with illness, disability, and death.
- The physician must support the dignity of all persons and respect their uniqueness.
- The interests of the patient should always be promoted regardless of any factors involved; financial, social, racial or otherwise. These elements are categorized as embellishment. The relationship draws on the Prophetic

Hadith, which in the modern ethical sense would be defined as the categorical imperative of deontology: “Whoever practices medicine without previous knowledge (qualification) is liable”. (Abu Dawood, Wergeld 3586; Ibn Majah, Medicine 3466).

The physician must, therefore:

- be professionally competent;
- act responsibly;
- treat the patient with compassion and respect; and
- have a sense of duty to the patient that takes precedence over concern about compensation when a patient’s well-being is at stake.

The patient should:

- understand and consent to the treatment that is rendered; and
- participate responsibly in the care.

Physicians and patients may have different concepts of the meaning and resolution of medical problems. The care of the patient and satisfaction of both parties are best served if physician and patient discuss their expectations and concerns. Although the physician must address the patient’s concerns, he or she is not required to violate fundamental personal values, standards of scientific or ethical practice, or the law. When the patient’s beliefs — religious, cultural, or otherwise — run counter to medical recommendations, the physician is obliged to try to clearly understand the beliefs and viewpoints of the patient.

EPILOGUE

The following part is a quick excursion through selected topics that are frequently encountered in medical practice. For the sake of clarity and ease of access, the dialogue format has been adopted. The text is set out to cover the pertinent elements deemed important for encompassing an argument in any persuasion. These are, the ethics, the meta-ethics and the philosophy.

1. DECISIONS ON REPRODUCTION

1.1 Birth Control (BC) the Ethics

Q. Should the doctor voluntarily give advice on BC?

A. Yes, if it involves concern for the mother's health.

Q. Is (BC) permissible in Islam?

A. Yes, if it is deemed necessary, as judged by the married couple.

Q. Does (BC) require the wife's consent?

A. Yes, it does. By analogy on the ruling on coitus interruptus; it is allowed in Islamic *Sharia'ah* only with the wife's permission.

Q. Do major interventional BC procedures (e.g. ovariectomy, tube ligation etc.) require consent by both husband and wife?

A. If wife is authorizing husband, then he can give consent. Otherwise, consent of both is required.

The Meta-Ethics

The general public attitude draws on the Islamic tendency towards encouraging reproduction, unless circumstances indicate otherwise¹¹.

The Philosophy

A woman entering the marriage contract is assumed to have the same interest in having children as her husband. So, the basic intention would be for both to have children, unless circumstances dictate to the contrary, permanently or temporarily. Then BC is considered as detailed above.

1.2 Artificial Insemination

The Ethics

Q. Is it permissible for a woman to be artificially inseminated for the purpose of pregnancy?

A. Yes, it is permissible, but only if inseminated by the semen of her husband who is still alive.

1.3 In Vitro Fertilization (IVF)

The Ethics

Q. Is IVF an acceptable practice?

A. Yes, as long as the gametes (ova and sperms) originate from a legitimate

couple (husband and wife), both of whom are alive.

Q. Are there any reservations on IVF practice?

A. Yes. Fetal reduction and frozen zygotes are sensitive elements. The former can be taken as a form of abortion (see under Abortion Section); the latter a form of life that could be tampered with (see under Embryos).

The Meta-Ethics

The culture draws on the tenet that any form of reproduction outside legitimate marriage is an act of adultery.

The Philosophy

Protection of lineage, and bringing to existence of off-spring, whose parents are known, are among the main objectives of Islamic *Shari'ah*.

1.4 Selection of Embryo Gender

The Ethics

Q. Are parents allowed to select the gender of their offspring (male/female)?

A. The practice is unreservedly acceptable using natural methods, such as timing of conception; or vaginal wash that controls its PH.

Q. What if attempted through medical intervention?

A. It is only permissible when medically necessary, e.g. avoiding male/female heritable diseases.

The Meta-Ethics

Cultural preference can come into sharp conflict with the natural balance of the population male/female ratio. The latter is here preponderant on utilitarian basis. Fatwa 19; 3/11/2007 Islamic *Fiqh* Council, Muslim World League.

The Philosophy

Individual interest is respected when necessity dictates. Society comes first when the common good is at stake.

1.5 Frozen Gametes & Embryos

The Ethics

Q. It is common practice to keep frozen zygotes (early embryos) in IVF clinics for further implantation attempts if

needed. How is this practice perceived in Islamic law?

A. This is acceptable, as long as these embryos originate from couples, who are still alive and bound to marriage contract.

Q. Does that mean these frozen embryos cannot be used after one of the couples has passed away?

A. Yes, that is true – they cannot be used.

Q. Is the same ruling valid also for frozen gametes (sperm and ova)?

A. Yes, that is true. These can only be used if the couple, from whom the gametes are retrieved, are still alive and bound to a marriage contract.

The Meta-Ethics

In Islam, the marriage contract becomes void by the death of one of the married couple. This is to the extent that a prominent scholar (Abu Hanifah) did not decree permissibility for a man to even wash his deceased wife's corpse in preparation for burial. The responsibility here for an Islamic society is deontologically individualistic, and utilitarianly collective – meaning that it is the individual's duty, as much as it is for the benefit of the public at large, to refrain from unlawful, illegitimate sexual activities.

The Philosophy

In Islam, protecting the purity of a person's lineage is one of the highly emphasized elements for safeguarding his progeny's sense of integrity and psychological stability. This also explains the harsh, deterring punishment for adultery in Islamic law. Apart from the association of adultery and sexually transmitted diseases, illegitimate siblings are thought to be prone to acquiring disturbed personalities, thus constituting a

vulnerable burdensome sector of society. Some studies of adopted and non-adopted illegitimate children show that educational failure and psychiatric disorders are far more common among the nonadopted, and that these children continue to be exposed to major social and family stress¹². The woman is particularly entrusted on this aspect of morality. The Quran goes as far as correlating the degree of her tenet and faithfulness to her attitude when declaring or concealing a pregnancy conceived just before her divorce.

"وَالْمُطَلَّاتُ يَتَرَبَّصْنَ بِأَنْفُسِهِنَّ ثَلَاثَةَ قُرُوءٍ وَلَا يَحِلُّ لَهُنَّ أَنْ يَكْتُمْنَ مَا خَلَقَ اللَّهُ فِي أَرْحَامِهِنَّ إِنْ كُنَّ يُؤْمِنُ بِاللَّهِ وَالْيَوْمِ الْآخِرِ وَبِعَوَلْتَهُنَّ أَحَقُّ بِرَدِّهِنَّ فِي ذَلِكَ إِنْ أَرَادُوا إِصْلَاحًا وَلَهُنَّ مِثْلُ الَّذِي عَلَيَّهِنَّ بِالْمَعْرُوفِ وَلِلرِّجَالِ عَلَيْهِنَّ دَرَجَةٌ وَاللَّهُ عَزِيزٌ حَكِيمٌ"

"And divorced women shall wait (as regards their marriage) for three menstrual periods, and it is not lawful for them to conceal what Allâh has created in their wombs, if they believe in Allâh and the Last Day" (Quran; 2:228).

1.6 Surrogate Mother

The Ethics

Q. Mothers can for several reasons become incapable of bearing pregnancy. Can they hire a woman to carry the zygote created by conception of their ova with their legitimate husbands?

A. Surrogacy in pregnancy is not permitted in Islam.

The Meta-ethics

Implanting a zygote, even if a product of legitimate marriage, into a surrogate womb is not permissible. Surrogacy constitutes a third party. Fatwa 2/8; 28/1/1985, Islamic *Fiqh* Council; Muslim World League

The Philosophy

Ambiguity caused by third party involvement in marriage and child is to

be avoided, as this would create a destabilizing factor in marriage life.

2. DECISIONS ON END-OF-LIFE ISSUES

2.1 Euthanasia

The Ethics

Q. Is it permissible to put an end to the suffering of a patient with unbearable pain and very poor prognosis by inducing his/her death?

A. It is categorically impermissible.

Q. What if it is performed in response to the patient's desire?

A. Even then, it is still impermissible.

Q. Is using a high dose of sedatives and/or narcotics in such cases considered a double-effect practice?

A. Yes, it is – and should not be practiced with that intention.

Q. Is it permissible to terminate pregnancy?

A. It is not permissible, unless there is a compelling medical reason. In particular after 120 days of fetal life, abortive procedures are categorically not permitted, except when the mother's life is in genuine danger.

The Meta-Ethics

Terminating the life of a human being is not permissible under any circumstance, except for jurisdiction and in self-defense against aggression. The life of embryos and fetuses is also sacred. Unless there are compelling medical reasons their life is protected by Islamic law. Fatwa 4/12; 18/2/1990, Islamic *Fiqh* Council, Muslim World League

The Philosophy

Life is considered as a gift endowed to human beings, who are entrusted to preserve it.

2.2 Medical Futility

The Ethics

Q. Is it ethically acceptable to decide, in a particular incident, that medical intervention is futile?

A. This is one of the most difficult dilemmas in healthcare, due to the sharp

conflict of interest between the parties involved: healthcare providers and recipients and their families. Until these parties reach a common understanding as to the best interests of the patient, the issue remains highly delicate. However, according to Islamic law, subjecting patients only to medical interventions that have definite effects is the sensible course of action. This will be further discussed under the "Brain Death" entry.

Q. Who is usually entitled to make the crucial decision in Saudi healthcare settings?

A. Due to the undeniable steep physician/patient power-gradient, the decision is unquestionably the physician's. But the patients and their families have the right to appeal. The undefined mechanism of the process permits appeals to develop into disputes, leading to complaints and sometimes ultimately grievance.

2.3 Brain Death

The Ethics

Q. The concept of Brain Death is globally imposing itself as a fact. Is this acceptable in the Islamic perspective?

A. Several Islamic Jurisprudence Councils have issued decrees with a resolve to its acceptability, provided irreversible brain stem damage has taken place, whereby spontaneous breathing has permanently ceased to function.

3. DECISIONS ON CONSENT

3.1 By Couples

The Ethics

Q. Do married couples have to give collective consent together on medical procedures?

A. It depends on the nature of the medical intervention. If it entails body functions impacting both of them, such as reproduction, then it would be mandatory for the medical attendant to obtain consent from both.

Q. What if the couple differ in their opinion?

A. In that case, the wife's opinion preponderates.

The Meta-Ethics¹³

The husband has no right to prevent his wife from suitable, *Shari'ah* permissible treatment, prescribed by an entrusted physician, as preventing her would harm her health, which is in violation of the general rule set forth by the prophetic Hadith: "There shall be no harm infliction, nor harm reciprocation." Fatwa 2/12, 18/2/1990 Islamic *Fiqh* Council, Muslim World League

3.2 By Minors and Incapacitated Patients

The Ethics

Q. How would minors and incapacitated patients give consent acceptable to the Islamic system?

A. The father is the person entitled to give consent on behalf of his children. If the father is not available, then the nearest of kin.

The Meta-Ethics

This goes in line with the *Shari'ah* principle: Benefit is proportionate to the magnitude of responsibility burdens, such as inheritance eligibility.

4. DECISIONS ON ORGAN TRANSPLANTATION

The Ethics

Q. Is the practice of organ transplantation acceptable in Islamic law?

A. Yes, it is. In fact, several Islamic Jurisprudence Councils have issued decrees to the effect of its permissibility in Islam – provided certain conditions are strictly observed.

Q. What are these conditions?

A. For live donors: that organs are not retrieved by purchase; that organ donation is performed without coercion

on the part of the donor; that donation does not inflict harm on the donor.

Q. Coercing people to donate organs would be a criminal act anyway, wouldn't it?

A. Yes, but there are different forms of coercion, ranging from subtle and bona fide to malicious.

Q. Such as?

A. If a criminal in jail is given the option of having his/her sentence reduced in exchange for donating an organ - this is coercion. If a man comes voluntarily for donation, and turns out to be drug addict donating to his drug supplier – this is coercion. If a woman donates to another woman, both of whom turn out to be wives of one man – this could be very subtle coercion. If a man comes with two of his own children, wanting an organ to be removed from one of them and transplanted in the other – this could be multiple, subtle coercion. If a woman comes offering to donate an organ to her own husband – this could be very malicious coercion. All of these forms are ethically unacceptable.

Q. What about cadaverous organ retrieval?

A. That is different. It is acceptable without limitation. The controversial part is that which falls under the category of Brain Death, as discussed earlier.

Q. Is the anencephalic newborn an acceptable source for organ procurement?

A. Anencephalic newborns, or malformed babies, are not to be used as a source for organ procurement.

The Meta-Ethics

In Islam, human life is sacred. There is no justification for deliberately, actively putting an end to the life of a human-being. The sanction is effectuated by numerous, unequivocal Quranic verses and prophetic traditions.

Based thereupon, several *Fiqh* councils decreed categorical impermissibility of organ procurement from those patients who are deemed terminally ill; or from neonates, whose prognosis for survival is very poor for whatever medical reasons.

The Political Challenge for International Guidelines

USA:

In the wake of the Second World War, victorious powers, mainly USA, assumed the role of an angelic being in a trial for Nazi physicians who allegedly conducted experiments on detainees and war prisoners. The trial had been held symbolically in Nuremberg, the hometown of Adolf Hitler, resulting in several long-term imprisonment sentences and death penalties. This all took place while a study was still running in Tuskegee (Alabama), which was not far less cruel than that conducted by the Nazi physicians, and extended for forty years (from 1932 to 1972). African American people were recruited. Doctors from the U.S. Public Health Service (PHS), which was running the study, informed the participants -399 men with latent syphilis- that they were being treated for bad blood, a term commonly used in the area at the time to refer to a variety of ailments. The essence of the research was to track the syphilis full progression to the extent that when penicillin was discovered as an effective cure for it, the patients were denied it. The researchers provided no effective care as the men died, went blind or insane or experienced other severe health problems due to their untreated syphilis. (for full report see reference 14)

The USA again committed unethical conduct with the Guantanamo Bay detainees – a situation eloquently

described by a *multum in parvo* title that appeared in NEMJ saying:¹⁵

Guantanamo Bay: A Medical Ethics–free Zone?

The unethical practices included torture, enforced interrogations and forced feeding. The statements in that article say it all: [.. Physicians at Guantanamo cannot permit the military to use them and their medical skills for political purposes ... Using a physician to assault prisoners no more changes the nature of the act than using physicians to “monitor” torture makes torture a medical procedure ... Guantanamo is not just going to fade away, and neither is the stain on medical ethics it represents. U.S. military physicians require help from their civilian counterparts to meet their ethical obligations and maintain professional ethics].

The civilian counterparts did a lot of lip service, but nothing further. The article concluded by saying: ” We further believe that military physicians should refuse to participate in any act that unambiguously violates medical ethics.”

The USA abused medical procedure to track an alleged terrorist by sending agents under cover as vaccination team. The British newspaper (The Guardian) wrote: [... the CIA used a Pakistani doctor, Shakil Afridi, in the hunt for Bin Laden. In the weeks before the 3 May operation to kill Bin Laden, Afridi was instructed to set up a fake vaccination scheme in the town of Abbottabad, in order to gain entry to the house where it was suspected that the al-Qaida chief was living, and extract DNA samples from his family members]...[The idea may have come from the fact that a nurse had in the past managed to get into the Bin Laden compound to administer polio drops to the many children living there - his children and grandchildren, it turned out.]¹⁶.

The man who orchestrated the fake medical vaccination operation, that is Dr. Shakil Afridi, has been sentenced for long years of imprisonment. [US President Donald Trump promised in his 2016 election campaign that he would get Dr Afridi released in "two minutes" if elected - but that never happened.]¹⁷.

Unethical US research imposed on people in a foreign country is yet another vivid example of violations that the US got away with.

[...United States human experiments conducted in Guatemala from 1946 to 1948. The experiments were led by physician John Charles Cutler. Doctors infected soldiers, prostitutes, prisoners, and mental patients with syphilis and other sexually transmitted diseases without the informed consent of the subjects, and treated most subjects with antibiotics. This resulted in at least 83 deaths. In October 2010. The US formally apologized to Guatemala for conducting these experiments.]¹⁸.

Israel

Israel, being a country of immensely by proxy strong political influence in the international arena, is behaving in the same way as its protectors, when it comes to international law abidance. Here is a case in point:

[Writing in +972 Magazine, Dr. Ruchama Marton, who founded Physicians for Human Rights – Israel (PHR), declared how “troubled” she has been by the way that “Israeli doctors cooperate with and enable Israel’s torture industry”.] .. [.. Marton recounted how, in the mid-1990s, two Shin Bet medical documents came to light which “asked doctors to sign off on torture in accordance with several previously agreed-upon clauses”.] .. [“it is not only doctors in the Shin Bet and the Israel Prison Service that collaborate with torture”, but “doctors

in emergency rooms across Israel write false medical opinions in accordance with the demands of the Shin Bet.”]¹⁹.

It is evident that Israeli violation of all international medical ethics guidelines goes far beyond individual incidents. The malpractice is becoming part of its very bodies that should be guarding these noble principles, namely the Israeli Medical Association (IMA). Here is what the Physicians for Human Rights organization has concluded:

[.. despite severe injury to medical personnel and to the ability of physicians to act in safety to advance their patients' interests, despite Israeli shells that have fallen on Palestinian hospitals, despite the killing of medical personnel on duty—IMA has chosen to remain silent.]²⁰.

UK

In the 1960s, there was abuse and inhumane treatment of psychiatric patients who were hidden away in institutions in the UK. Barbara Robb documented her difficult personal experience of being treated at Ely Hospital. She wrote the book *Sans Everything* and she used this to launch a campaign to improve or close long stay facilities. Shortly after, a long stay hospital for the mentally handicapped in Cardiff was exposed by a nurse writing to the *News of the World*. This exposure prompted an official inquiry, which was highly critical of conditions, staff morale, and management. At the same time Michael Ignatieff and Peter Townsend both published books which exposed the poor quality of institutional care²¹.

China

Under communist totalitarianism, China is perpetrating atrocities of unimaginable proportions, not the least what the text below depicts. This comes next to what the population of the

Xinjiang is -and has been- enduring for many years.

[..since the beginning of this century, the issue of political abuse of psychiatry in the People's Republic of China is again high on the agenda and has caused repeated debates within the international psychiatric community..] It [.. involve[s] the incarceration of followers of the Falun Gong movement, trade union activists, human rights workers and "petitioners", and people complaining against injustices by local authorities.]²².

Conclusions

International guidelines, rules and regulations that attempt to govern conduct in medical practice and biological research, such as those issued by UNESCO, WHO and WMA, draw on ethical standards, cultural norms and moral values. These differ from one place to another and are usually in compliance with what tenet, belief and religious convictions ordain. Political power of certain countries is also a factor that needs to be considered, when it comes to implementation.

So, governance through universal declarations needs to be tactful with regard to potential conflicts between these driving forces. Islam, being one of the highly influential world religions, endows much of its teachings to mannerism, ethics and morality. Consequently, Muslim communities across the globe would judge international regulations and universal declarations based on the degree of compatibility with Islamic teachings. Skepticism, and even resentment, could hamper consolidation with international efforts, if such declarations touch the sacredness of the religion. This attitude is exacerbated by tactless attempts by international bodies to impose guidelines that are incompatible with convictions based on Islamic teachings.

The UN attempt to set trends for Women & Family affairs in Muslim countries is a vivid example. Also, the legacy of a long history of east-west conflict cannot be underestimated in this equation, leading many Muslim analysts to envisage such intervention as a form of neocolonialism – via cultural influences this time. Muslim communities have great confidence in their system and in running their affairs the way *Shari'ah* rulings ordain. This has proven highly successful in the finance and banking system and should yield a similar outcome when it comes to delicate issues in ethics and morality. In the health-care system, such issues are being tackled with the conscientious mind of both health-care providers and recipients. Abidance and willingness for implementation are the key factors. Political power is another important element that could lead some countries to ignore international biomedical ethics guidelines and/or bluntly violate them. The same power has been seen to compel the very international bodies that issue these guidelines to turn a blind eye, or offer lip service at best.

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CHAPTER SEVEN

THE AGREEMENT AND DIVERGENCE BETWEEN ISLAMIC MEDICAL ETHICS AND CONTEMPORARY BIOMEDICAL ETHICS

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Abstract

There are both striking similarities and differences between Islamic and contemporary (secular) bioethical systems. This paper summarizes, the terminologies and understandings of the science of ethics and bioethics. It underpins the origins, development and implications of contemporary bioethics and its theoretical foundations. The foundations of the Islamic ethical theory, principles and the methodologies employed by the Muslim jurists in deriving rulings in the field of medical ethics are also briefly described. The four-principle approach, as espoused by Beauchamp and Childress, is interpreted through the prism of contemporary and Islamic ethical theories to outline the similarities and differences between the two bioethical systems.

Keywords: Contemporary ethics, Islamic ethics, bioethics.

Introduction

Ethics examine the rightness and the wrongness of human conduct. It is a branch of philosophy which seeks to address human behavior with regards to moral principles that involves systematizing, defending, and recommending concepts of right and wrong conduct. It seeks to resolve questions of human morality by defining concepts such as good and evil, right and wrong, virtue and vice, justice and crime¹.

Jurisprudence is the study of law and the fundamental principles on which a particular law is based. It provides insight into the structure of a particular legal system or legal systems in general. It also involves the study of the body of law serving as precedents.

Bioethics is the study of the ethical issues related to living organisms. Bioethics is derived from the Greek words: *bios*, means life; *ethos*, means behavior. Here, “ethics” refers to the identification, study, and resolution or mitigation of conflicts among competing values or goals. The “bio” puts the ethical question into a particular context. It specifically refers to ethical questions that arise in all branches of biology, medical sciences, life sciences and biotechnology etc.

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Medical ethics is the branch of bioethics that deals with critical examination of the concepts, assumptions, beliefs, attitudes, emotions, reasons and arguments underlining medico-moral decision making².

Islamic bioethics is a component of *Shari'ah* that deals with biomedical issues. The rulings are based on the Quran and *Sunnah* as basic sources, *ijmaa'* (consensus of all competent jurists) and *qiyas* (analogy) using the human reason when no clear rule is found in the Quran or *Sunnah*³. Where appropriate, consideration is also given to *maslaha* (public interest) and *urf* (local customs). Therefore, it is based on divine guidance through a combination of principles, duties, rights, and, to a certain extent, a call to virtue⁴.

Contemporary Bioethics

Contemporary bioethics attempts, to answer the questions of the society, on the study of what is right and wrong in new discoveries and techniques in biology, such as research involving animal and human subjects, genetic engineering and organ transplantation. Contemporary bioethicists also deal with the ethical questions that arise in the relationships among medical sciences, life sciences, biotechnology, humanities, laws and philosophies related to bioethical theories. Innovative technologies in medical and life sciences, biomedical procedures and most recent technological advances conferring benefits to millions of people. Appropriate use of these technologies in a correct ethical framework is vital to avoid the potential harmful effects of contemporary technological advancement. Not every new technical advancement that can be done needs to be utilized as it may not be beneficial to the populace because of inherent societal values. It also looks at questions about values in medicine, biological research, and care of people who cannot speak up for themselves

such as the mentally challenged, children, and prisoners⁵.

Bioethics is an activity. It is a shared, reflective examination of ethical issues in health care, health science, and health policy. These fields have always had their sets of ethical standards, handed down within each profession, and often accepted without question. About forty years ago, however, it became obvious that we needed a more public, and more critical, discussion of these standards.

Bioethical discussions takes place in the media, in academia, in classrooms, in laboratories, offices, and hospital wards. It involves not just doctors, but patients, not just scientists and politicians but the general public. Traditional ethical standards have been articulated, reflected upon, challenged, and sometimes revised. Standards for new issues have been created, challenged and revised. The conversation is often sparked by new developments, like the possibility of human cloning. But bioethics also raises new questions about old issues, like the use of placebos in research and the treatment of pain⁶.

Bioethics is also concerned with questions about basic human values such as the rights to life and health, and the rightness or wrongness of certain developments in healthcare institutions, life technology, medicine, the health profession and about society's responsibility for the life and health of its members.

Decisions involving bio-ethical issues are made every day in diverse situations such as the relationship between patients and their physicians, the treatment of human subjects in biomedical experimentation, allocation of scarce medical resources, complex questions that surround the beginning and end of a human life and the conduct of clinical medicine and life sciences research.

Current biomedical ethics is derived from several philosophical theories. There are two

major strands. One, the deontological is concerned for the right act. Actions are judged based upon inherent right-making characteristics or principles rather than on their consequences. The emphasis is on duty, rules, regulations, principles and moral obligations which governs one's action. The second strand is teleological that stresses the consequences. Liberalism has devised a most aggressive challenge to Hippocratism as a bioethical theory. We do not find the basic ethical principles like; the concept of autonomy, worth of human equality, and respect for the individual in these traditional professionally articulated bioethical theories⁷. Other theories like Marxism, libertarianism, feminism also contributed to the formulation of bioethical concepts⁸.

Secular bioethics is based on individualism. It is all about I, me and myself! The individual and the nuclear family structure is the societal building block. The individual's interest is what should come first versus more collective extended family ethics in our region⁹. Other schools of thought in moral reasoning derive their basis of morality from the theory of utilitarianism which means that the value of an action is determined by its utility; all actions should be directed toward achieving the greatest happiness for the greatest number of people. Feminist ethics is basically related to eliminate gender biases and subjugation of the female gender. Casuistry, or case-based reasoning, does not focus on rules and theories but rather on practical decision making in particular cases based on precedent.

Another important theory governing the ethical principles is the theory of principlism: It promulgates four basic bioethical principles. These are:

1. Autonomy: Respect for the individual's ability to choose. One should respect the right of individuals to make their own decisions by respecting the decision-making capacities of

autonomous persons; enabling individuals to make reasoned informed choices.

2. Beneficence: Do good to others. One should take positive steps to help others. It considers the balancing of benefits of treatment against the risks and costs; the healthcare professional should act in a way that benefits the patient.

3. Non-maleficence: Do no harm. The healthcare professional should not harm the patient. All treatment involves some harm, even if minimal, but the harm should not be disproportionate to the benefits of the treatment.

4. Justice: Benefits and risks should be distributed. It upholds the notion that all patients should be treated fairly and equitably¹⁰. These principles are widely discussed and are regarded as the four moral nucleotides that constitute the moral DNA which rationalizes the universal moral reasoning in health care¹¹.

All the moral theories of contemporary bioethics enjoins the physician's to maximize welfare, of either the patient or society¹¹. Others emphasize the professional's moral obligation to fulfill their professional oaths, the telling of the truth, or the following of just policy democratically determined rather than pursuing the good¹². Then there is the question of what should be the praiseworthy traits of the healthcare professional. The theory of virtue describes these traits as wisdom, temperance, courage, and justice. In the Islamic code of bioethical professional ethics, there are seven virtues including kindness, mercy, patience, and tolerance¹³. In other theories, the question of converging at the definition of right conduct are discussed. Almost all ethical theories enjoin the doing of good for patients and the avoidance of harm. Utilitarianism devised consequences-based rules like truth telling and promise keeping. With only marginal differences, other theories also follow the same rules¹⁴.

Biomedical theories also discuss the relationships of principles and individual conduct or individual cases and therefore a concept of conflict-of-interest arose and it is still posing a great challenge particularly in research and clinical ethics¹⁵. A full theory of bioethics will have to provide an account of how to move from principles to cases. Other questions still remain a matter of debate and we find a lot of grey areas, where one or the other society may agree or disagree. In all these theories one can find fundamental values at stake like; human life in certain situations, authenticity, responsibility, bodily integrity, intrinsic value, dignity of the frail and elderly, concept of fair and just health care and ability to make reasonable decisions.

Islamic biomedical ethics

Islamic bioethics is an Islamic approach to ethical analysis and decision making in bioethical issues. It is based on the broad ethical teachings of the Qur'an and *Sunnah* (authentic traditions) of the Prophet of Islam (PBUH), *ijma'* (consensus of the Muslim scholars), and *qiyas* (analogy) using the human reason when no clear rule is found in the Quran or *Sunnah*³. Where appropriate, consideration is also given to *maslaha* (public interest) and *urf* (local customs). Islamic ethics is an integral part of Islamic religious teachings, are inseparable from ethical deliberations and therefore encompasses, the needs of the body, soul, mind, spiritual realms, morality and jurisprudence¹⁶. In contrast to contemporary bioethics, Islamic bioethics is part of the Islamic way of life and the detailed guidelines laid down in the Quran and the traditions of Prophet Mohammad (PBUH). Later, Muslim jurists, after detailed deliberations, laid down explicit guidelines in most of the ethical issues related to medical practice¹⁷. Nearly 15 hundred years ago the Quran described the accurate details of

human development, and human psychology. The Islamic teachings describe the concept of disease, treatment, cure and even some modern concepts like quarantine, preventive measures, epidemics, infection control, etc¹⁸. The purpose of Islamic law and ethics is to ensure the wellbeing of the individual, as ethics is part of *Shari'ah*, there are methodologies in place where continuous research and development are taking place to answer the emerging questions as technology advances.

The Qur'an directly emphasizes the importance of human beings, and their behavior in the selected verses:

”وَلَقَدْ كَرَّمْنَا بَنِي آدَمَ ..”

“We honored Human beings”¹⁹

”لَقَدْ خَلَقْنَا الْإِنْسَانَ فِي أَحْسَن تَقْوِيمٍ”

“We created humans in the best composition”²⁰

”وَعَلَّمَ آدَمَ الْأَسْمَاءَ كُلَّهَا ثُمَّ عَرَضَهُمْ عَلَى الْمَلَائِكَةِ فَقَالَ أَنْبِئُونِي بِأَسْمَاءِ هَؤُلَاءِ إِنْ كُنْتُمْ صَادِقِينَ، قَالُوا سُبْحَانَكَ لَا عِلْمَ لَنَا إِلَّا مَا عَلَّمْتَنَا إِنَّكَ أَنْتَ الْعَلِيمُ الْحَكِيمُ، قَالَ يَا آدَمُ أَنْبِئْهُمْ بِأَسْمَائِهِمْ فَلَمَّا أَنْبَأَهُمْ بِأَسْمَائِهِمْ قَالَ أَلَمْ أَقُلْ لَكُمْ إِنِّي أَعْلَمُ غَيْبِ السَّمَاوَاتِ وَالْأَرْضِ وَأَعْلَمُ مَا تُبْدُونَ وَمَا كُنْتُمْ تَكْتُمُونَ”

”The human is created as a “caretaker on earth”²¹

”إِنَّا عَرَضْنَا الْأَمَانَةَ عَلَى السَّمَاوَاتِ وَالْأَرْضِ وَالْجِبَالِ فَأَبَيْنَ أَنْ يَحْمِلْنَهَا وَأَشْفَقْنَ مِنْهَا وَحَمَلَهَا الْإِنْسَانُ إِنَّهُ كَانَ ظَلُومًا جَهُولًا”

“Humans have been given “the trust”²².

Despite all these facts, humans have egoistical *nafs* (base instincts), emotions, desires, and selfish impulses of the ego. All these may negatively affect their actions. Therefore the concept of rightness and wrongness is inculcated in the *Shari'ah*, and these are the basis of Islamic ethical values.

Hence humans, from an Islamic perspective, are not absolutely free to do anything they want. They are ring-fenced by law, society and self-consciousness. Islamic guidelines for human interactions are however very vibrant as exemplified in the following Quranic verses and prophetic traditions.

"يَا أَيُّهَا الَّذِينَ آمَنُوا لَا تَحِلُّوا شَعَائِرَ اللَّهِ وَلَا الشَّهْرَ الْحَرَامَ وَلَا الْهَدْيَ وَلَا الْفُلَايِدَ وَلَا أَمِينَ النَّبِيِّتِ الْحَرَامَ بَيْنَعُونَ فَمَنْ كَانَ مِنْكُمْ مَّرْضًا أَوْ بِهِمْ عُسْرٌ أَوْ فِي كَيْدِ جُنُودِهِمْ فَاصْطَلُوا وَلَا تَعْتَدُوا عَلَى النَّبِيِّ وَلَا عَلَى الْوَالِدِ وَالْأَقْرَبِينَ وَلَا تَعْتَدُوا عَلَى الْأَمْوَالِ الَّتِي بَيْنَ يَدَيْهَا حُدُودُ اللَّهِ وَلَا تَعْتَدُوا عَلَى الْأَنْفُسِ الَّتِي بَيْنَ يَدَيْهَا حُدُودُ اللَّهِ إِنَّ اللَّهَ شَدِيدُ الْعِقَابِ"

"And cooperate in righteousness and piety, but do not cooperate in sin and aggression. And fear Allah; indeed, Allah is severe in penalty"²³.

Prophet Mohammad (PBUH) said "Make things easy for the people and do not make things difficult for them"²⁴.

For medical and other professions, the Quran laid down some basic principles:

"وَلَا تَقْفُ مَا لَيْسَ لَكَ بِهِ عِلْمٌ إِنَّ السَّمْعَ وَالْبَصَرَ وَالْفُؤَادَ كُلُّ أُولَئِكَ كَانَ عَنْهُ مَسْئُولًا"

"And do not pursue that of which you have no knowledge. Indeed, the hearing, the sight and the heart - about all those [one] will be questioned"²⁵.

Methodology of dealing with ethical questions in the *Shari'ah*

While dealing with an ethical question, one must be clear that legal rules and ethical principles are not entirely segregated in *Shariah*. Muslim jurists had summed up human actions into four broad categories: creed ('*Aqidah*), worship ('*Ibadah*), morality and ethics ('*Akhlaq*), and human relations (*Mua'amlat*).

The primary sources of Islamic jurisprudence are the Quran and *Sunnah* of the Prophet Mohammad (PBUH), his words, actions and approvals. The secondary sources are analogical Reasoning (*Qiyas*), extending established legal precedence to new matters by identifying an operative cause applicable to both situations, and consensus (*Ijmaa'*) of the community of scholars over a solution to a legal and practical issue. When a certain ruling passes the test of time, more and more jurists as well as the people accept the ruling making it a consensus.

While deciding on certain matters pertaining to bioethics, certain principles of Islamic jurisprudence needs to be observed, including adequate knowledge of the sources of *Shariah* and the methods of juristic deductions. There are three major objectives that governs the methodology in Islamic law: The first is to promote good and benefit human beings, protect them from evil, harm, and subsequent suffering. Secondly, law and ethics must protect religion, human life, intellect (human mind), progeny (family and lineage) and property²⁶. Thirdly, the Muslim jurists must consider important principles namely, what is *halal* (permissible) and what is haram, prefer the lesser of two evils, that doubt does not remove certainty, and that which is necessary to achieve an obligation is obligatory²⁷.

While deciding on certain matters, an Islamic jurist has to deduce if the matter is obligatory (*wajib*), recommended (preferred but not obligatory), permitted (*halal*), undesirable but not forbidden (*makruh*) and forbidden (*haram*). Islamic decree (*fatwa*) is an opinion of the trustworthy jurist, and there could be various decrees on a same issue which may be either a majority or minority opinion. For example, *fatwa* issued in 1980, on assisted reproduction has achieved wide acceptance by the Muslim community²⁸. Over a period of time there may occur changes in the situation

requiring reconsideration and changes of opinion.

Principles of Islamic bioethics

Islamic bioethics is based on the sanctity of human life. Under no circumstances, Islamic teachings allows any action that causes injury to human life. The following are examples from the Quran and *Sunnah*.

"مِنْ أَجْلِ ذَلِكَ كَتَبْنَا عَلَى بَنِي إِسْرَائِيلَ أَنَّهُ مَنْ قَتَلَ نَفْسًا بِغَيْرِ نَفْسٍ أَوْ فَسَادٍ فِي الْأَرْضِ فَكَأَنَّمَا قَتَلَ النَّاسَ جَمِيعًا وَمَنْ أَحْيَاهَا فَكَأَنَّمَا أَحْيَا النَّاسَ جَمِيعًا وَلَقَدْ جَاءَتْهُمْ رُسُلُنَا بِالْبَيِّنَاتِ ثُمَّ إِنَّ كَثِيرًا مِنْهُمْ بَعَدَ ذَلِكَ فِي الْأَرْضِ لَمُسْرِفُونَ"

"... that if anyone killed a person not in retaliation of murder, or not to spread mischief in the land- it would be as if he killed all mankind, and if anyone saved a life, it would be as he saved the life of all mankind...²⁹"

Prophet Mohammad (PBUH) said in his farewell address at *Arafah* during the last pilgrimage:

"Indeed, your blood and your property and your honor are inviolable, like the inviolability of this day, this month, and this land until the day you meet your Lord."

Prophet Mohammad (PBUH) was so concerned about treating the people around him in the best possible way that he used to pray 'O Allah! I am but a man. If I hurt anyone in any manner, then forgive me and do not punish me³⁰."

Another hadith states "Nothing is weightier on the scale of deeds than one's good manners.³¹"

Another hadith narrated by 'Abu Hurayrah, states that Prophet Mohammad (PBUH) said "The best among you in Islam are those with

the best manners, so long as they develop a sense of understanding³²."

The manners of the Prophet (PBUH) can be best understood by the hadith narrated by 'Anas (may Allah be pleased with him).

"I served the Prophet of Allah, upon him be peace, for ten years. During that time, he never once said to me as much as 'Oof' (Ooh) if I did something wrong. He never asked me, if I had failed to do something, 'Why did you not do it?' and he never said to me, if I had done something wrong, 'Why did you do it?'³³.

The importance of ethics is again emphasized in the following hadith:

"If one has good manners, one may attain the same level of merit as those who spend their nights in *tahajjud* prayer³⁴" "What is most likely to send people to Paradise? Being conscious of Allah and good manners"³⁵.

Some of the important Islamic bioethical principles are herein summarized:

1. Respect and dignity of human life is highly stressed in several verses of the Quran. A human being must be respected at all costs, as Allah has created him as a masterpiece of His creation, who have accepted the trust that Allah entrusted him with.

"لَقَدْ خَلَقْنَا الْإِنْسَانَ فِي أَحْسَنِ تَقْوِيمٍ"

"Verily, We created man in the best conformation"³⁶.

"وَابْتَغِ فِيمَا آتَاكَ اللَّهُ الدَّارَ الْآخِرَةَ وَلَا تَنْسَ نَصِيبَكَ مِنَ الدُّنْيَا وَأَحْسِنْ كَمَا أَحْسَنَ اللَّهُ إِلَيْكَ وَلَا تَبْغِ الْفُسَادَ فِي الْأَرْضِ إِنَّ اللَّهَ لَا يُحِبُّ الْمُفْسِدِينَ"

"And do good as Allah has done good to you..."³⁷

"وَأَقْدَ كَرَمْنَا نَبِيَّ آدَمَ وَحَمَلْنَاهُمْ فِي النَّبْرِ وَالْبَحْرِ وَرَزَقْنَاهُمْ مِّنَ الطَّيِّبَاتِ وَفَضَّلْنَاهُمْ عَلَى كَثِيرٍ مِّمَّنْ خَلَقْنَا تَفْضِيلًا"

"And no doubt, We honored the children of Adam and got them to ride in the land and sea and provided them with clean things and preferred them over many of Our creations"³⁸

"وَعَلَّمَ آدَمَ الْأَسْمَاءَ كُلَّهَا ثُمَّ عَرَضَهُمْ عَلَى الْمَلَائِكَةِ فَقَالَ أَنْبِئُونِي بِأَسْمَاءِ هَؤُلَاءِ إِنْ كُنْتُمْ صَادِقِينَ، قَالُوا سُبْحَانَكَ لَا عِلْمَ لَنَا إِلَّا مَا عَلَّمْتَنَا إِنَّكَ أَنْتَ الْعَلِيمُ الْحَكِيمُ"

2. Human beings are awarded with knowledge and capacity to learn, reflect and gain knowledge³⁹.

3. Human beings are entrusted with self-awareness and freedom of choice enabling humans to develop spiritually⁴⁰.

4. Human life is declared sacred. Saving one life is regarded as saving the whole humanity⁴¹.

5. A prophetic Hadith states "There is cure of every ailment except old age: Allah has sent down both the disease and cure, and He has appointed a cure for every disease, so treat yourself medically, but use nothing *haram* (unlawful)"⁴².

6. Treatment and seeking treatment in case of illness is encouraged.

"وَنُنَزِّلُ مِنَ الْقُرْآنِ مَا هُوَ شِفَاءٌ وَرَحْمَةٌ لِّلْمُؤْمِنِينَ وَلَا يَزِيدُ الظَّالِمِينَ إِلَّا خَسَارًا"

We send down of the Quran which is a healing and a mercy to those who believe...⁴³

7. It is narrated that Prophet Mohammed (PBUH) said: "For each ailment there is a cure and medicament. If the proper medicament is used, the disease will be cured by the will of Allah"⁴⁰. In another hadith Jabir ibn 'Abdullah al-'Ansari said: The Prophet (PBUH) visited Sa'd ibn 'Abi al-Waqaas (his maternal cousin) and found him ill. He

put his hand on Sa'd's chest and said: Call for al-Harith ibn Keldah, of Thaqif (a tribe living in Taa'if a city near Makkah), for he is a man who practices medicine"⁴⁴.

8. When confronted with 2 options and forced to have choice go for the lesser evil or harm

9. Necessity overrides the prohibition. Normally, the therapy should be by using "*Halal*" (permissible) materials or methods. A "*Haram*" medication will be allowed if there is no alternative, if it is deemed necessary to cure the ailment and/or it is prescribed by a Muslim physician"⁴⁵.

10. Allah does not burden a soul beyond its capacity; "Allah does not charge a soul except with that within its capacity. It will have the consequence of what good it has gained, and it will bear the consequence of what evil it has earned"⁴⁶.

11. Suffering compensates for one's sins or elevates one's spiritual degree. Allah's Messenger (PBUH) said, "No calamity befalls a Muslim but that Allah expiates some of his sins because of it, even though it were the prick he receives from a thorn."⁴⁷.

12. Actions will be judged according to intentions. 'Umar ibn al-Khattab narrated that the Prophet (PBUH) said "Verily actions are judged by intentions, and for every person is what he intended"⁴⁸.

13. Patience is recommended for adversity; and thankfulness is recommended for blessings. Allah says:

"وَمَا بِكُمْ مِّن نَّعْمَةٍ فَمِنَ اللَّهِ ثُمَّ إِذَا مَسَّكُمُ الضُّرُّ فَإِنَّكُمْ تَجَارُونَ"

"Whatever blessings you have is from Allah."⁴⁹

Allah also states:

" وَإِذْ تَأَذَّنَ رَبُّكُمْ لَئِن شَكَرْتُمْ لَأَزِيدَنَّكُمْ وَلَئِن كَفَرْتُمْ إِنَّ عَذَابِي لَشَدِيدٌ "

*"And when your Lord proclaimed, 'If you are grateful, I will surely enhance you [in blessing]' "*⁵⁰.

14. Be patient in case of illness: "Sabr (patience) to 'Imaa'n (faith) is like the head to the body. When the head is gone, so is the body. Likewise, when patience is gone so is faith"⁵¹.
15. . The Qur'an describes the faithful patient as follows:

"وَأَنْبَلُواكُمْ بَشِيرًا مِّنَ الْخَوْفِ وَالْجُوعِ وَنَقْصٍ مِّنَ الْأَمْوَالِ وَالْأَنْفُسِ وَالثَّمَرَاتِ وَبَشِّرِ الصَّابِرِينَ ، الَّذِينَ إِذَا أَصَابَتْهُمُ مُصِيبَةٌ قَالُوا إِنَّا لِلَّهِ وَإِنَّا إِلَيْهِ رَاجِعُونَ"

*"And give good news to the patient – those who, when an affliction visits them, say, 'Indeed we belong to Allah, and to Him do we indeed return' "*⁵².

Similarities between Islamic and contemporary bioethics

There are significant similarities between Islamic and contemporary bioethics. In fact, the tenacity of the ethical precincts to answer the questions of the society, on the study of what is right and wrong in new discoveries and techniques in biology, such as research involving animal and human subjects, genetic engineering and organ transplantation have identical principles. Islamic and contemporary bioethicists deal with the ethical questions that arise in the relationships among medical sciences, life sciences, biotechnology, humanities, laws and philosophies related to bioethical guidelines. Innovative technologies in medical and life sciences, biomedical procedures and most of the recent technological advances bring benefits to millions of people and both systems strive to

solve any emerging ethical question after thorough deliberation.

Ethical standards are constantly premeditated, improved and articulated, reflected on, and revised to deal with the emerging situations, sparked by new developments, like the possibility of human cloning.

Both systems also raise new questions about old issues, like the use of placebo or new issues like dealing with the new scientific discoveries to treat malignancies.

Both systems are equally concerned about basic human values such as the right to life and health, and the rightness or wrongness of certain developments in healthcare institutions, life technology, medicine, and the health professions and about society's responsibility for the life and health of its members⁵³.

The four basic principles of contemporary bioethics are not only upheld in Islamic bioethics, but are also strongly enhanced. Muslims strongly believe, while making decisions that every effort should be made in conjunction with the patient. The goal is to benefit the patient, and to safeguard his/her interest. These four principles are autonomy, beneficence, non-maleficence and distributive justice⁵⁴.

Autonomy

This includes the need to tell the truth (veracity) and to be faithful to one's commitments (fidelity). It is the right of the patient to get high quality health care, be informed about the treatment, process and choices of treatment modalities. It is also the right of the patient to confidentiality, and who has the right to allow the disclosure of his illness or otherwise to other family members or a third party. In secular ethics the patient is to choose whatever they find appropriate. The patient can delegate the decision making to a member of the family, a

proxy or even to the treating physician himself. It is also the right of the patient to accept or to decline proposed diagnostic and therapeutic modality or access to information regarding his treatment. The physician or his assistants cannot force a certain choice of the patient's care or information. All such measures, leading to forced choice and evasive disclosures are inconsistent with attributes of a health care worker⁵⁵.

According to Islamic teachings, though the importance of patient autonomy is duly recognized, the advancement of this concept is not without its limitations as it must evolve within the perimeters of *Shari'ah*. The overtly importance of individualism, personal gratification and the denial of faith in medical decision-making is inconsistent with Islamic values⁵⁶.

From the Islamic perspective, autonomy represents one of the four basic principles often used in analyzing ethical issues in medicine. Autonomy is greatly emphasized and stressed in the Quran and *Sunnah*. The following verses are quite clear in this respect.

" لَا إِكْرَاهَ فِي الدِّينِ قَدْ تَبَيَّنَ الرُّشْدُ مِنَ الْغَيِّ فَمَنْ يَكْفُرْ بِالطَّاغُوتِ وَيُؤْمِنْ بِاللَّهِ فَقَدِ اسْتَمْسَكَ بِالْعُرْوَةِ الْوُثْقَىٰ لَا انفِصَامَ لَهَا وَاللَّهُ سَمِيعٌ عَلِيمٌ "

"There is no compulsion in religion"⁵⁷.

" وَقُلِ الْحَقُّ مِنْ رَبِّكُمْ فَمَنْ شَاءَ فَلْيُؤْمِنْ وَمَنْ شَاءَ فَلْيُكْفُرْ إِنَّا أَعْتَدْنَا لِلظَّالِمِينَ نَارًا أَحَاطَ بِهِمْ سُرَادِقُهَا وَإِنْ يَسْتَعِينُوا يَعْتَنُوا بِمَاءٍ كَالْمُهْلِ يَشْوِي الْوُجُوهَ بِئْسَ الشَّرَابُ وَسَاءَتْ مُرْتَفَقًا "

"Then whosoever wills, let him believe, and whosoever wills, let him disbelieve"⁵⁸.

In another verse Allah (SWT) tells Prophet Mohammad (PBUH)

" وَلَوْ شَاءَ رَبُّكَ لَأَمَنَّ مِنَ فِي الْأَرْضِ كُلَّهُمْ جَمِيعًا أَفَأَنْتَ تُكْفِرُ النَّاسَ حَتَّىٰ يَكُونُوا مُؤْمِنِينَ "

"So, will you (O Muhammad) then compel mankind, until they become believers"⁵⁹.

Though human beings are entrusted with their bodies, according to Islamic teachings, still they can only act as prescribed by the Creator. This autonomy does not allow mutilation of the body, or intentionally harming the body in any way including addiction, intoxication etc. Islamic teachings discourage unhealthy habits and self-proclaimed lifestyles that disregard human physical, intellectual, emotional and spiritual needs. Life is a gift of Allah. A human being has no absolute authority on his body. One cannot take one's own life (suicide). And one cannot be allowed to damage one's body, spirits, emotions or intellect.

" يَا أَيُّهَا الَّذِينَ آمَنُوا لَا تَأْكُلُوا أَمْوَالِكُمْ بَيْنَكُمْ بِالْبَاطِلِ إِلَّا أَنْ تَكُونَ تِجَارَةً عَنْ تَرَاضٍ مِّنْكُمْ وَلَا تَقْتُلُوا أَنْفُسَكُمْ إِنَّ اللَّهَ كَانَ بِكُمْ رَحِيمًا "

"And do not kill yourselves (nor kill one another). Surely, God is Most Merciful to you"⁶⁰

One cannot authorize a physician to do so. The Qur'an says:

" مِنْ أَجْلِ ذَلِكَ كَتَبْنَا عَلَىٰ بَنِي إِسْرَائِيلَ أَنَّهُ مَنْ قَتَلَ نَفْسًا بِغَيْرِ نَفْسٍ أَوْ فَسَادٍ فِي الْأَرْضِ فَكَأَنَّمَا قَتَلَ النَّاسَ جَمِيعًا وَمَنْ أَحْيَاهَا فَكَأَنَّمَا أَحْيَا النَّاسَ جَمِيعًا وَلَقَدْ جَاءَتْهُمْ رُسُلُنَا بِالْبَيِّنَاتِ ثُمَّ إِنَّ كَثِيرًا مِّنْهُمْ بَعَدَ ذَلِكَ فِي الْأَرْضِ لُمُسْرِفُونَ "

"... if anyone killed a person, not in retaliation of murder, or for causing mischief in the land - It would be as if he killed all mankind, and if anyone saved a life, it would be as if he saved the life of all mankind..."⁶¹.

The concept of euthanasia or of a physician role in the termination of a person's life is denounced in Islamic teaching, despite pains, sufferings in terminal illnesses. Muslims consider that there are immeasurable rewards

from Almighty the Creator for those who patiently persevere in suffering.

“قُلْ يَا عِبَادِ الَّذِينَ آمَنُوا اتَّقُوا رَبَّكُمْ لِلَّذِينَ أَحْسَنُوا فِي هَذِهِ الدُّنْيَا حَسَنَةٌ وَأَرْضُ اللَّهِ وَاسِعَةٌ إِنَّمَا يُوَفَّى الصَّابِرُونَ أَجْرَهُمْ بِغَيْرِ حِسَابٍ”

“Only those who are patient shall receive their rewards in full, without reckoning”⁶².

It is the duty of the physician, to relieve pain and reduce the suffering as far as possible. The physician should encourage the patient to avoid risky behavior, undesirable lifestyle endangering his health and inculcate patience and fortitude in the following promise of Allah:

“قُلْ يَا عِبَادِيَ الَّذِينَ أَسْرَفُوا عَلَىٰ أَنفُسِهِمْ لَا تَقْنَطُوا مِن رَّحْمَةِ اللَّهِ إِنَّ اللَّهَ يَغْفِرُ الذُّنُوبَ جَمِيعًا إِنَّهُ هُوَ الْغَفُورُ الرَّحِيمُ”

“Do not despair of the mercy of Allah. Indeed, Allah forgives all sins. Indeed, it is He who is the Forgiving, the Merciful”⁶³.

The concept of absolute autonomy without limitation, as described in contemporary ethics is not sanctioned in Islamic bioethics. This is due to the fact that the human being is not considered as the sole owner of his body, rather, the ownership is limited by the *Shari’ah* as directed in Quran:

“إِنَّ اللَّهَ اشْتَرَىٰ مِنَ الْمُؤْمِنِينَ أَنفُسَهُمْ وَأَمْوَالَهُم بِأَنَّ لَهُمُ الْجَنَّةَ يُقَاتِلُونَ فِي سَبِيلِ اللَّهِ فَيَقْتُلُونَ وَيُقْتَلُونَ وَعَدَا عَلَيْهِ حَقًّا فِي التَّوْرَةِ وَالْإِنْجِيلِ وَالْقُرْآنِ وَمَنْ أَوْفَىٰ بِعَهْدِهِ مِنَ اللَّهِ فَاسْتَبْشِرُوا بِنَيْعِكُمُ الَّذِي بَايَعْتُمْ بِهِ وَذَلِكَ هُوَ الْفَوْزُ الْعَظِيمُ”

“Indeed, Allah has purchased from the believers their lives and their properties [in exchange] for that they will have Paradise”⁶⁴

Beneficence

Beneficence refers to the deed or individual qualities of compassion, kindness,

generosity, and contributions towards a good cause. It is also expressive of altruism, love, humanity, and promoting the good of others. Beneficence is the central theme of common morality theory and utilitarianism (the principle of utility) and others. It is the moral obligation of helping and benefiting others, to further their important and legitimate interests, often by preventing or removing possible harms to them. The term benevolence refers to the morally valuable character trait or virtue of being disposed to act to benefit others. In contemporary ethics the act of beneficence may be performed from non-obligatory, optional moral ideals, which are standards that belong to a morality of meritorious aspiration in which individuals or institutions adopt goals and practices that are not obligatory for everyone⁶⁵. In Islamic bioethics beneficence is considered as an essential trait of a faithful and is obligatory to provide ease, comfort and benefit to others:

“The best people are those who are most beneficial to other people”⁶⁶.
The Qur’an says:

“فَمَنْ يَعْمَلْ مِثْقَالَ ذَرَّةٍ خَيْرًا يَرَهُ، وَمَنْ يَعْمَلْ مِثْقَالَ ذَرَّةٍ شَرًّا يَرَهُ”

“So whosoever does good equal to the weight of an atom (or a small ant), shall see it. And whosoever does evil equal to the weight of an atom (or a small ant), shall see it.”⁶⁷

“... Whoever walks with his brother regarding a need until he secures it for him, then Allah Almighty will make his footing firm across the bridge on the day when the footings are shaken”⁶⁸.

“مَنْ عَمِلَ صَالِحًا فَلِنَفْسِهِ وَمَنْ أَسَاءَ فَعَلَيْهَا وَمَا رَبُّكَ بِظَلَّامٍ لِلْعَبِيدِ”

“Whoever does righteous good deed it is for (the benefit of) his own self, and whosoever does evil, it is against his own self, and your Lord is not at all unjust to (His) slaves”⁶⁹.

Several other references emphasize the importance of beneficence: "Allah commands justice, doing of good, giving to kith and kin, and forbids all indecent deeds, evil and rebellion. He instructs you that you may receive admonition"⁷⁰. Islamic bioethics strives to provide the best possible care to fellow human beings without any worldly considerations or economic gains. This makes Islamic bioethics unique among all other types of ethical considerations.

Non-maleficence

Non-maleficence literary means "non-harming" or doing no harm or inflicting least harm, or lesser harm, in order to ward off a greater harm, or lose a certain benefit to procure a greater one. It clearly states that a health care provider has a duty to do no harm or allow harm to be caused to a patient through neglect. To ascertain no harm policy in a health care environment, we need to consider if the caring personnel possess the essential skills and knowledge to manage such cases, high level of dignity and respect is provided to the patient without any discrimination, and if other factors such as the availability of skilled staff, resources, infrastructure etc. will affect the outcome⁷¹. In Islamic bioethics preventing or avoiding harm takes precedence over bringing good. In this process the principle of accepting a lesser harm and providing maximum benefits to the patient and society is adopted. Islamic teachings prohibit wrongdoing at all times and recommends behaving sincerely. The Quran states:

" الَّذِينَ يَتَّبِعُونَ الرَّسُولَ النَّبِيَّ الْأُمِّيَّ الَّذِي يَجِدُونَهُ مَكْتُوبًا عِنْدَهُمْ فِي التَّوْرَةِ وَالْإِنْجِيلِ يَأْمُرُهُمْ بِالْمَعْرُوفِ وَيَنْهَاهُمْ عَنِ الْمُنْكَرِ وَيُحِلُّ لَهُمُ الطَّيِّبَاتِ وَيُحَرِّمُ عَلَيْهِمُ الْخَبَائِثَ وَيَضَعُ عَنْهُمْ إِصْرَهُمْ وَالْأَغْلَالَ الَّتِي كَانَتْ عَلَيْهِمْ فَالَّذِينَ آمَنُوا بِهِ وَعَزَّرُوهُ وَنَصَرُوهُ وَاتَّبَعُوا النُّورَ الَّذِي أُنزِلَ مَعَهُ أُولَئِكَ هُمُ الْمُفْلِحُونَ "

"And He makes for them good things lawful, and bad things forbidden"⁷².

Islamic bioethics spiritually prohibit inflicting any kind of harm to any one or even helping others in harming in any way as stated in the Quran:

" يَا أَيُّهَا الَّذِينَ آمَنُوا لَا تَجْلُوا شَعَائِرَ اللَّهِ وَلَا الشُّهُرَ الْحَرَامَ وَلَا الْهَدْيَ وَلَا الْقَلَائِدَ وَلَا آمِينَ النَّبِيِّ الْحَرَامَ يَتَّبِعُونَ فَضْلًا مِّن رَّبِّهِمْ وَرِضْوَانًا وَإِذَا حَلَلْتُمْ فَاصْطَادُوا وَلَا يَجْرِمَنَّكُمْ شَنَاةُ قَوْمٍ أَن صَدَّقْتُم عَنِ الْمَسْجِدِ الْحَرَامِ أَن تَعْتَدُوا وَتَعَاوَنُوا عَلَى الْبِرِّ وَالتَّقْوَىٰ وَلَا تَعَاوَنُوا عَلَى الْإِثْمِ وَالْعُدْوَانِ وَاتَّقُوا اللَّهَ إِنَّ اللَّهَ شَدِيدُ الْعِقَابِ "

"..... And cooperate in righteousness and piety, but do not cooperate in sin and aggression. And fear Allah; indeed, Allah is severe in penalty"⁷³.

Islamic bioethics promote "doing good to the people and avoiding harm." "Whoever comes [on the Day of Judgment] with a good deed will have ten times the like thereof [to his credit], and whoever comes with an evil deed will not be recompensed except the like thereof; and they will not be wronged"⁷⁴. The Quran emphasizes at several places the commandment to avoid harm and to do good to the people:

" وَلَا تَسْتَوِي الْحَسَنَةُ وَلَا السَّيِّئَةُ ادْفَعْ بِالَّتِي هِيَ أَحْسَنُ فَإِذَا الَّذِي بَيْنَكَ وَبَيْنَهُ عَدَاوَةٌ كَأَنَّهُ وَلِيٌّ حَمِيمٌ "

"They are not equal, the good deed and the bad. Repel [evil] by that [deed] which is better; and thereupon the one whom between you and him is enmity [will become] as though he was a devoted friend"⁷⁵.

In a hadith of the Prophet Mohammad (PBUH) he said: "There should be neither harming nor reciprocating harm"⁷⁶.

Islamic bioethics directs the prevention of all types of harm and if somebody tries to harm you, you should not reciprocate. Forgiveness is preferred in virtually all situations and times. Prophet Mohammad (PBUH) said: "I

swear by Allah, that a person who inflicts harm to his neighbor is not a believer of Allah”⁷⁷.

The allowances given to the patient in Islamic bioethics are incredible. Even prohibitions are allowed to save health and life. In this respect non-maleficence is not an option in bioethics but an essential component of Islamic belief.

Justice

Justice is synonymous with fairness. Philosophically it means fair distribution of benefits and burdens. In bioethics, justice refers to the principle that everyone should have an equal opportunity without any discrimination. Justice is a moral obligation to act based on fair adjudication between competing claims. In bioethics, justice is fair distribution of scarce resources, respect of people’s rights and respect of laws or norms on the basis of equality and equity⁷⁸. It implies equal access to health care irrespective of any biases including age, nationality, place of residence, social status, ethnic and cultural background, disability, legal capacity, hospital budgets, insurance coverage, financial ability and prognosis. In bioethics justice is a complex but an important pillar. Our actions should not be unfair conflicting with human rights, should not be prioritized on the basis of ethnicity or other bases. If prioritization is necessary it should be justified and based on morally agreed upon factors⁷⁹.

Islamic bioethics lay great emphasis on justice in its comprehensive meaning. Islamic theology dictates doing good deeds not only when demanded by justice, but even going beyond, taking care of the needs of individuals and the human society at large. In the Quran sixteen verses directly accent the importance of justice, describing the

prime purpose of divine revelation as the means to establish justice on the earth:

” لَقَدْ أَرْسَلْنَا رُسُلَنَا بِالْبَيِّنَاتِ وَأَنْزَلْنَا مَعَهُمُ الْكِتَابَ وَالْمِيزَانَ لِيَقُومَ النَّاسُ بِالْقِسْطِ وَأَنْزَلْنَا الْحَدِيدَ فِيهِ بَأْسٌ شَدِيدٌ وَمَنَافِعُ لِلنَّاسِ وَلِيَعْلَمَ اللَّهُ مَن يَنْصُرُهُ وَرُسُلَهُ بِالْغَيْبِ إِنَّ اللَّهَ قَوِيٌّ عَزِيزٌ ”

“We have already sent our messengers with clear evidence and sent down with them the scripture and the balance so that the people may maintain [their affairs] in justice”⁸⁰.

This and several other verses imply that the messengers were sent with the divine message to establish and enforce justice in all spheres of life. Islamic bioethics demands just equitable ecosystem where, the poor and vulnerable are treated affably. All three bioethical principles are described in one verse:

” إِنَّ اللَّهَ يُأْمُرُ بِالْعَدْلِ وَالْإِحْسَانِ وَإِيتَاءِ ذِي الْقُرْبَىٰ وَيَنْهَىٰ عَنِ الْفَحْشَاءِ وَالْمُنْكَرِ وَالنَّبَغِ يُعْطِكُمْ لَعَلَّكُمْ تَذَكَّرُونَ ”

“Indeed, Allah orders justice and good (beneficence) conduct and giving to relatives and forbids immorality and bad conduct (non-maleficence) and oppression. He admonishes you that perhaps you will be reminded”⁸¹.

Though justice is considered an important aspect of a peaceful and enlightened society, as obvious from the above verse, Islamic theology endeavors to enrich a sound society with the concept of “*Ihsan*” which means excellence. It stresses several traits of an individual and society which takes care of others with empathy, generosity, selflessness and achieve excellence in all deeds including health care. This directive of Almighty Allah to humanity provides holistic intuition of a genuinely affable, elated and dynamic human society. The pursuit of perfection in faith and justice is emphasized in the Quranic verse:

" يَا أَيُّهَا الَّذِينَ آمَنُوا كُونُوا قَوَّامِينَ لِلَّهِ شُهَدَاءَ بِالْقِسْطِ وَلَا يَجْرِمَنَّكُمْ شَنَاَنُ قَوْمٍ عَلَىٰ أَلَّا تَعْدِلُوا أَعْدِلُوا هُوَ أَقْرَبُ لِلتَّقْوَىٰ وَاتَّقُوا اللَّهَ إِنَّ اللَّهَ خَبِيرٌ بِمَا تَعْمَلُونَ "

"O you who have believed, be persistently standing firm for Allah, witnesses in justice, and do not let the hatred of a people prevent you from being just. Be just; that is nearer to righteousness. And fear Allah; indeed, Allah is acquainted with what you do" ⁸².

Justice in Islamic bioethics is well above all other considerations including, blood relations, loved ones, or close relatives. A Muslim and a Jew were judged before the second Caliph 'Umar ibn al-Khattab (may God be pleased with him). 'Umar decided that the Jew was right and judged in his favor. The Jew said to him; "By God, you judged justly"⁸³. Justice is considered to be the first virtue of social institutions.

In Islamic bioethics, truth is a system of thought and is of three categories: fair distribution of scarce resources (distributive justice), respect for people's rights (rights-based justice) and respect for morally acceptable laws (legal justice)⁸⁴. Justice is being respectful to the personal and legal rights of other people and of all the creatures. Allah says

" لَا يَنْهَاكُمُ اللَّهُ عَنِ الَّذِينَ لَمْ يُقَاتِلُوكُمْ فِي الدِّينِ وَلَمْ يُخْرِجُوكُم مِّن دِيَارِكُمْ أَن تَبَرُّوهُمْ وَتُقْسِطُوا إِلَيْهِمْ إِنَّ اللَّهَ يُحِبُّ الْمُقْسِطِينَ "

*"...Verily! Allah loves those who are equitable"*⁸⁵

This and similar verses in conjunction with the traditions of Prophet Mohammad (PBUH) heavily denounce any element of unjust behavior.

Conclusions

There are striking similarities between the two systems of bioethical understandings. The vast majority of contemporary ethics including all its four basic principles and philosophical derivatives concur with Islamic bioethics. However, there are dissimilarities between contemporary and Islamic bioethics. These differences are ideological, and anthropological. The fundamental difference is that the Islamic is faith-dependent and the secular is faith-independent derivation of ethical principles. Believing in the unity of God, as the sole Creator, sustainer and organizer of the universe, incorporating the concept of the Creator in all aspects of human life, including moral life, is the essence of Islamic bioethics. This leads to seeking divine guidance in all aspects of life including moral reasoning. On the other hand, secular ethics does not require such guidance and operate independently. One more striking difference between the two systems of bioethics is the origin of theological consideration and philosophical thoughts. The essential component of Islamic bioethics, faith, is deeply engraved in the persons, communities and societies where certain actions can be punishable by law. On the other hand, contemporary bioethics were born, developed and progressed, without regards to certain unethical behaviors.

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CHAPTER EIGHT

IMMUNIZATION FROM THE PERSPECTIVE OF *MAQASID SHARI'AH*

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Abstract

The ethical and moral dimensions of immunization can be understood from the holistic and all-encompassing concept of *Maqasid Shari'ah* or the highest objectives of the *Shari'ah*. As the true and authentic compass of the entire corpus of Islamic legal prescriptions, the *Maqasid Shari'ah* defines the cardinal purposes of the Muslim's individual, societal, national and global life experiences. It is these higher objectives of *Shari'ah* that dictates the Muslims' participation in civil society, political governance, and health related programs and similar activities in their mutual quest for *rahmah* (mercy), *adl* (justice) and *falah* (success) in the worldly life for all mankind.

Keywords: Immunization, *Maqasid Shari'ah*, *rahmah*, *adl*, *falah*

Brief history of *Maqasid Shari'ah*

Al-Ghazali (d 505 AH) pioneered the development of the concept of *maqasid Shari'ah*⁽¹⁾. It was a major breakthrough, remapping our religious imperatives and threw a whole lot of new challenges for legal scholars. There was unfortunately a lull, a void that was later to be addressed by the brilliance of the Andalusian scholar in the 8th century of *Hijrah*. Imam Abu Ishaq al Shatibi al Andalusi (d 790 AH) crystallised the ideas of Ghazali and discussed this in a very lucid and "scientific" manner in his magnum opus *Muwafaqaat fi Usuul al Shariat*⁽²⁾.

The success of the human project is reflected in the well-being of human society which is nurtured and protected by the comprehensive preservation of the five essentials in human life, namely faith and morality (*deen*), life (*nafs*), intellect (*'aql*), progeny (*nasl*) and wealth (*mal*)' (see Quran, 2:189; 3:130; 3:200; 5:35; 5:100; 24:31; 28:67; 24:51).

Similarly, Al-Qaradawi (1991) views the more inclusive approach to *maqasid* and further extended the list of the *maqasid* according to the contemporary reality and discourse to include social welfare and support (*al-takaful*), freedom, human dignity and human fraternity, among the higher objectives and *maqasid* of the *Shari'ah*. These are undoubtedly upheld by both the detailed and the general weight of evidence in the Qur'an and the *Sunnah*⁽³⁾.

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Apart from him, a few other contemporary scholars also proposed other essentials, which emerged as the result of modernity and the development of human life. Environment and quality of life are amongst the themes included in the proposal as part of the new *Daruriyyat* (essentials) being observed by *Shari'ah* ⁽⁴⁾.

The activation of *maqasid* within such understanding can be understood within the spirit of this verse in the al-Qur'an ⁽⁵⁾:

"لَيْسَ الْبِرُّ أَنْ تُوَلُّوا وُجُوهَكُمْ قِبَلَ الْمَشْرِقِ وَالْمَغْرِبِ
وَأَكِنَّ الْبِرَّ مَنْ آمَنَ بِاللَّهِ وَالْيَوْمِ الْآخِرِ وَالْمَلَائِكَةِ وَالْكِتَابِ
وَالنَّبِيِّينَ وَآتَى الْمَالَ عَلَى حُبِّهِ ذَوِي الْقُرْبَىٰ وَالْيَتَامَىٰ
وَالْمَسَاكِينَ وَابْنَ السَّبِيلِ وَالسَّائِلِينَ وَفِي الرِّقَابِ وَأَقَامَ
الصَّلَاةَ وَآتَى الزَّكَاةَ وَالْمُوفُونَ بِعَهْدِهِمْ إِذَا عَاهَدُوا
وَالصَّابِرِينَ فِي الْبَأْسَاءِ وَالضَّرَّاءِ وَحِينَ الْبَأْسِ أُولَئِكَ
الَّذِينَ صَدَقُوا وَأُولَئِكَ هُمُ الْمُتَّقُونَ"

"It is not righteousness that you turn your faces towards East or West; but it is righteousness to believe in Allah and the Last Day and the Angels and the Book and the Messengers; to spend of your substance out of love for Him, for your kin, for orphans, for the needy, for the wayfarer, for those who ask; and for the ransom of slaves; to be steadfast in prayers and practice regular charity; to

Cardinal principles of *maqasid shari'ah*

One of the principal objectives of the *Shari'ah* is the prevention of *mafsadah*¹. The plethora of textual proofs highlight the fact that the removal of harm (*dar' al-mafasid*) and acquisition of good (*jalb al-masalih*) are "the comprehensive objectives of the *Shari'ah*" and the "fundamental universal rule of the *Shari'ah*"⁽⁷⁾.

fulfill the contracts which you made; and to be firm and patient in pain (or suffering) and adversity and throughout all periods of panic. Such are the people of truth, the God-fearing."

Health in relation to the *maqasid shari'ah*

Three of the priorities of the *maqasid shari'ah* are directly related to health, whilst the first (faith and morality) and the fifth (wealth) though indirect are intimately associated. Thus, in the realm of medicine and healthcare, it implies that the principles of any health intervention program must lead towards a healthy and morally upright being, prevents premature and inappropriate deaths, protects from intellectual and physical disabilities, promotes safe reproduction and proliferation of the human progeny, which are cost-effective, in short towards 'human well-being'

Allah says in the Quran ⁽⁶⁾:

"...وَمَنْ أَحْيَاهَا فَكَأَنَّمَا أَحْيَا النَّاسَ جَمِيعًا.."

"And if anyone saved one life, it would be as if he had saved mankind entirely"

¹The word *mafsadah*, derived from the root word *fasada* or *fasad*, has been mentioned almost fifty times in the Qur'an and has a wide range of meanings, amongst others: "a state of disorder, or disturbance, or of destruction, annihilation, waste, or ruin" (Lane, 1978: 1/ 2396). It also connotes mischief, corruption, exploitation, wrong, and all forms of injustice, mismanagement, anarchy, and chaos. *Fasad* is the opposite of *islah*, derived from the root word *ĪlalaĪa*, which literally means "good, incorrupt, sound, right, or a proper state, or in a state of order" (Lane, 1978: 2/216). *Islah* refers to a state of equilibrium where things are in a proper order and balance. Muslim jurists have also used the words *sharr* (evil) and *darar* (harm) as synonymous with *mafsadah*.

Muslim jurists are of the opinion that any measure that prevents a *mafsadah* is in line with the objectives of the *Shari'ah*. The prevention of public harm or evil (*mafsadah 'Ammah*) should be amongst the priorities of Muslims in their life according to the orientation of *maqasid al-Shari'ah*.

Embodied in the *Maqasid Shari'ah*, are a few cardinal principles in relation to medicine and healthcare. These include the close interplay of the concepts of:

1. *Adl wa Ihsan* (justice with fairness and mercy);
2. *Islah* (continuous transformation towards the society's well-being).
3. Non-malificence and Beneficence (*La Darara wala Dirara*)
4. Individual Autonomy (*amanah*) and *Maslahah 'ammah* (public interest and benefits)

1 *Adl wa Ihsan* (justice with fairness and mercy)

One of the major themes of Islamic teaching is justice ('*adalah* or '*adl*). The perpetual quest for justice is the bedrock of *maqasid shari'ah*. Allah commands in the Quran⁽⁸⁾:

“إِنَّ اللَّهَ يَأْمُرُ بِالْعَدْلِ وَالْإِحْسَانِ وَإِيتَاءِ ذِي الْقُرْبَىٰ وَيَنْهَىٰ عَنِ الْفَحْشَاءِ وَالْمُنْكَرِ وَالْبَغْيِ يَعِظُكُمْ لَعَلَّكُمْ تَذَكَّرُونَ”

“Allah commands doing justice, doing good to others, and giving to near relatives, and He forbids indecency, wickedness, and rebellion: He admonishes you so that you may take heed.”

It is stated in the Qur'an⁽⁹⁾:

“إِنَّ اللَّهَ يَأْمُرُكُمْ أَنْ تُؤَدُّوا الْأَمَانَاتِ إِلَىٰ أَهْلِهَا وَإِذَا حَكَمْتُمْ بَيْنَ النَّاسِ أَنْ تَحْكُمُوا بِالْعَدْلِ إِنَّ اللَّهَ نِعِمَّا يَعِظُكُمْ بِهِ إِنَّ اللَّهَ كَانَ سَمِيعًا بَصِيرًا”

“Allah commands you to deliver the trusts (*amanah*) to those to whom they are due; and whenever you judge between people, judge with justice...”

According to the Qur'an, justice along with *tawhid* was the most prevailing message and the mission of all the Prophets (57: 25). In addition, justice has also been equated to piety (Qur'an, 5: 8). '*Adl* represents the most vital position of Islam and exemplifies the highest objective of the *Shari'ah* itself⁽¹⁰⁾.

However, '*adl* (justice) alone is not sufficient in delivering the rights of the community. Islam promotes '*adl* along with *ihsan* (benevolence) in ensuring fairness prevails in human life. Such a principle is reflected in the Qur'anic message that orders both '*adl* and *ihsan* to be executed in parallel to enshrine the *tawhidic* ideal of 'justice and fairness' in all aspect of human life (Al-Qur'an 16: 90).

Justice in health care is usually defined as a form of fairness. As Aristotle once said, "Giving to each that which is his due." The fair distribution and allocation of healthcare in society requires that we look at the role of entitlement. The question of distributive justice also seems to hinge on the fact that some medicines and healthcare services are in short supply, there is not enough to go around, thus some fair means of allocating scarce resources must be determined.

We ought to help even the playing field by providing resources to help overcome the disadvantaged e.g. children, women, the handicapped and the elderly. As a society we want to be fair and merciful and provide some decent minimum level of health care for all citizens, regardless

of ability to pay.

In this context, the World Health Organization, WHO's Expanded Program of Immunisation (EPI) is a relatively inexpensive intervention but yet a powerful equalizer of the inequities that exists between children the world over.

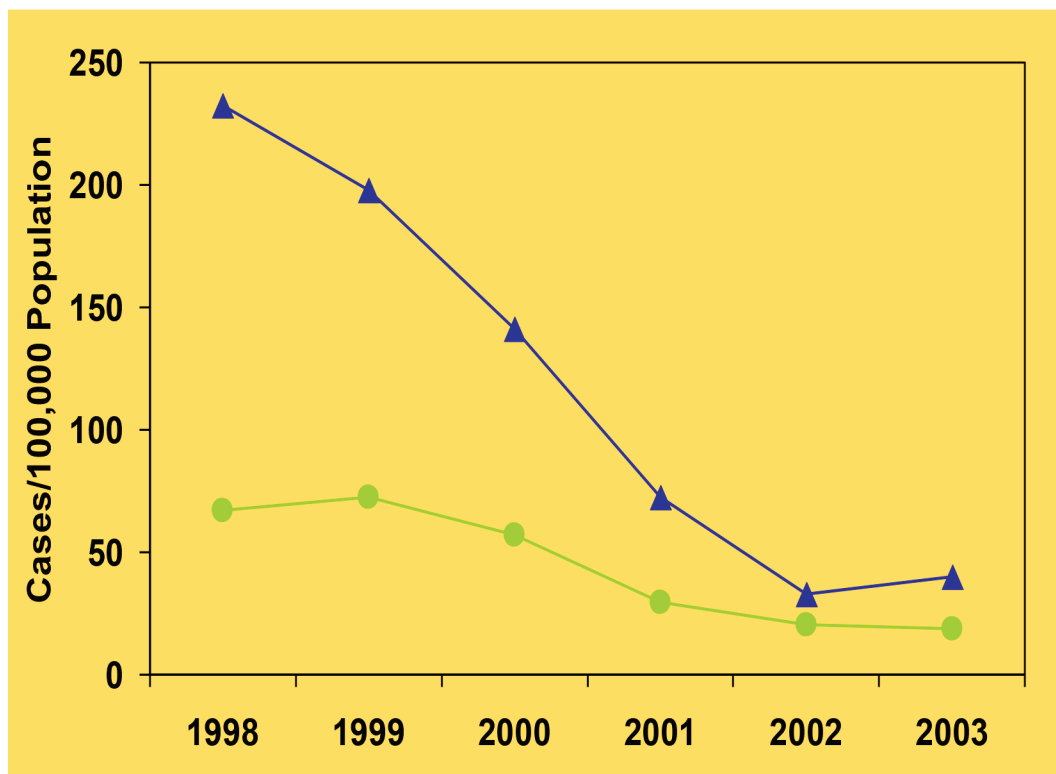
Diagram 1 illustrates this point very clearly. Prior to the introduction of the pneumococcal conjugate vaccine (PCV) in the US in 2000, the rates of invasive pneumococcal disease (IPD) among the Navajo Indians was 240/100,000 whilst it was only 70/100,000 amongst the White children.

With the introduction of the PCV, the rates had dropped drastically to about 20/100,000 which was about similar between the two distinct groups of

children. Similar results were illustrated between the disadvantaged Alaskan Eskimos versus the White children in the US and the indigenous Australian Aborigines when compared with the White Australian children.

Towards addressing equity in global child health, if all of the basic vaccines in the EPI program (eg Hib, MMR, DTP, Polio, Hepatitis B) and more of the newer vaccines (eg PCV, Rotavirus) is made available to the developing countries, there is an opportunity to save more lives of children and preventing disability. It would contribute towards 25% reduction of the United Nations' Millennium Development Goal 4 (MDG4) whose endpoint is improving the survival of children and decreasing the Under 5 mortality by 2/3.

Diagram 1: Rates of invasive pneumococcal disease after the introduction of the pneumococcal conjugate vaccine in Navajo Indians and White American children.



2. *Islah* (continuous transformation towards the society’s well-being)

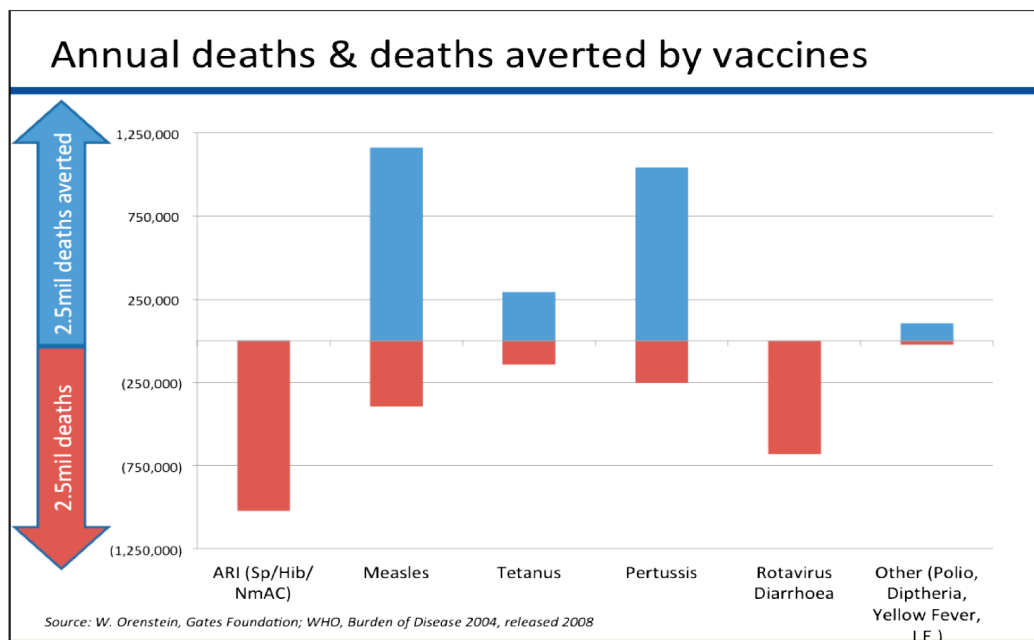
Due to its original meaning of piety and good, *Islah* represents the permanent behaviour of transforming towards the direction of betterment and perfection. Similarly, *Islah* also means the transformation from the state of bad to good, from good to better and from better to perfection. Therefore, its usage for ‘mutual reconciliation’ (*Musalaha*) involves mutually agreed consideration towards enhancement and to bring an end to *fasaad* (destruction or mischief). Hence, *Islah* could be best defined as ‘a state of constant endeavour towards comprehensive excellence (*ihsan*) within the frameworks of innovation, construction and reconstruction to attain *falah* according to *Maqasid Shari’ah*’ ⁽¹¹⁾.

Islah is a landmark theme in the individual Muslim’s lives which transforms them into self-actualised people striving to achieve *ihsan*

(excellence) in their daily life in their pursuit of *falah*, success in this world and salvation in the hereafter. These righteous concepts thus take centre stage in the domain of medical and healthcare programs, and consequently determine the consistency of justice, benevolence, religiosity, good governance and the development of the *ummah* (humanity).

The perpetual and unrelenting efforts of man to conquer the ravages of diseases has been rewarded with the many successes in the global immunization program. Since the advent of the small pox vaccine in 1796, the world has since witnessed the eradication of this deadly and debilitating disease in 1980. The world is now virtually free of polio, which is presently endemic in only two countries in the world. The WHO is now up-scaling strategies towards the elimination of both measles (M) and rubella (R) with their successful MR immunization program.

Diagram 2: Annual deaths from vaccine preventable diseases and deaths averted by immunization.



This transformation (*islah*) towards the eventual eradication and elimination of vaccine preventable diseases (VPD) via the global Expanded Program of Immunisation (EPI) is a cardinal principle of the *maqasid shari'ah*. And Muslims who oppose the immunization programs needs to reconsider their basic premises and arguments or provide their *hujjah* (evidence) if they still persist otherwise.

Allah says in the Quran ⁽¹²⁾:

"قُلْ هَذِهِ سَبِيلِي أَدْعُو إِلَى اللَّهِ عَلَىٰ بَصِيرَةٍ أَنَا وَمَنِ اتَّبَعَنِي وَسُبْحَانَ اللَّهِ وَمَا أَنَا مِنَ الْمُشْرِكِينَ"

Say: This is my way; I call to Allah, I and those who follow me being certain, and glory be to Allah, and I am not one of the polytheists.

3. Non-Maleficence and Beneficence

The principle of non-maleficence asserts an obligation not to inflict harm intentionally. The obligation to avoid any kind of harmful actions were indicated by many verses of the *Qur'an* and other *Hadith*. One of the verses reads ⁽¹³⁾:

"...وَلَا تُلْقُوا بِأَيْدِيكُمْ إِلَى التَّهْلُكَةِ..."

"...make not your own hands contribute to (your) destruction..."

"The harm (*mafsadah*) due to the dynamic interaction of human life presents itself in a variety of forms. It varies in degrees due to different contexts and societies, and can hardly be enumerated, not even through the revelation for the dynamism of the development of the human mind and its needs. Hence, the prevention of a certain public harm (*mafsadah*) to public health

in a certain context requires diversity of approaches and policies. In dealing with health issues, *maqasid* determines the radius of policies governing the society by accumulating general benefits and avoiding harm to the whole community to enhance public interest (*maslahah 'ammah*)" ⁽¹⁴⁾.

The Hippocratic oath asserts "first do no harm". We act in ways that don't cause needless harm to others, that is we take 'due care'.

The principle of beneficence potentially demands more than the principle of non-maleficence, because as health care providers (HCP), we must take positive actions to help others, not merely refrain from harmful acts. And specifically addressing the latter, HCP should undertake all efforts to prevent harm, we ought to remove harm and we ought to do or promote good.

Immunisation satisfies all the prerequisites of the principle of beneficence because it benefits the general health and welfare of children. The global burden of Under-5 deaths was 8.8 million in 2008 (Diagram 3). Muslim countries contributed 40% of the Under-5 deaths in the world (Diagram 4). Approximately 2.5 million deaths are prevented and 750,000 children are saved from disabilities every year by the global immunisation program. Apart from preventing and removing the sources of harm which are the vaccine preventable diseases, immunisation has been shown to improve the IQ and other cognitive functions namely language and mathematics scores.

Diagram 3: Causes of global Under-5 deaths in 2008

Causes of 8.8 Million child deaths, 2008
(Black et al. Lancet 2010)

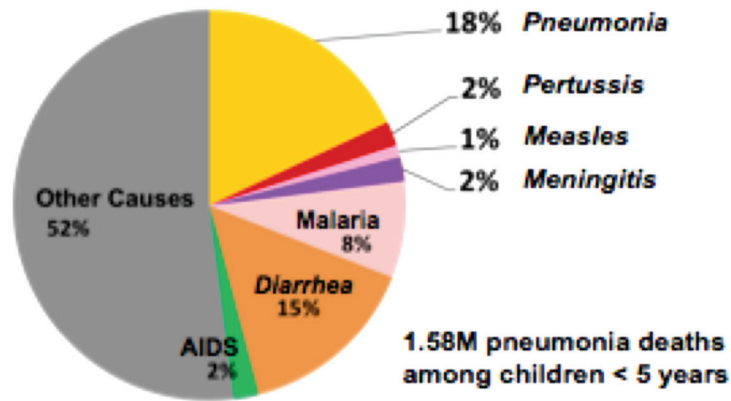
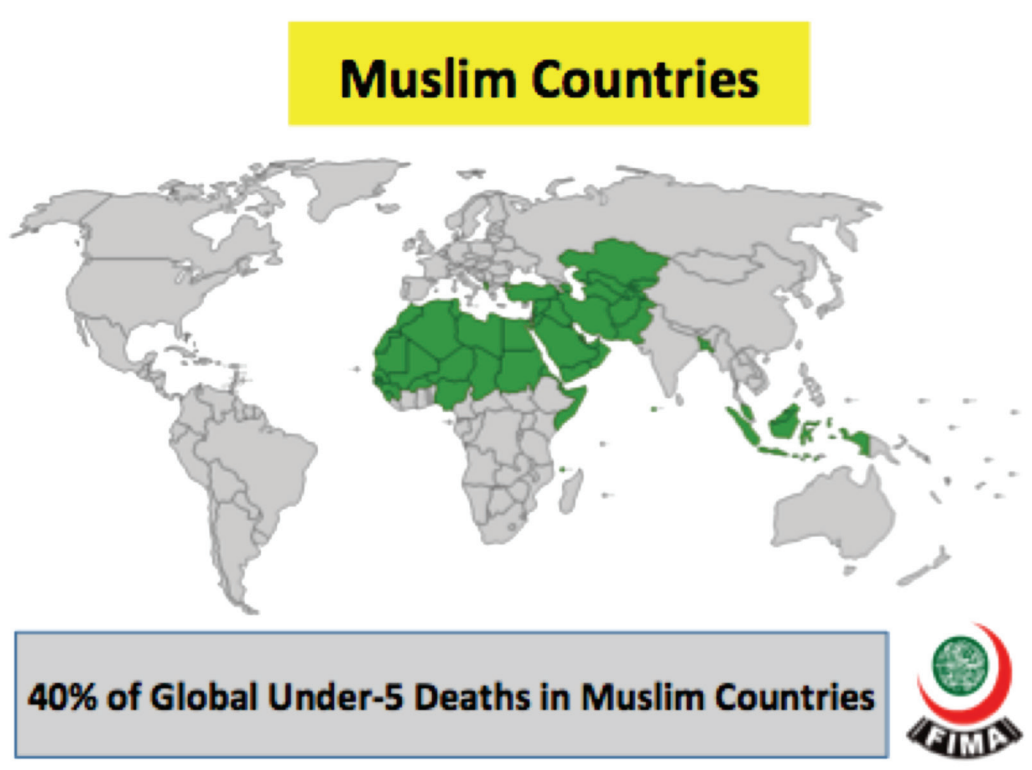


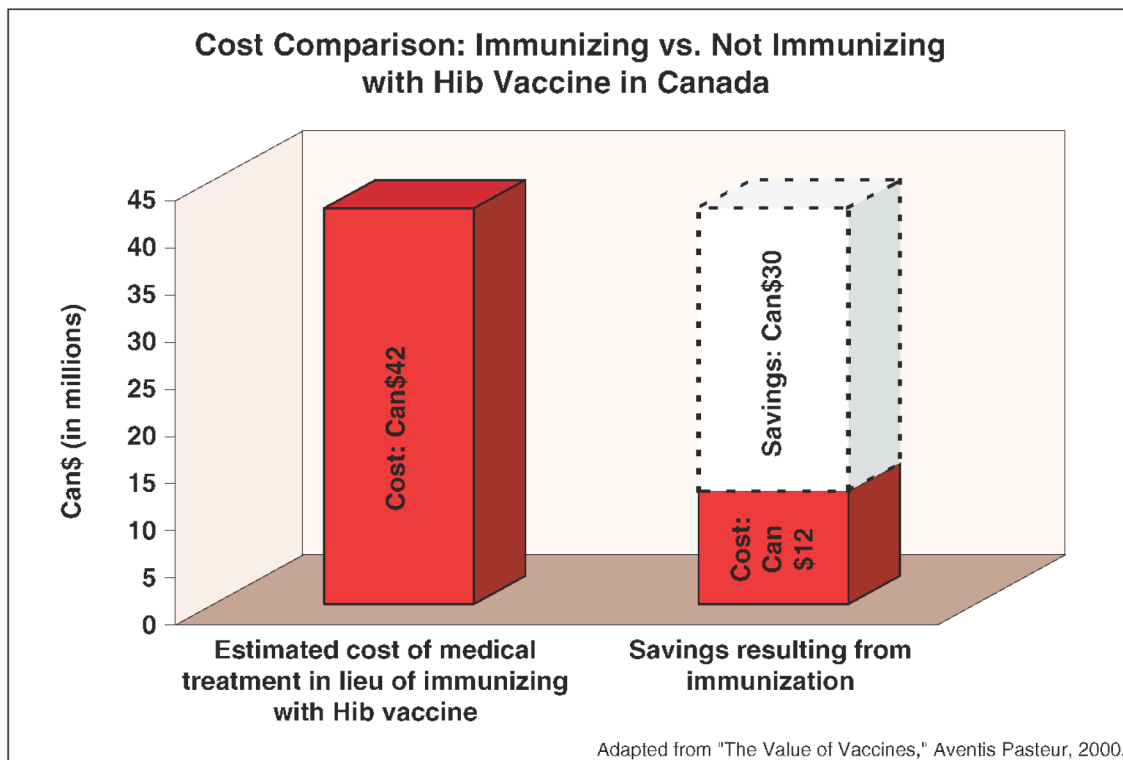
Diagram 4: Muslim countries contribute 40% of global Under-5 deaths



And due to the herd immunity conferred by immunisation, the society similarly benefits. Less children and adults become ill with the VPD, less outbreaks of diseases, decreased hospitalisations, less need for expensive treatments, less permanent disabilities, less absences from work and less loss of productivity.

This also translates into economic benefits for the nation (diagram 5). In developing nations, a 10 year gain in life expectancy translates into an additional 1% increase of annual growth of income per capita. In developed nations, for each birth cohort vaccinated, the US, saves \$43 billion in direct medical costs and indirect costs.

Diagram 5: Investing in immunisation saves more money than it costs



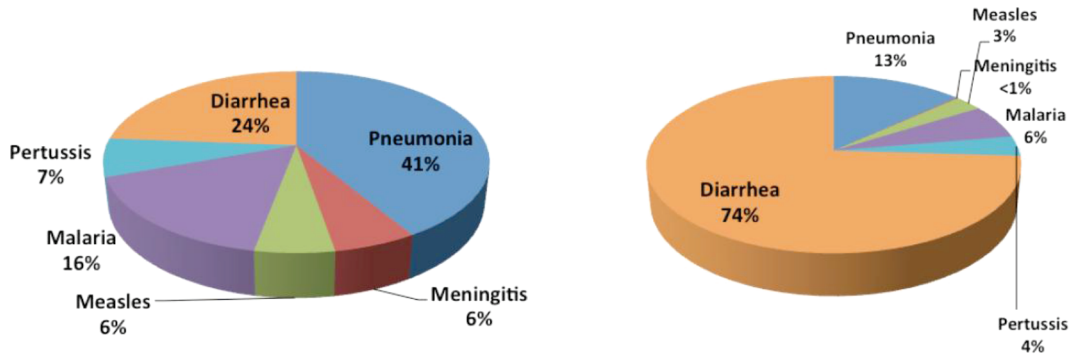
Vaccine preventable diseases are still responsible for 2.5 million infant deaths each year. If the currently available vaccines are better and more comprehensively distributed and utilized, there is a potential to save more lives, prevent more disabilities, accrue more

societal and economic benefits and enhance national and global security (Diagram 6). Unfortunately, many children in the developing world are still not immunized (Diagram 7).

Diagram 6: Vaccine preventable disease cases, disabilities and deaths averted in GAVI countries extrapolated from 2011 – 2020 with universal immunization

6.4 million Deaths Averted

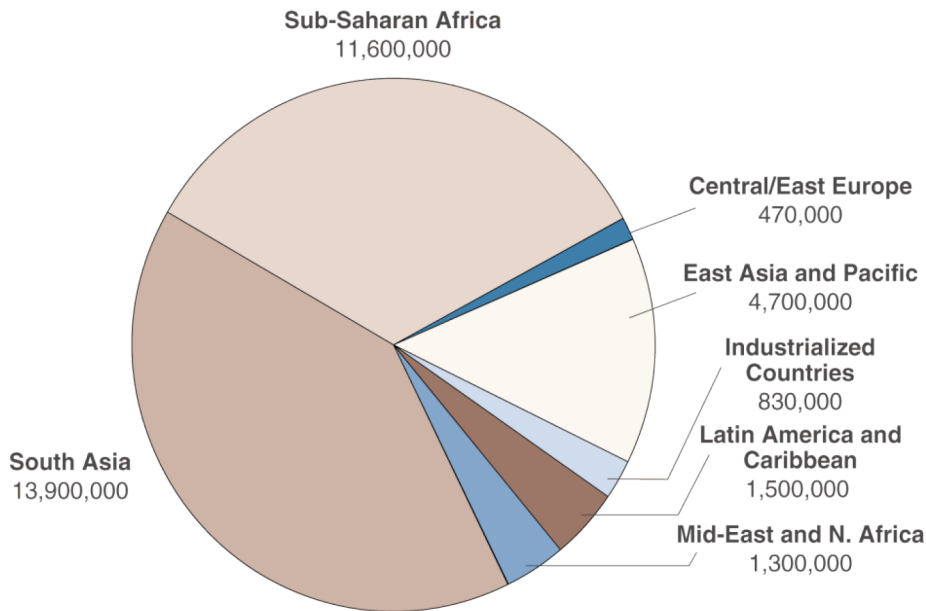
426 million Cases Averted



63,000 Disabilities Averted
Due to meningitis prevention

72 GAVI Countries; 2011-2020 (inclusive)
Source: Stæck ML, et al. Health Aff (Millwood). 2017;36(10):1027-1028.

Diagram 7: 34 million children are still not fully immunized



Source: WHO/UNICEF, 2001.

Any medical intervention is bound to be associated with some degree of risks. The potential adverse effects of immunization must be carefully weighed against the numerous individual, societal and economic benefits accrued from the WHO Expanded Program of Immunization (EPI). It is not logical to avoid any form of medical intervention solely because one elects to avoid risks. This paradigm of thought which is propagated by the anti-vaccine groups is incoherent and irrational because doing nothing is also associated with risks, namely the increased risk of acquiring vaccine preventable diseases which can

lead to outbreaks of epidemics and pandemics of diseases, increased and prolonged hospitalizations, increased utilization of expensive treatment, increased deaths and increased physical and intellectual disabilities.

It is like suggesting to us not to eat breakfast because 250 choke on their breakfast and die each year or not to take our daily baths because 350 drown and die in the bath tub each year, which is quite obviously absurd! The benefit risk ratio favours these daily acts of living and that is why we continue to eat breakfast and bathe ourselves.



This is also based on a principle of jurisprudence (*usul fiqh*) which relates to the discussion on the issue of evaluating the benefit (*maslahah*) in making decisions which states:

“All other things being equal, prevention of a harm (*dar al-mafsadah*) has priority over the pursuit of a benefit (*jalb al-maslahah*). If the benefit (*maslahah*) has far more importance and worth than the harm (*masfsadah*), then the pursuit of the benefit has priority.”

Similarly the benefit risk ratio unequivocally favours the act of immunization. Our children and our society enjoy monumental benefits (*maslahah* pl. *masalih*) compared to the

small risks associated with vaccinations. The most common side effects of immunizations which may be considered as ‘*mafsadah*’ are mild and transient only. On the other hand, vaccine-preventable diseases can be serious, or even deadly. The common side effects associated with vaccines are pain, redness and swelling at the injection site which often go away quickly. Serious side effects following vaccination, such as severe allergic reaction, are very rare.

4. Individual Autonomy (Amanah) and Maslahah ‘Ammah (public interest and benefits)

Islam asserts the position of the human being as God’s vicegerent. According to

this understanding, God had exclusively rendered his trust to humankind to administer this world well and make it a peaceful and safe place in which to live. As 'trustee', every single individual is rendered with the trust (*amanah*) within his own autonomy. Everything in the universe belongs to God and everything was created for the service of man, who may use anything in the world for a positive purpose, but he is not supposed to abuse anything. The quality of believers in delivering *amanah* has been mentioned in many places in al-Qur'an: (4:58); (2:283); (33:72); (9:27); (23:8).

The health care professional may have the greater knowledge of vaccine preventable diseases, of possibilities, risks, treatment, outcomes and the options of prevention with immunizations. Nonetheless, the principle of autonomy (*amanah*) as in usul fiqh respects and values the individual (or the parents or legal guardians) as the one who makes the self-defining choices upon which he then acts and for which he is accountable. One is responsible of himself and those under his custody, and will be questioned before Allah the Almighty during the judgment day based on this 'amanah' paradigm.

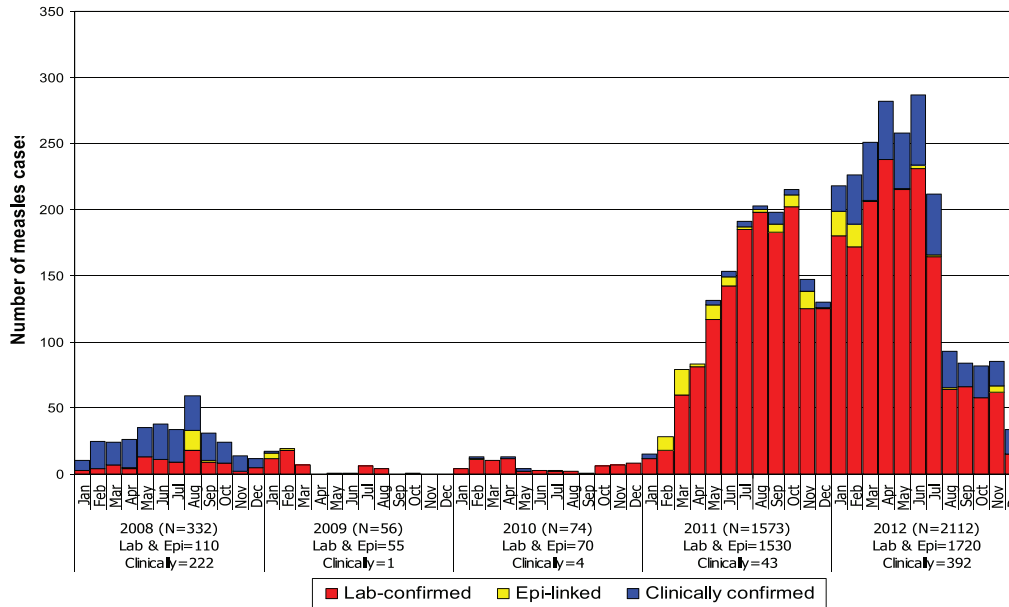
The principle of individual autonomy (*amanah*) however needs to be considered within the context of the wider public interest and benefits. Thus the principal Islamic legal maxim (*al-Qawa'id al-Fiqhiyyah*) which stipulates; "the individual right may have to be sacrificed in order to protect the public interest." It is in this vein that medical interventions, such as the global immunization programs that have been proven to promote and protect the general health and well-being of the public have priority over the considerations of the individual interest.

Another important moral consideration is to ensure that the individual choices one makes does not harm others. Those who do not immunize against VPD are at increased risk of being infected. They therefore might pass on the infection to others, who may then be harmed!

The vast majority of those infected with measles in Disneyland in 2015 were unvaccinated against the disease. It has since infected other children in several states in the US and has moved further north to Canada. Due to the decreased uptake of the MMR vaccine in Malaysia, there was an outbreak of measles which occurred mainly amongst those not vaccinated. (See Diagram 8)

Diagram 8: Measles outbreak in Malaysia 2011-2012

Measles Outbreak in Malaysia 2011-2012



The omission to vaccinate has obviously impacted negatively on the well-being of the public, which would be enough arguments for policy makers to impose an obligation to act. The recent Australian “no jab, no pay” policy, plans to withdraw childcare and welfare benefits from Australian parents who refuse to vaccinate their kids. Thus parents who decide against immunizations could be up to \$15,000 worse off per child.

A bill is due to be approved by Californian lawmakers mandating all children to receive immunizations except for those with a valid medical reason. The legislation would end exemptions based on personal or religious reasons, which parents who oppose vaccinations routinely request. California now joins West Virginia and Mississippi, which have had similar laws for many years.

If sufficient numbers of people in a community are immunized, usually in excess of 80%, then the protection against VPD is conferred to virtually all persons in the community. This is known as herd immunity. This community immunity offers protection to vulnerable segments of the community who cannot be immunized due to various reasons e.g. too young, have cancers, have HIV/AIDS, are on chemotherapy or radiotherapy. The common good of the community is served which extends beyond the individual. In addition, the community benefits from the economic savings and improved security as a result of the immunization programs.

Conclusions

The *maqasidic* method in looking into issues concerning health represents a

comprehensive, holistic and universal approach towards *Shari'ah*. Any studies conducted on the relation between Islam and human sustainability, the *Shari'ah* or the epistemological sources of Islam must never abandon the discussion on *maqasid*. The *maqasid* is but a crucial tool in understanding the revelation or the texts of the sources, in which the negation of it will lead to the misinterpretation of the texts, hence Islam as a whole (Awdah, 2006). Above all, the whole idea of *maqasid* implies a comprehensive implementation of justice in the community through the preservation and promotion of human well-being.

The global Expanded Program of Immunization has been shown and proven to be a very safe, effective and cost savings global child survival strategy. With the exception of clean drinking water, immunization is the most powerful public health intervention program.

We should therefore not be gullible nor easily persuaded by various irresponsible groups which spread rumours in the various media that immunization is harmful and not effective.

The overriding objective of the *maqasid shari'ah* is the quest for justice with fairness and mercy, thus it follows that there is an unequivocal *maqasidic* and moral case in favour of immunization.

Justice requires that every child should have ready access to routine vaccination against serious childhood diseases and

which should be a global priority for all governments and international health agencies.

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CHAPTER NINE

FEMALE GENITAL MUTILATION (FGM): A TRADITION OR A RELIGIOUS OBLIGATION?

*Jurnalis Uddin****Abstract**

Pre-Islamic cultures, especially ancient Egyptian and the territories which it ruled over, customarily practiced a form of female circumcision known as pharaonic circumcision which inflicts major injuries to the female external genitalia. This custom of female circumcision which some Muslim scholars has rationalized as being part of Islamic teachings has been strongly challenged. This narrative attempts to examine the evidence which shows that female circumcision is not part of the Islamic tradition, it is not a *sunna*, it is rather a local custom, it is not required and neither is it a sign of respect (*mukarramah*).

Keywords: Circumcision, pharaonic, custom, *mukarramah*.

In 1958, the UN issued a declaration that FGM is a form of violation of law/human rights and asked all member states to eliminate the practice. This declaration was re-affirmed in the International Conference on Population and Development-ICPD held in Cairo in 1994. The 4th World Conference on Women in Beijing recommended to fight all kind of violence against women. But Indonesia as the biggest Muslim country in the world remained muted to the recommendations.

We were deeply concerned that many hospitals in Indonesia offered delivery packages, where apart from delivery services, it also included earlobe piecing and circumcision. In other words, medicalization of FGM has been promoted as a commercial product in many hospitals. It was not until 2006, in compliance with the 1958 UN appeal, the Ministry of Health, issued a circular that banned all kinds of FGM. But the circular was challenged by the Indonesian Council of Muslim Scholars (Majlis Ulama Indonesia-MUI). In May 7, 2008, the MUI issued a *fatwa* related to circumcision: Firstly, male and female circumcision is a *fitrah* and symbol of Islam (*syiar* Islam). Secondly, female circumcision is *makrumah* (noble deed) and it's practice is a form of *ibadah* (worship). The fatwa also warned that any effort to ban FGM is contradictory to Islamic law. The fatwa also provided technical guidance on how to perform female FGM as follow: Firstly, cut only the prepuce.

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Secondly, expanding the area of cutting such as incision or excision of the clitoris and other parts of the external female genital area are not allowed (*haram*). The *fatwa* concluded by providing 2 recommendations: The asked the government/ Ministry of Health to always refer to this fatwa whenever they issued any regulations on FGM. And they appealed to the government/Ministry of Health to educate and train health professionals on FGM by always referring to the fatwa.

MUI fatwa versus technical guidance of the Ministry of Health, Republic of Indonesia

The issuance of the MUI fatwa successfully changed the policy of the Ministry of Health on FGM. In 2010, the Minister of Health issued a technical guidance on how to perform FGM in Indonesia. In that decree it clearly said that in FGM, it is the frenulum that should be cut. This totally contradicted the MUI fatwa where the prepuce should be cut. Cutting the frenulum is very dangerous, because there are blood vessels within it. Cutting the frenulum would risk severing the artery that can lead to bleeding. As a consequence, the life of a new born baby will be at risk. But cutting the prepuce is not an easy task. For a new born baby, the prepuce may not be more than 2 mm in length. It is difficult to cut the prepuce. The operator needs a surgical microscope and it should be carried out in an Operating Theatre by a well-trained surgeon. A GP, not to mention a nurse or midwife would not be able to do so. This operating procedure will also hike the price of the delivery package.

FGM from social-cultural perspective

FGM had been practiced during the period when the Pharaohs ruled ancient Egypt 4000 years BC. Historically, FGM had nothing to do with religion. It was more or less a tradition that was inherited from earlier generations. The tradition later expanded to the surrounding countries, namely Sudan, Libya, Tunis, Morocco and most of sub-Saharan countries. Later, with the advent of Islam, this tradition was brought along with the expansion of Islam to Central Asia, South Asian countries and to Xinjiang in East Asia. In this modern era, where people from these countries migrated to Europe, America, Australia and New Zealand, they brought along the tradition of FGM. Usually FGM was carried out on the new born baby, but sometimes undertaken when the girl is an adolescent or when they are due to be married^{1,2}. The Muslim migrants brought along the FGM tradition, while countries like Saudi Arabia, Jordan, Lebanon, Turkey and Syria no longer practiced it. This is due to the influence and development of *fiqh* (Islamic law) and medical and health science.

Based on several studies on FGM, these are the main reasons on why FGM was performed³:

- ❖ To protect the virginity of the girl and as a prerequisite of an honorable marriage
- ❖ To ensure that the girl is a virgin
- ❖ To prevent the girl from going after men
- ❖ As a religious ritual that the girl had become an adult
- ❖ Uncircumcised girl are regarded as unclean

- ❖ It is the identity of an ethnic clan, and those who are not circumcised will not belong to the clan
- ❖ An uncircumcised girl is regarded as a non-perfect girl
- ❖ The clitoris is regarded as part of the male body that should be eliminated in order to be a perfect girl
- ❖ An uncircumcised girl will face difficulties to find a man to marry
- ❖ An uncircumcised girl will embarrass her husband due to the perception that they are similar to a man
- ❖ An uncircumcised girl will endanger her husband, because if her clitoris touch the body of her husband, the husband will die
- ❖ FGM can cure depression, hysteria, kleptomania, insanity, and prevent excessive masturbation
- ❖ A circumcised girl has the opportunity to attain a higher social status
- ❖ FGM could attenuate sexual libido
- ❖ FGM could make a girl more beautiful
- ❖ It is easier for a circumcised girl to get pregnant

None of the abovementioned reasons have any scientific basis. They are merely myths. The question now arises as to why people do a procedure which confers no benefit but instead hurts women. If we examine carefully all the above mentioned rationale, it becomes clear that all of them are projections of the male perspective or paternal culture. They do not consider the potential risks of bleeding and infection that will endanger the life of women nor the psychological trauma that will haunt them for the rest of their life.

Studies on FGM in Indonesia is very limited. The studies of Feilard and Marcus and Rahman⁴ found that most of the FGM were performed by traditional circumcisers.

And to their surprise, the traditional circumciser never cut any part of the external female genital. They only swab the clitoris with tumeric. In other words, they only perform a symbolic circumcision. Budiharsana⁵ found that 28% of FGM comprised of these symbolic types of circumcision. And “harmful” forms, involving incision and excision, accounted for the remaining 72% of cases. While Uddin’s (2010) study respondents were among doctors (general practitioner), obstetricians and gynecologists, midwives, Indonesian Association of Obstetrics and Gynecology (POGI) and Indonesian Association of Midwives (IBI). Only 18% of his respondents admitted that they performed FGM. While Rashid et al (2010) found that FGM is officially forbidden in Malaysia but in reality people still practiced it.

There have been efforts to abolish FGM but the results are not satisfactory. Togo in 1998 enacted a law that Pharaonic FGM is a criminal action and practitioners would be punished severely. The same law was also enacted in Burkina Faso, Republic of Central Africa, Jibouti, Ghana, and Guinea. Kenya had to wait until 2000 to have the same law. Egypt is the country where the tradition of FGM started and their type of FGM is the most mutilating and is popularly known as Pharaonic FGM. They cut not only the prepuce and clitoris but the whole external female genital plus narrowing the vaginal canal and its opening. Egypt is also well known in the Muslim world as rich with internationally reputable ulama and their views are often referred to by other Muslim scholars. Unfortunately, the Egyptian scholarly view on FGM has swung like a pendulum from agreement to disagreements. Before 1997 FGM was banned in Egypt. But in 1997 led

by a famous ulama, Shaikh Youssef al Badri, FGM was allowed again. In 2006, FGM was banned again and later the banning was strengthened by a law². But even though Egypt has a strong regulation that banned FGM, most of the Egyptians still practised it.

FGM from the health perspective

WHO classifies FGM into 4 types:

- ❖ Type 1 : cut the prepuce with or without cutting part or the whole clitoris
- ❖ Type 2 : cut the prepuce and clitoris with part or the whole labia minora
- ❖ Type 3 : cut the whole external female genital: prepuce, clitoris, labia minora, labia majora and narrowing the mouth of the vagina
- ❖ Type 4 : merely puncture the prepuce or clitoris or cut a small piece of the clitoris (could also cut a small piece of labia); or just scratch the clitoris or labia minora or cauterize the clitoris and the surrounding tissue or scratch tissue surrounding the mouth of the vagina or cut the vagina or insert a corrosive metal into the vagina in order the vagina will be bleeding and after recovery the vagina mouth and canal will be narrower.

Type 1, 2 and 3 are mostly practiced in Africa, including Egypt and sub-Saharan countries. While type 4 is mostly practiced in Indonesia, Malaysia, Singapore and Brunei (Uddin, 2010; Rashid, 2010). There has not been any research to show that FGM confers any benefit to human health. On the contrary, FGM has had a horrible impact which can be divided into short and long term impacts².

Short term impact:

- ❖ Bleeding that could lead to shock or death
- ❖ Infection to the whole pelvic organ
- ❖ Tetanus that can lead to death
- ❖ Gangrene that could lead to death
- ❖ Extra ordinary pain that could lead to shock during and after FGM
- ❖ Damaged tissue around the vagina
- ❖ Retention of urine due to the blockage of the urethra

Long term impact:

- ❖ Prolonged pain during sexual relations
- ❖ Penis fails to penetrate the vagina, which may require an operation
- ❖ Sexual dysfunction (failure to achieve orgasm during sexual relations)
- ❖ Menstrual dysfunction that lead to have hematocolpos, hematometra or hematosalpinx)
- ❖ Chronic infection of the urinary tract
- ❖ Urinary incontinence
- ❖ High morbidity or mortality due to pregnancy or delivery dysfunction
- ❖ Infertility
- ❖ Cyst, abscess or keloid formation
- ❖ Psychological trauma
- ❖ High risk of HIV infection

Similar to the vagina, the female external genital has millions of sex receptors that has very important role in sexual relation. When the female external genitalia is stimulated, it will trigger sexual sensations that would lead to orgasm, which is very essential in the sexual relationship. Almost all marriage consultants agree that a healthy sexual relationship contributes to the stability of the marriage. In a paternalistic culture, the wife is often regarded as an

object to fulfill the sexual desires of the husband.

Apart from violating the laws of medical practice, it also violates bioethics principle as promulgated by Beauchamp and Childress⁶. It contravenes the principle of beneficence, because FGM has no medical benefit to the patient. It violates the principle of non-maleficence, because FGM is very dangerous to the female health. It violates the principle of autonomy, because there is no respect for the right of woman to decide on what is done to her body, It violates the principle of justice, because there is no equal and fair treatment of the males and females in the society.

WHO (1996) clearly declared that FGM should not be institutionalized and FGM whatever its type, should not be allowed to be practiced by any medical professional.

FGM from the religious viewpoint

There is no mention in the Quran, whether explicit or implicit, on the subject of female circumcision.

And referring to the traditions of the Prophet (PBUH), the hadith most often cited allegedly involved a woman named Umm Attia, who was known to have practiced female circumcision in Medina.

They alleged the Prophet (PBUH) told her: “Umm Attia, restrict yourself to a sniff and do not overstrain; (this way) it is more pleasant in appearance and more satisfactory to the husband.” [Al-Hakim, Al-Baihaqi, Abu Dawood]

Abu Dawood comments that: “Its chain of transmitters is not strong. Besides, it is

reported not as a direct quote attributed to the Prophet (PBUH).”

Hadith scholar, Zein al-Din al-Iraqi also points out that the chains of transmission are weak and it was markedly poor in authenticity.

Another alleged hadith attributed to the Prophet (PBUH) is the following saying: “Circumcision is a *sunna* for men and a sign of respect for women.”

Al-Baihaqi says, “This is a weak chain of transmission, and the text is not a direct quotation of the Prophet PBUH.” Hadith scholar, al-Iraqi, again mentioned that the alleged hadith lacked authenticity. Sheikh Sayyid Sabeq says in *Fiqh al-Sunna*: “The hadith recommending female circumcision are poor in authenticity. None of them is found to be authentic.”

The MUI ruled FGM as *fitrah* based on a hadith narrated by Bukhari, Muslim and Tirmidzi:

Al-fithrah is five or there are 5 things that covers fitrah that is circumcision, shave pubic hair, shave armpit hair, nail cutting and shave moustache

Many legal scholars have argued over whether the concept of fitrah in this hadith applies to both the males and females. If the hadith also apply to the female sex, it is difficult to reconcile since women do not have a moustache.

The MUI also ruled female circumcision as *syiar Islam* (*symbol of Islam*). The word *syiar* is found in the al Quran 4 times and always in the form of plural (*jama'*): *al-asya'air*. And the word *al-asya'air* is

always twinned with the word Allah and never with the word Islam. The 4 verses are the followings:

Al-Baqarah (2): 158

" إِنَّ الصَّفَا وَالْمَرْوَةَ مِن شَعَائِرِ اللَّهِ فَمَنْ حَجَّ النَّبِيَّتِ أَوْ اعْتَمَرَ فَلَا جُنَاحَ عَلَيْهِ أَنْ يَطَّوَّفَ بِهِمَا وَمَن تَطَوَّعَ خَيْرًا فَإِنَّ اللَّهَ شَاكِرٌ عَلِيمٌ "

“Behold! Safa and Marwah are among the symbols of Allah. So if those who visit the house in the season or at other times, should compass them round, it is no sin in them. And if anyone obeyeth his own impulse to Allah, be sure that Allah is he who recogniseth and knoweth”

Al-Hajj (22): 32

" ذَلِكَ وَمَنْ يُعْظَمِ شَعَائِرَ اللَّهِ فَإِنَّهَا مِن تَقْوَى الْقُلُوبِ "

“Such (is his state): and whoever holds in honor the symbols of Allah (in the sacrifice of animals), such (honor) should come truly from piety of heart”

Al-Hajj (22): 36

" وَالَّذِينَ جَعَلْنَاهَا لَكُمْ مِّن شَعَائِرِ اللَّهِ لَكُمْ فِيهَا خَيْرٌ فَاذْكُرُوا اسْمَ اللَّهِ عَلَيْهَا صَوَافَّ فَإِذَا وَجَبَتْ جُنُوبُهَا فَكُلُوا مِنْهَا وَأَطِيعُوا الْقَانِعِ وَالْمُعْتَرَّ كَذَلِكَ سَخَّرْنَاهَا لَكُمْ لَعَلَّكُمْ تَشْكُرُونَ "

“The sacrificial camels we have made for you as among the symbols from Allah: in them is (much) good for you: then pronounce the name of Allah over them as they line up (for sacrifice): when they are down on their sides (after slaughter) eat ye thereof, and feed such as (beg not but) live in containment, and such as beg with due humility: thus have we made animals subject to you that ye maybe grateful”

Al-Maidah (5): 2

" يَا أَيُّهَا الَّذِينَ آمَنُوا لَا تَحْلُوا شَعَائِرَ اللَّهِ وَلَا الشَّهْرَ الْحَرَامَ وَلَا الْهَدْيَ وَلَا الْفُلَانِدَ وَلَا آمِينَ النَّبِيِّتِ الْحَرَامِ بِيْتَعُونَ فَضُلًا مِّن رَّبِّهِمْ وَرِضْوَانًا وَإِذَا حَلَلْتُمْ فَاصْطَادُوا وَلَا يَجْرِمَنَّكُمْ شَنَاٰنُ قَوْمٍ أَن صَدَّقْتُمْ عَنِ الْمَسْجِدِ الْحَرَامِ أَن تَعْتَدُوا وَتَعَاوَنُوا عَلَى الْبِرِّ وَالتَّقْوَىٰ وَلَا تَعَاوَنُوا عَلَى الْإِثْمِ وَالْعُدْوَانِ وَاتَّقُوا اللَّهَ إِنَّ اللَّهَ شَدِيدُ الْعِقَابِ "

“O ye who believe! Violate not the sanctity of the symbols of Allah, nor of the sacred month nor of the animal brought for sacrifice, nor the garlands that mark out such animals, nor the people resorting to the sacred house , seeking of the bounty and good pleasure of their Lord”

But when ye are clear of the sacred precinct and of pilgrim garb, ye may hunt and let not the hatred of some people in (once) shutting you out of the Sacred Mosque lead you to transgression (and hostility on your part) help ye one another in righteousness and piety, but help ye not one another in sin and rancor: fear Allah, for Allah is strict in punishment.

All the words *syiar Allah* in the above 4 verses are related to hajj and is not related to female circumcision. So referring to those verses as a legal foundation of female circumcision, is clearly irrelevant.

The other hadith often cited is allegedly narrated by Abdullah ibn Umar which speaks to the women of Madinah about female circumcision. Suffice to mention that the hadith is not authentic.

There is only one authentic hadith in which Aisha (RA) quoted the Prophet (PBUH) saying:”If the two circumcision organs (*al-*

khitanaini) meets, ghusl (major ablution), becomes obligatory” (Malik, Muslim, Al-Tirmidhi, Ibn Majah)

In the Arabic lexicon, when someone says two things or two persons, it does not necessarily refer to the same two things or the same two persons. The following examples will illustrate this better:

- Umaraini → cannot be interpreted as two Umars, but one is Umar and the other is Abu Bakar Siddiq
- Qomaraini → cannot be interpreted as two moons, but one is the moon and the other is the sun
- Al-Ishaani → cannot be interpreted as two Ishas, but one is isya and the other is magrib
- Al-Walidaini → cannot be interpreted as two fathers, but one is father and the other is mother

In the context of the above hadith: *if two circumcised meet*, has no relationship whatsoever with female circumcision, but that those who had sexual intercourse, they should undertake the mandatory bath.

There is no consensus (*ijma'*) on the practice of female circumcision in Islamic law and there is no analogy (*qiyas*) that it is either relevant or admissible.

With the many short term and long term risks associated with female circumcision and in the absence of clear, undisputed evidence from the Quran, *Sunnah*, *Ijma'* and *Qiyas*, the majority of scholars have concluded that female circumcision is not part of the Islamic tradition, it is not a *sunna*, it is rather a local custom, it is not required and neither is it a sign of respect.

It is however well known that the prophet (PBUH) said: “Do not harm yourself or others.” (Sunan Ibn Majah, II, 784 Item 2340; Al-Muwatta, II, 745). And this should be a cardinal guiding rule in the issue of FGM.

In 2006 Shaikh al Azhar, Prof. Dr. M. Sayyed Tantawi issued a fatwa that FGM is only a tradition and that it has nothing to do with Islamic teachings. The same view was also voiced by well known ulama such as Prof. Dr. M. Sayyed Sabiq and Shaikh Mohammad Arafah.

In 2006 Dar al-Ifta of Egypt held a meeting attended by the Shaikh al Azhar, Muhammad Sayyed Tanthoqi, Shaikh Ali Jumah (Mufti of Egypt), Shaikh Muhammad Farid Washil (former Mufti of Egypt), Shaikh Yusuf al-Qardharawi and many others. They made a firm decision that FGM is *haram* (Uddin,2010).

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CHAPTER TEN

ISLAM AND FEMALE CIRCUMCISION

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Abstract

Female circumcision is practised in several countries, including those in Africa, the Middle East and Malaysia. Despite the attempts of international aid agencies, researchers, governments and individuals to encourage abandonment of the practise, the practise persists. This paper details the procedure, and complications that commonly arises from the practice, and postulates reasons for the practice continuing. Given the prevalence of the practice in regions where Islam is the predominant religion, has led people to commonly assume that the practice is associated in Islam. The paper thus outlines the Islamic view on the practice and affirms that all the *Aḥādīth* that Muslim jurists cite to justify the practise are misinterpreted.

Keywords: Circumcision, *ahadith*, misinterpreted

Introduction

The practice of female circumcision is complex and bewildering. The extent of the cutting of the female genitalia varies greatly. The procedure ranges from a prick of the clitoris or the removal of the tip of the clitoris only, to the removal of the entire female genitalia. This is followed by suturing together the raw edges, leaving only a small opening to allow bodily fluids to pass. As a result, the health complications that arise varies greatly. Furthermore, the condition under which the cutting is performed differs across communities. Consequently, some may experience no ill-effects or ill-health due to the cutting, whilst others may experience serious life-threatening medical problems.

Due to the increasing movement of people, the practise is now present in countries that previously had no history of the practice. For example, in South Africa, an increasing number of immigrants and refugees are bringing their practices (including female circumcision). Thus doctors, and in particular obstetricians are faced with a challenge that was previously unfamiliar to them.

Female Circumcision

Female circumcision is the term used for different kinds of cuttings performed on the female genitalia by various populations¹. For example, the term ‘ritual’ is used, and in some contexts the terms are synonymous with cleansing or purification, such as *tahāra* in Egypt, *tāhir* in Sudan, and *bolokoli* in Mali².

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The nomenclature of genital surgeries is a controversial issue in deciding on terminology. Internationally, the term “female circumcision” was used for many years, but other terms like “female genital cutting”, “female genital surgery”, “ritual genital surgery” and “sexual mutilation” and “female genital mutilation”. The latter may be offensive to circumcised women who do not think of themselves as having been mutilated or their families and communities as mutilators, with some arguing that that the term “mutilation” is an insult to their cultures³. In particular, it should be noted that from the 1970’s female circumcision was referred to as “female genital mutilation” when female liberation movements began attacking the practice, arguing that practice intends to reduce and control female sexuality⁴. This resulted in a “reclassification” of the practice and a local practice issue becoming a global one - “female circumcision” changed to “female genital mutilation” and a “traditional practice” became a “human rights violation”⁵. It has been argued that the term alienates the practising communities from outsiders due to imposition of external definitions upon them, particularly as the practice was never regarded as a mutilation⁶. As a result, neutral terms such as “female circumcision” or “female genital cutting” have been commonly used when working with communities. Given the aforementioned concerns, the terms “female circumcision” is adopted in this paper.

Historical perspective

It has been postulated that female circumcision originated in Egypt and Ethiopia and the Phoenicians and Hitties, with evidence gathered from mummies in ancient Egypt^{7,8}. The Pharaonic circumcision (infibulation) was a common practise during the reign of Ramses. It was introduced to Sudan during the conquest of Nabia and subsequently the practice of

infibulation spread throughout the Nile valley⁹.

In Ancient Rome, mechanical devices in the form of a ring or rings were inserted through the labia majora to prevent intercourse and enforce chastity (hence the term infibulation, derived from ‘fibula’)¹⁰. In Ethiopia, when a female child was born, the vulva was stitched together, leaving only a small opening for body fluids to pass through. In some parts of Africa and Asia a ring was attached to the labia and could only be removed with a sharp instrument like a knife. This particular ring was worn only by virgins. Married women wore a kind of belt that was locked and the key kept by the husband. Some of these belts can be viewed at the museum in Naples¹¹. Clitoridectomy in Western society was first reported in 1825 in the *Lancet*. It was performed in 1822 by a German surgeon, Albrecht von *Gräfe*, to treat excessive masturbation and ‘nymphomania’ (abnormal and uncontrollable female desire for sexual intercourse). Around 1850 clitoral excisions were performed in Germany, France and England¹². Doctor Isaac Baker Brown (1812-1873), was one of the most outstanding gynaecological surgeons in England at that time, and practiced clitoridectomy in order to find a solution to the mental disorders of women. According to Brown, the main problem was masturbation, and its treatment was clitoridectomy. In 1867, the British Medical Establishment rejected Brown’s claims and expelled him from the Obstetrical Society and from the Royal College of Surgeons. Clitoridectomy was discontinued in England. The practice of clitoridectomy ceased with his death in 1873¹³.

In the United States of America, clitoridectomy was practised as a cure for masturbation, and for medical problems like hysteria, hyper-sexuality, anxiety and mental disorders. “Lesbian practices, suspected lesbian inclinations and an aversion to men were all treated by clitoral excision”¹⁴. Moreover, mental hospitals

also used clitoridectomy until 1935 as a cure for nervous disorders, hysteria, epilepsy, catalepsy, melancholy and kleptomania.

The historical prevalence of the practice denotes that one of the reasons for the practice of female circumcision was the prevention of promiscuity and the promotion of chastity. It is interesting to note that this ancient belief still exists in contemporary society. The belief that a woman has to undergo a mechanical cutting of the private part of her physical body in order that her mind and thinking as well as her behaviour could be controlled imply that women do not possess an intellect.

Present-Day Practice of Female Circumcision - Demographic Distribution

It is estimated that 120 million females globally have undergone some form of surgery to their genitalia. Female circumcision appears to be practised predominantly in Africa, although it does exist in other countries¹⁵. 20 to 28 countries in Africa practice female circumcision from the Atlantic to the Red Sea, the Indian Ocean and the Eastern Mediterranean^{16,17}. Outside Africa, excision (partial or total removal of the clitoris) is practiced in Malaysia, Indonesia, Oman, South Yemen and in the United Arab Emirates.

Infibulation (Pharaonic) is widely practiced in Djibouti, Southern Egypt, the Red Sea Coast of Ethiopia, Northern Kenya, some parts of Mali, Somalia (the entire country) and the Sudan (excluding the non-Muslims in Southern Sudan)¹⁸. In Eritrea, nine out of ten women, and four out of ten women are circumcised in Côte d'Ivoire and the Central African Republic¹⁹.

Nine out of ten women in Mali have undergone some form of female circumcision²⁰, and 90% of women in the Western area of Sierra Leone have been circumcised²¹. In Senegal in 1990 one million Senegalese women and girls (20% of the female population) were

circumcised. In Egypt nine out of ten women have been circumcised²².

A 1982 study of the five provinces in Northern Sudan revealed that female circumcision was practiced by 99% of the people studied, with different kinds of circumcision, varying from region to region, and from tribe to tribe²³.

Although various types of procedures are continuing in Sudan, the "pharaonic" type of cutting is decreasing in younger generations. A decade ago, the pharaonic had decreased to 49% and the so called *Sunnah* practice had increased to 50% (Hassan, 2000:1).

Clitoridectomy, also known as *Sunnah*, is practiced in most of Egypt (but not in other areas of North Africa), in parts of Arabia and by most Muslims in Sub-Saharan Africa. Precise definitions on types are not available on clitoridectomy and excision as the procedures are not uniform. Infibulation is mostly practiced in Sudan, Eritrea, Somalia, parts of Mali, and a very small area in Northern Nigeria²⁴.

In Yemen, a Ministry of Health 2003 report indicated that 38% of women were circumcised and 22% of the children of the women interviewed had their daughters circumcised. In Djibouti and all other areas where ethnic Somalians live, excision and infibulation were practiced²⁵.

European and American physicians have been exposed to the issue of female circumcision since the 1980s due to the immigration of African families and students from other African countries where female circumcision is practiced²⁶. In France, at the beginning of 2002, there were about 35 000 adolescent girls who were excised or threatened with excision. The foregoing constitute immigrant population from Senegal, Mali, Mauritania, and other West African countries²⁷.

Male and Female Circumcision

Male circumcision entails the removal of the foreskin from the tip of the penis without causing any damage, while the

degree of cutting in female circumcision is anatomically far more extensive and can cause harm to girls and women. Furthermore, male circumcision is regarded as having several health benefits such as the prevention of infection and sexually transmitted diseases such as HIV as AIDs²⁸. Clitoridectomy in the context of female circumcision, where all or part of the clitoris is removed, would be equivalent to the removal of most of the penis in male circumcision. Another procedure associated with clitoridectomy, namely, infibulation, includes the removal of the sensitive tissue around the vagina, and that would be equivalent to the removal of the penis, its roots of soft tissue and part of the scrotal skin²⁹.

Types of Female Circumcision

The procedure of female circumcision entails many different degrees of the cutting of female genitalia. In some countries like Malaysia and Indonesia the practice ranges from a prick of the clitoris to remove only a drop of blood to remove a little of the clitoris and labia minora. In other countries like Somalia, almost all of the external genitalia are removed and sutured together leaving only a small opening remaining at the lower end to allow urine and menstrual flow.

The main types of female circumcision are classified according to the severity of the procedure. The four main types are Clitoridectomy, Excision, Infibulation or Pharaonic and the Intermediate type. Clitoridectomy, also called Type 1, consists of the removal of the prepuce with or without excision of a part or the entire clitoris³⁰. This type of circumcision is popularly known as *Sunnah* by Muslim writers and Muslim communities who practice it³¹. Although the term *Sunnah* is used by many for female circumcision, the Prophet of Islam (peace and blessings of Allah be upon him) nevertheless only used the term *Sunnah* in reference to male circumcision and hence it is incorrect to use

the aforementioned term for female circumcision³².

Excision is regarded as more severe and consists of the partial or total excision of the prepuce or hood of the clitoris, partial or total removal of the clitoris, together with the adjacent tissues of the labia minora, and sometimes the whole of the labia minora except the labia majora, without the closure of the vulva³³.

Infibulation or Pharaonic Circumcision is the most severe form of circumcision. It involves excision and infibulation, where the clitoris, the labia minora, and inner walls of the labia majora (or at least the anterior two thirds), and the two sides of the vulva are attached to each other by thorns or silk threads. This reduces the size of the orifice of the vulva, with a very small opening remaining at the lower end, to allow for the passage of urine and menstrual flow³⁴. The result is a flattened vulva, with no labia, and a midline scar, stretching almost to the perineum. The urethra is hidden under this flap of scar tissue, and the normal urinary and vaginal openings are replaced by a small opening³⁵. The Intermediate type is chiefly practiced in Sudan. It varies in different degrees between the Type 1 and the Pharaonic type of circumcision. It was invented after legislation in 1946, which forbade the practice of the Pharaonic type of circumcision. The Sudanese found it very difficult to suddenly change from the Pharaonic to the type I, which they regard as no circumcision at all. Thus, this intermediate type was invented by trained midwives as a compromise and is replacing the Pharaonic circumcision (infibulation)³⁶. This procedure consists of the removal of the clitoris, anterior parts or whole of the labia minora, and part of the labia majora. The two sides are then stitched together leaving an opening of various sizes. This intermediate also has different grades. The mildest form that is wrongly termed "*Sunnah*" has two names the *Sunnah Magatia* (covered *Sunnah*) and *Sunnah Kashfa* (uncovered *Sunnah*). In the former

type, the clitoris is removed, the labia minora are intact and there is no stitching. The most extreme form is the same as the Pharaonic type. The different grades have come about due to the midwife following the instructions of the girls' relatives on the amount of genitalia she should remove³⁷. De-circumcision or de-infibulation is the reverse of circumcision and infibulation. It consists of making a short incision to separate the fused labia minora at the time of marriage. In Somalia this is done either by the midwife or by the husband. At childbirth a further incision is made to enable the baby to be delivered. After the birth of every child the women are stitched again. This is known as re-circumcision or re-infibulation³⁸. The aim is to make the vaginal opening as tight as that of the original circumcision³⁹.

Health Complications Resulting from Female Circumcision

It should be noted that the documented health complications do not make mention of the type of female circumcision because the different types may result in different complications.

*Immediate complications*⁴⁰

- Pain due to lack of local anaesthesia
- Shock due to sudden blood loss and severe pain
- Haemorrhage from the major blood vessels, for example the dorsal artery of the clitoris
- Acute urinary retention
- Tetanus resulting from using unsterilized equipment and lack of proper wound dressings
- Wound infections and urinary tract infection
- Septicaemia (blood poisoning) due to the procedure being performed in unhygienic conditions, use of unsterilized equipment and the application of herbs and ashes to the wound

- Death due to shock, haemorrhage, tetanus and lack of availability of medical services
- Fractures of the clavicle, femur, or humerus, due to strong pressure applied to the struggling girl

*Intermediate Complications*⁴¹

- Delay in healing due to infection, anaemia and malnutrition
- Pelvic infection due to infection of the uterus and vagina from the infected genital wound
- Dysmenorrhoea (a tight circumcision or keloid scar obstructing the vaginal orifice or pelvic infection)
- Cysts and abscesses due to the edges of incision being turned inwards and damaging the Bartholin's duct. The duct's mucous secretions accumulate forming cysts that later become infected and form abscesses on the vulva. This is commonly found in infibulated women
- Keloid scars resulting from slow and incomplete healing of the wound and infection after the procedure. This leads to the production of excess connective tissues in the scar
- Dyspareunia or painful intercourse, due to a tight vaginal opening
- Pelvic injury to the vulva area caused by vigorous sexual act

*Late Complications*⁴²

- Hematocolpos, which is the closure of the vaginal opening by the scar tissue. This results in the menstrual blood accumulating over many months in the vagina and uterus, and appears as a bluish bulging membrane on vaginal examination
- Infertility due to chronic pelvic infection blocking both fallopian tubes
- Vaginal and rectal fistula cause frequent miscarriage and makes it difficult to bear children

- Recurrent urinary tract infection. This occurs because the urinary opening becomes covered by scar tissue or flap of the skin, due to inadequate treatment at the time of circumcision and lack of medical facilities. Urine remains in the bladder due to the inability to completely evacuate the bladder
- Difficulty in urinating due to damaged urethral opening and scarring over this opening at excision and infibulations
- Calculus/stone formation due to scar tissue obstructing urethral opening and static urine coupled with bacterial infection
- Hypersensitivity (the development of neuroma on the dorsal nerve of the clitoris)
- Anal incontinence and fissure resulting from rectal intercourse when vaginal intercourse is not possible due to the vaginal opening being too small

The Severity of Complications Accompanying Different Types of Female Circumcisions

The severity of the complications depends on the type of cutting involved in female circumcision. In Sudan, it was found that the less severe procedures do not pose the same complications as infibulations. The complications that women experience with the intermediate and Pharaonic circumcisions are almost the same as regards the tissue excised and the opening left although complications are more prevalent amongst those who have undergone Pharaonic circumcision. The *Sunnah* type presents considerably less complications⁴³.

In the South African context, it is mostly during childbirth that the gynaecologists encounter such complications with women who have undergone Pharaonic circumcisions. Gynaecologists at the obstetrics and gynaecology unit at Johannesburg hospital are seeing many circumcised women⁴⁴.

A gynaecologist who works at the Coronation hospital in the Gauteng area of South Africa for many years was able to successfully de-infibulate a newly married woman from Sudan. She has delivered babies of circumcised women from various countries in Africa. The aforementioned hospital caters for many immigrants and refugees concentrated in the Mayfair area in the Gauteng province. Interviews conducted by the author in 2003 in the Coronation hospital in Johannesburg revealed that every week several circumcised mothers would come to deliver their babies⁴⁵. Then in 2004, a female gynaecologist who worked at Cape Town's Groote Schuur Hospital revealed that in the past 3 years he delivered babies for women who had been infibulated and to women who has undergone a milder form of circumcision. She also found that women who had undergone the less severe types of procedure did not experience obstructed labour or any other complications during the delivery of their babies⁴⁶.

Doctor Aja Tounkara, a gynaecologist from Guinea, Africa has succeeded in saving thousands of women from the procedure. Her method was simply "fake the surgery". She managed to teach circumcision "simulation" to midwives and traditional circumcisers all over Africa. Doctor Tounkara was circumcised when she was eight years old. She started her campaign 20 years later when through her surgery she saved a girl who had developed complications. She persuades daughters and parents not to go through with the operation. She advised them to undergo simulation and would then take lots of photographs in order to suggest that the surgery has taken place. It is important to note that female circumcision and the accompanying complications cannot be generalised, bearing in mind that the different types of circumcision may give rise to different complications. The broad grouping of different types of female circumcision has contributed to the failure

of efforts to stop the practice. Often campaigns to abandon female circumcision may exaggerate its adverse effects which women may not have necessarily experienced. Hence precise information to the targeted community is essential.

Islam and Female Circumcision

Female circumcision is not practised in most Muslim-majority countries such as Saudi Arabia, the Gulf States, Syria, Palestine, Libya, Tunisia, Algeria, Morocco, and Pakistan. The *Noble Qur'an* makes no mention of female circumcision⁴⁷.

Aḥādīth on Female Circumcision

While the *Noble Qur'an* makes no mention of female circumcision, traditional Muslims erroneously justify this practice on the basis of certain *Aḥādīth*. There are basically five *Aḥādīth* which refer to female circumcision. Each of these *Aḥādīth* is hereunder analyzed with the aim of pointing out that they have been misinterpreted.

1. *Ḥadīth of Umm 'Atiyyah al-Anṣāriyyah* Narrated Umm 'Atiyyah al-Anṣāriyyah who was a woman and used to perform circumcision in the city of Madīnah. Prophet Muḥammad (PBUH) said to her: "Do not cut severely as that is better for a woman and more desirable for a husband."⁴⁸

The aforementioned *Ḥadīth* is analyzed with the view of showing the defects in it which are as follows:

- It is reported in its general sense on the authority of 'Ubayd Allāh ibn 'Amr Ibn 'Abd al-Mālik and it is reported not as a direct quotation attributed to Prophet Muḥammad (peace and blessings of Allah be upon him).
- It does not have a strong chain of transmitters as one of its narration is

mursal (i.e., there is no Ṣaḥābī (Companion) in its chain of transmitters.

- Muḥammad Ibn Ḥasan, the narrator of this *Ḥadīth* in the isnād is unknown.
- The *Ḥadīth* itself has been categorized as *ḍa'īf* (weak)⁴⁹.

Moreover, Al-Shawkānī states that the often-quoted *Ḥadīth* of Umm 'Atiyyah is *ḍa'īf* (weak) and that female circumcision is not a tradition to be followed⁵⁰.

Since the two great *Imāms*, namely, Abū Dāwūd and Ḥāfīz al-'Irāqī, have categorized this *Ḥadīth* as *ḍa'īf*, then one should not pay any attention to the later scholars who regard it as a *ṣaḥīḥ* (authentic)⁵¹.

2. The *Ḥadīth* which implies that Female Circumcision is an Honourable Act Abū Malih Ibn Usāmā relates from his father that the Prophet (peace and blessings of Allah be upon him) said: "Circumcision is a *Sunnah* for men and a preservation of honour (*makrumah*) for women"⁵².

Ḥāfīz al-'Irāqī has categorized the above *Ḥadīth* as *ḍa'īf* (weak). Moreover, all the narrators of this particular *Ḥadīth* are traced back to Al-Ḥajjāj Ibn Arta'ah whose narrations are not to be taken as a proof of a legal ruling for being *muḍallah* (dishonest) in his narration⁵³.

Al-Sabbāgh quotes the *Ḥadīth* scholar Abū 'Umar Ibn 'Abd al-Barr's view on the above *Ḥadīth* in the following words:

Those who consider female circumcision a *Sunnah*, use as evidence this *Ḥadīth* of Abū al-Malih. This is based solely on the evidence of Ḥajjāj ibn Arta'ah. This cannot be accepted as a reliable and authentic *Ḥadīth* because it is based only on one single (*ifrādī*) transmitter. The consensus of Muslim scholars shows that circumcision is for men⁵⁴.

In the above Hadith a distinction is made between male circumcision which is described in a strong religious term (Sunnah) or commendable while another weaker description is given to female circumcision (*makrumah*) which implies no religious obligation⁵⁵.

3. *The Hadīth which Mentions the Coming into Contact of the Two Circumcised Parts*

Abū Mūsā reported: “There cropped up a difference of opinion between a group of *Muhājirūn* (Emigrants) and a group of *Anṣār* (Helpers) and the point of dispute was that the *Anṣār* said: “The bath (because of sexual intercourse) becomes obligatory only when the semen spurts out or ejaculates.” But the *Muhājirūn* said: “When a man has sexual intercourse (with a woman), a bath becomes obligatory (no matter whether or not there is seminal emission or ejaculation).” Abū Mūsā said: “Well, I will clarify you on this issue. He Abū Mūsā (the narrator) said: “I got up (and went) to `Ā’ishah (r.a.) and sought permission and it was granted,” and I said to her: “O Mother of the Faithful! I want to ask you about a matter on which I feel shy.” She said: “Do not feel shy of asking me about a thing which you can ask your mother, who gave you birth, for I am too your mother.” Upon this I said: “What makes a bath obligatory for a person?” She replied: “You have come across one well informed! The Messenger of Allāh (peace and blessings of Allah be upon him) said: ‘When anyone sits amidst four parts (of the woman) and the circumcised parts touch each other, a bath is obligatory’”⁵⁶.

Such an argument can be refuted that in Arabic language, two things or persons may be given one quality or name that belongs only to one of them for an effective cause. Such an effective cause may be that this quality or name given to such two things or persons combined together – though belonging to only one of them – is more

famous and common than that of the other. Other criteria may be strength, potency, eminence, or easiness in pronunciation. Such a form of duality given one quality or name is common in Arabic regardless of whether the two things or persons forming duality are two males or females or a combination of a female and a male, and whether the common quality or name belongs to a male or a female. Some examples may be as follows:

1. The name “Al-`Umran” is given to Abū Bakr and `Umar.
2. The names "the two moons" and "the two lights" are given to the moon and the sun together despite the fact that the moon is visible by reflection of sunlight.
3. The two `Ishā's" is given to the two prayers of the Maghrib and `Ishā', and the "two Zuhrs" is a name for the two prayers of the Zuhr and the `Asr.
4. The term "the two black things" is given to dates and water combined despite the fact that water has no colour⁵⁷.
5. The river and the sea are called when combined together "the two seas" as Allāh says:

”وَمَا يَسْتَوِي الْبَحْرَانِ هَذَا عَذْبٌ فُرَاتٌ سَائِغٌ شَرَابُهُ وَهَذَا
مِلْحٌ أُجَاجٌ وَمِنْ كُلِّ تَاكُلُونَ لَحْمًا طَرِيًّا وَتَسْتَخْرِجُونَ حَلِيَّةً
تُلْبَسُونَهَا وَتَرَى الْفُلْكَ فِيهِ مَوَاجِرَ لِيَتَّبِعُوا مِنْ فَضْلِهِ وَالْعَلَّكُمْ
تَشْكُرُونَ”

”the two seas are not alike....”⁵⁸.

The first of the two seas is a river and the other stands for a real sea; however, the river and the sea, when combined together forming duality, are called the two seas for the sea is greater than the river. Here, the greater name takes priority.

6. "The two Marwahs" is a term given to the two hills of Ṣafā and Marwah in Makkah. Likewise, “the two yellowish things" is a name for the two materials: silk and gold, though silk is of many colours.

The above Hadith is concerned, it is originally in the context of what makes *al-*

ghusl (ritual bath) obligatory and has nothing to do with the issue of circumcision. In addition, he mentions that all scholars interpreted this *Ḥadīth* as follows: “Mere meeting of the sexual organs does not require *ghusl* except if the act of having sexual intercourse actually happens. Hence, if the literal meaning of the *Ḥadīth* is not addressed, then how can we accept its wrong implication?”⁵⁹.

4. *The Hadith which Describes Circumcision as Part of Fiṭrah (Natural Disposition)*

Sayyidunā Abū Hurayrah said: “I heard the Prophet (peace and blessings of Allah be upon him) say: The *fiṭrah* is five things – or five things are part of *fiṭrah* – circumcision, shaving the pubes, trimming the moustache, cutting the nails and plucking the armpit hairs”⁶⁰.

Al-ʿAwwā stresses the fact that the above authentic (*ṣaḥīḥ*) *Ḥadīth* does not in any way constitute a proof of female circumcision as shaving the moustache and growing the beard are acts peculiar only to men. This is agreed upon by Muslim scholars. Moreover, he mentions that ʿUmar Ibn ʿAbd al-Barr in his book entitled *Al-Tamhīd limā fī al-Muwattaʿaʿ min al-Maʿānī al-Asānīd* maintains that circumcision is one of stressed traditions for Messengers of Allāh and thus it is inevitably applied to men. Furthermore, he states that another proof to negate the legality of female circumcision is that there is no evidence that any of the Prophet's daughters or wives (r.a.) had been circumcised, which proves that if the female circumcision was categorized as one of Islamic rites, then Prophet Muḥammad (peace and blessings of Allah be upon him) would be the first to apply it to his daughters and wives⁶¹.

5. *The Hadith Pertaining to the Enjoining of Female Circumcision on the Women of al-Ansar*

ʿAbd Allāh Ibn ʿUmar (may Allah be pleased with him) reported that the women of *Al-Anṣar* (i.e., the Helpers of the Prophet in al-Madīnah) were enjoined to practice female circumcision.

The above *Ḥadīth* is *daʿīf* (weak) and it has been related by Abū Naʿīm with a chain of transmitters that includes Mindal Ibn ʿAlī who is deemed weak in narration. Moreover, al-Shawkānī mentions that that particular *Ḥadīth* is also related by Ibn ʿAddiy with a chain of transmission ʿAmr b. Khālīd al-Qurashī, who is deemed weaker than Mindal⁶².

Rulings of the four Schools of Islamic Jurisprudence

Muslims in general belong to either one of the four Schools of Islamic Jurisprudence and their rulings on female circumcision account for the perpetuation of the practice⁶³.

1. In the Ḥanafī School of Law, female circumcision is permissible within itself but not considered to be a *Sunnah*. (i.e., no religious virtue)⁶⁴.
2. It is considered a preferred act (*mandūb*) for women in the Mālikī School of Law. They rely upon the *Ḥadīth* of Umm ʿAtiyyah for this ruling⁶⁵.
3. In the Shafīʿī School of Law, circumcision is considered an obligation for both men and women. This is the official ruling of that School of Thought. Some Shafī scholars express the view that circumcision is obligatory for men and merely *Sunnah* for women (*al-Majmūʿ*).
4. In the Ḥanbalī School of Law, circumcision is obligatory for men and merely an honorable thing for women. It is not obligatory for them. The Shafīʿī jurist Ibn Qudāmah observes: “This is the view of many people of knowledge.

Imam Ahmad said that it is more emphatic for men⁶⁶.

Conclusions

The practice of female circumcision loses its legitimacy as a requirement in Islam due to the damage and harm that it causes. A practical manifestation of the juridical principle “Harm must be eliminated” (*al-dararu yuzal*)⁶⁷ is a reiteration of the Qur’anic verse:

”لَا يُكَلِّفُ اللَّهُ نَفْسًا إِلَّا وُسْعَهَا..“

“God does not intend to inflict hardship on you”⁶⁸.

Although customs (‘Urf) are regarded as important subsidiary source by all Schools of Islamic Jurisprudence, with the Maliki School giving preference to it, and accommodating cultural practices, it is important to note that an cultural practice that contradicts any other school of *Shari’ah* for example, preservation of health and life would be deemed an unacceptable custom and hence it ought to be rejected. One of the basic juridical principles of Islam is expressed in the Hadith of the Prophet (peace and blessings of Allah be upon him) when he said, “Do not harm yourself or others”⁶⁹.

What is urgently needed is for contemporary Muslim scholars to be bold and display leadership qualities by denouncing the practice of female circumcision and calling for its abandonment in contemporary times. The practices of Muslims and their understanding need revision, rather than the revelatory sources, if properly understood, and more importantly, implemented⁷⁰.

Finally, according to Islamic Law, any cultural practice that causes harm to a person is not acceptable. Since the practice causes pain, distress and often results in medical complications and has no known benefits, the practice must be abandoned.

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CHAPTER ELEVEN

GENDER REASSIGNMENT PROCEDURES - ETHICAL CONCERNS AND ISLAMIC PERSPECTIVES

*Mohammad Iqbal Khan**, and *Hamid Fazeel Alvi***

Abstract

The birth of a child with a confused or ambiguous gender make up has posed socio-cultural and health care related challenges since the annals of history. The understanding of the anatomical, physiological and biological nature of such gender ambiguities, culminated in more appropriate corrective and reparative measures to assign one or the other gender. The guiding ethical principle, is *primum non nocere* "first to do no harm" and all procedures must be on balance, benefit the patient as a whole. In all situations, the validity and effectiveness of a procedure should be questioned, if it is more harmful than good. At all times the surgeon performing the gender reassignment procedure must be affirmative about the condition of gender disorder as a real entity and that genital reconstruction is necessary to provide for the patient's overall health and well-being. A multidisciplinary team care of such individuals will confer better results. The role of faith, ethics and the social worker will be a defining factor to tailor a procedure for the anticipated outcome. Disorders of Sex Development (DSD), have been better understood, classified and procedures are designed according to the type of disorder to come with better outcome.

In the case of Gender Dysphoria, the sex reassignment surgical procedures and hormonal manipulations replacing normal anatomical and physiological structures are mutilating, swapping with structurally and functionally inferior ones. Moreover, these procedures are irreversible, nurturing several pertinent ethical concerns. Islamic guidelines on dealing with such cases and gender related issues from the *Shari'ah* perspective are discussed to come up with the consensus of opinions. Islamic *Shari'ah* (jurisprudence) emphasize on safety, security of human life, health and wellbeing, intellect, bodily integrity, protection of faith, posterity and humanity. Islamic divinity prevents human abuse and maiming, instead it promotes health, wellbeing and scientific growth.

Keywords: Disorders of sex development, gender dysphoria, gender reassignment surgery, ethical issues, *shari'ah* guidelines, consensus of opinion and ruling.

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Disorders of sexual development

People with Disorders of Sexual Development (DSD) are born with sex characteristics (including genitals, gonads and chromosome patterns) that do not fit typical binary notions of male or female bodies. Due to their bodily characteristics and psychological traits, such children and adults are often stigmatized and subjected to diverse human rights violations, including violations of their rights to health and physical integrity, to be free from torture and ill-treatment, and to equality and non-discrimination.

It is pertinent to study the various criteria of gender determination. It is not only the X and Y chromosomes. An SRY gene is usually present at the short limb of Y chromosome. However, sometimes this is located at another chromosome like X chromosome. Hence, an XX baby can have a perfect male phenotype and *vice versa*.

While having various degrees of phenotypical male or female anatomical characteristics, the manifestations also depend on the response of receptors at the primary and secondary sexual characters. Various hormones and their regulatory pathways make a huge difference in the anatomical, physiological and psychological outcomes. Transgender people are also known as intersex, male or female hermaphrodites, depending on the characteristics that appeared most dominant. True hermaphrodites is an individual who has both ovarian and testicular tissue, male pseudo-hermaphrodite for a person with testicular tissue, but either female or ambiguous sexual anatomy, and female pseudo-hermaphrodite for a person with ovarian tissue, but either male or ambiguous sexual anatomy². Gender is determined by more than seven factors, like: genotype, phenotype, psychological (self-image of a

person, how he or she sees himself or herself and consider himself or herself as a male or a female) or vice versa, how the child was raised (whether as a boy or a girl) and dressing of a person etc.

Hermaphroditism refers to a specific phenotypical presentation of sex organs and intersex refer to a more complex combination of phenotypical and genotypic presentation³. Understanding of intersex could be different in different societies due to differences in perception of our bodies, genders; and these should never be disregarded. Due to the taboos associated with it, the exact incidence is not known. The reported incidence of hypospadias is 1 in every 125 male births in Scandinavian countries. The most thorough existing research finds intersex people to constitute an estimated 1.7% of the population, which makes being intersex about as common as having red hair (1%-2%). However, popularly misinterpreted, much referenced statistics would have you believe that numbers are much lower⁴. The actual prevalence of intersex might be higher than the reported figures attracting the wide attention of academia, media and service providers⁵.

Embryological aspects

Fetal differentiation into male and female morphological characteristics begins in the seventh week of gestation, although the internal genital ducts derived from the mesonephros are present even before that. However, at that time, fetus is not recognizable as a male or female externally. Many toxic agents can influence the differentiation process resulting in ambiguous genital organs. Hormonal influence like dihydrotestosterone, a metabolite of testosterone, activates genes causing the male reproductive tract and

external genitalia to develop⁶. The disorders resulting in abnormal hormone production, or action, can disrupt this process, subsequently external genitalia are not properly developed, as differentiation of external genitalia is strongly hormonally dependent⁷. At the same time fetus is also very sensitive to environmental effects like chemicals, disrupting sensitive endocrine system. Any noxious stimulus may end up with physiological maturation also affect later development of secondary sex characteristics⁸. Genetic and non-genetic factors may affect the process of sex determination. The unplanned birth variations have been found, responsible for different conditions all now categorized with recent terminology IV⁹. Condition IV may present with higher incidence of cardiac malformations in combination with genital malformations.

Classification

The traditional classification of Disorders of Sex Development (DSD) was revised in 2006 by the European Society of Pediatric Endocrinology, aiming at understanding and incorporating recent advances in these disorders, incorporating the actual needs of the patient.¹⁰

Female pseudo hermaphrodite revised to 46, XX DSD

Male pseudo hermaphrodite revised to 46, XY DSD

True hermaphrodite revised to Ovo-testicular DSD

XX male revised to 46, XX testicular DSD

XY sex reversal revised to 46, XY complete gonadal dysgenesis

As examples, classifications of sex chromosome DSD include the following:

- 45, X (Turner syndrome and variants)

- 47, XXY (Klinefelter syndrome and variants)
- 45, X/46, XY (mixed gonadal dysgenesis, ovo-testicular DSD)
- 46, XX/46, XY (chimeric, ovo-testicular DSD)

Classifications of 46, XY DSD include the following:

- Disorders of testicular development (complete and partial gonadal dysgenesis)
- Disorders of androgen synthesis (complete and partial androgen insensitivity, disorders of anti-müllerian hormone [AMH]/receptor, androgen biosynthesis defect)
- Other (severe hypospadias, cloacal exstrophy)

Classifications of 46, XX DSD include the following:

- Disorders of ovarian development (ovo-testicular DSD, testicular DSD, gonadal dysgenesis)
- Androgen excess (fetal [e.g., congenital adrenal hyperplasia (CAH)], fetoplacental, maternal)
- Other (vaginal atresia, cloacal exstrophy)

Treatment and patient/ parents education

Team oriented approach to the management of such condition is recommended and includes neonatologists, geneticists, endocrinologists, surgeons, psychologist, psychiatrist, gynecologist, counselors, and ethicists. Appropriate medical, social, counseling and gender reassignment procedures are to be carried out at the appropriate time. Counselling of the parents should not exclude the child's rights. Gender assignment by the physician and family may not correlate with gender preference by the patient in adulthood. In case of female,

several procedures can be offered to correct the genitalia like: vaginoplasty, labiaplasty, and clitoroplasty etc¹¹. Optimum timing of feminizing genitoplasty is a matter of debate and should be decided on merits. In under virilized males; hypospadias or epispadias reconstruction is planned according to the clinical situation, may be a single or multi-staged procedure depending upon the nature of pathologies and surgical expertise. Gender reassignment may be considered in patients with 46, XY DSD and genital inadequacy¹².

Ethical considerations

Critical ethical issues related to decision making on the matter of gender re-assignment surgeries in the case of Disorders of Sex Development (DSD) requires a multidisciplinary approach. The team may consist of bioethicist, endocrinologist, plastic surgeon, urologist (pediatric or adult), gynecologist (especially pediatric), psychiatrist, pediatrician and surgeon (as there may be other coexisting anomalies), psychologist with experience in the field and legal expert if the matter involves vested interests of different parties.

We are all aware about the increasing knowledge about sex determination and differentiation and complicated nature of genotype and phenotype. Similarly, there is increasing sense, responsibility of child raising and rights, flexibility of gender identity and role of male and female genders, growing importance of patient support group in medical intervention and safety¹³. Early surgical and hormonal intervention amounts to battery patient autonomy and postpone his/her right of informed consent. Critics of early surgical interventions have cast doubt on parental surrogate decision making. Keeping in view of such critics, different questions are posed to the physicians to decide about the corrective measures to be taken, like a child with incomplete Androgen

Insensitivity Syndrome raised as a girl might in puberty face the effects of virilizing hormones. Hormone suppression has to start before puberty to avoid the effects of male-typical pubertal development and to prevent major disturbances in gender identity. Waiting till the age of consent, means depriving the child of an important window of opportunity thus, future adult consent, will be meaningless, because no decision will undo the consequences of a delayed treatment. Likewise, surgical moratorium until the age of consent may be unjustified in the vast majority of such cases¹⁴. Some societies have started adopting gender neutral policy until the age of consent. However, that decision opens a new plethora of problems. The family privacy and best interest of the child may be protected, the right to represent the child and to decide on its behalf is normally accorded to the parents as legal guardians. The contemporary ethical guidelines in decision making for DSD, includes; the surgical creation of unambiguous external genitalia is neither essential nor adequate condition for well-being and is sometimes not achievable as well. The integrity of the body, quality of life and ability to experience sex and desirable personality development of the child should be taken into consideration. Autonomy and right of the child to participate in decision making should be respected. The parents right and the right of the child must be taken into consideration and all conflicts of interest to be avoided and family relationships should be nurtured. The health care must be enabling the patient, parents and family to cope with the emerging situations. Individual situation including biological, social, emotional must be taken into consideration while optimizing intervention for DSDs¹⁵. Barring a very few societies, gender determination becomes a psychological emergency. It is thought, initially for the distraught parents but looking

prospectively, it becomes the top priority for the child as well.

Gender Dysphoria

Human mind and psyche is one of the determining factor in gender assignment. If genotype and phenotype are not at odds with each other, gender dysphoria manifests quite late. Gender Dysphoria (GD) is a distressing condition, when a person feels mismatch between the gender identity assigned at birth and the gender with which he/she identifies him/herself¹⁶. This could be due to discordance between the natal sex of one's external genitalia and the brain coding of one's gender as masculine or feminine¹⁷. Psychologically these individuals can be uncomfortable with their biological sex characteristics, and social gender roles and they experience various levels of distress. The prevalence of gender dysphoria is 0.005-0.014% in males and 0.002-0.003% in females¹⁸. Management of such condition requires a teamwork including mental health professionals, endocrinologists, and plastic surgeons. Gender Dysphoria is a complex health issue and requires psychiatric and endocrine assessments prior to undergoing complex surgical procedures called gender-affirming surgery (GAS). It has now been established that before making irreversible surgical alterations, change of attire, social presentation and role model of the new gender identity has to continue for a couple of years. While these measures raise a number of ethical concerns, the most pertinent is fertility after GAS, and the possibility of regret after GAS. The basic ethical principles like autonomy, beneficence, non-maleficence, and informed consent may be balanced with the desires and wishes of the individual. The treating physician must be straight forward regarding outcome of the gender reassignment procedures and all risks, benefits of intervention especially about irreversibility

of the surgery and altering healthy organs must be explained in the language which these individuals can comprehend. And non-maleficence must ensure that the treatment does not harm the individual in an emotional, social, or physical sense. Hence by altering normal organs, reassurance and mental health support cannot altogether erase ethical concern of "to do no harm". We need to consider personal disadvantages, youth, impairment, or desperation particularly the fertility issues²⁰. Thus it is concluded that even in secular environment, gender reassignment procedures raise a number of ethical concerns.

Islamic perspectives of gender reassignment procedures

We must consider the other synonyms of these procedure like; Gender Reassignment Surgery, Genital Reconstruction Surgery, Sex Affirmation Surgery, Sex Realignment Surgery or Sex-Change Operation. These procedures designed to alter the physical appearance and function of the existing sexual characteristics, creating resemblance to the other sex²¹. Transgender persons only limit their changed appearance to attire and make up, whereas trans-sexuals use additional hormones to increase resemblance to acquired gender. Once surgery is carried out to completely re-assign a new sexual identity, legally the new person adopts the new gender in all ID papers. Those who pursue sex reassignment surgery are usually referred to as transsexual or transgender. It may also be performed on Intersex (Disorders of Sex Development) people, often in infancy and without their personal consent²². Islamic teachings prevent the individuals to undergo Sex reassignment surgery and consider the changing of one's

sex as a kind of tampering with the creation of Allah²³⁻²⁴; it is as if one is not happy with their existing physical appearance and sexual functions.

“Narrated Ibn ‘Abbas: The Prophet cursed effeminate men (those men who are in the similitude (assume the manners of women) and those women who assume the manners of men and he said: “Turn them out of your houses.” The Prophet turned out such-and-such man, and ‘Umar turned out such-and-such woman.”²⁵

Though this *hadith* is about dress and overall mannerisms, but it also explains the importance of gender and biological sex in Islam. If an imitation in outward appearance and behavior is counted as a sin, then by *Qiyas* (analogy), *a total change in gender is a greater sinful act*. Moreover, it is clearly mentioned in the Qur’an, as quoted before, that changing the creation of Allah is a temptation by Satan.

“وَأَضَلَّنَهُمْ وَأَمْنَيْنَهُمْ وَأَمْرَنَهُمْ فَلْيَبْتَئِكُنَّ آذَانَ الْأَنْعَامِ
وَأَمْرَنَهُمْ فَلْيَغْيِرْنَ خَلْقَ اللَّهِ وَمَنْ يَتَّخِذِ الشَّيْطَانَ وَلِيًّا مِّن دُونِ
اللَّهِ فَقَدْ خَسِرَ خُسْرًا مُّبِينًا”

“And I will mislead them, and I will arouse in them [sinful] desires, and I will command them so they will slit the ears of cattle, and I will command them so they will change the creation of Allah.” “And whoever takes Satan as an ally instead of Allah has certainly sustained a clear loss”²⁶.

There is no doubt that performing SRS is a kind of toying with and changing the creation of Allah; and thus it is not permissible for a person to have a gender operation for conversion from male to female or vice versa²⁷. Every Muslim has to be content with what Allah has decreed for him, for He has placed him in a suitable position in this world²⁸.

Islam assigns different role to male and female gender and provide colossal amount of responsibilities and bestows rights to each: As said in the Holy Quran, Human being; both male and female are descended from Adam:

“يَا أَيُّهَا النَّاسُ اتَّقُوا رَبَّكُمُ الَّذِي خَلَقَكُمْ مِنْ نَفْسٍ وَاحِدَةٍ وَخَلَقَ مِنْهَا زَوْجَهَا وَبَثَّ مِنْهُمَا رِجَالًا كَثِيرًا وَنِسَاءً وَاتَّقُوا اللَّهَ الَّذِي تَسَاءَلُونَ بِهِ وَالْأَرْحَامَ إِنَّ اللَّهَ كَانَ عَلَيْكُمْ رَقِيبًا”

“O mankind, fear your Lord, who created you from one soul and created from it its mate and dispersed from both of them many men and women...”²⁹.

Islam gives different roles, responsibilities, and accountabilities to men and women as they differ in anatomy, physiology, psychology, social interactions and financial responsibilities. Even in Islamic *Ibadah* (rituals), women are exempted during their menstruation from prayers, fasting, and *tawaf of Al-Kabah*. Islamic teachings greatly signify on the structure and sanctity of family and the role of men and women, their relationships are sharply defined in the Islamic way of life. The rituals and rights of men and women are assigned in the *Sunnah* (the sayings and acts of the Prophet Mohammad (PBUH) as primary source of *Shari’ah* (Islamic jurisprudence) like prayer congregation etc. As mentioned in several *hadiths* that praying in congregation is mandatory for men but not for women as said in the *hadiths*:

Ibn ‘Umar (may Allah be pleased with him) said: The Messenger of Allah (PBUH): “Do not prevent your women from going to the mosques, although their houses are better for them.”³⁰

Determination of Gender in Islamic Law

In classic terms Islamic *Shar’iah* recognizes four genders among human beings: male,

female, DSD/transgender (*khunsa*) and the effeminate male (*mukhannath*)³¹. The DSD/transgender *khunsa* is recognized in Islam, as the Prophet Mohammad (PBUH) directed to determine the sex of a new born child with two opposite sex organs, said that:

“The determining factor in such a case was the organ from which the child urinates.”³²”

Sex reassignment procedures and inheritance law of Islam

Inheritance and distribution of leftover is sharply defined in Islamic jurisprudence. The entitlement of men and women to inherit assets from a deceased relative is defined as:

”لِّلرِّجَالِ مِمَّا تَرَكَ الْوَالِدَانِ وَالْأَقْرَبُونَ وَلِلنِّسَاءِ مِمَّا تَرَكَ الْوَالِدَانِ وَالْأَقْرَبُونَ مِمَّا قَلَّ مِنْهُ أَوْ كَثُرَ نَصِيبًا مَّفْرُوضًا”

“For men is a share of what the parents and close relatives leave, and for women is a share of what the parents and close relatives leave, be it little or much - an obligatory share³³”.

Nevertheless, the portion of man is double of the woman due to various reason and one of those is that a Muslim woman is not responsible for her livelihood rather it is obligatory for a man to provide wherewithal to his wife and family members. The Muslim man has greater socio-economic responsibilities compared to a Muslim woman in the Muslim society.

”الرِّجَالُ قَوَّامُونَ عَلَى النِّسَاءِ بِمَا فَضَّلَ اللَّهُ بَعْضَهُمْ عَلَى بَعْضٍ وَبِمَا أَنْفَقُوا مِنْ أَمْوَالِهِمْ فَالصَّالِحَاتُ قَانِتَاتٌ حَافِظَاتٌ لِّلْغَيْبِ بِمَا حَفِظَ اللَّهُ وَاللَّاتِي تَخَافُونَ نُشُوزَهُنَّ فَعِظُوهُنَّ وَأُحْزِرُوهُنَّ فِي الْمَضَاجِعِ وَاصْرَبُوهُنَّ فَإِنِ أَطَعْنَكُمْ فَلَا تَبْغُوا عَلَيْهِنَّ سَبِيلًا إِنْ اللَّهُ كَانَ عَلِيًّا كَبِيرًا”

“Men are in charge of women by [right of] what Allah has given one over the other and what they spend [for maintenance] from their wealth...³⁴”.

”وَالْمُطَلَّاقَاتُ يَتَرَبَّصْنَ بِأَنْفُسِهِنَّ ثَلَاثَةَ قُرُوءٍ وَلَا يَحِلُّ لَهُنَّ أَنْ يَكْتُمْنَ مَا خَلَقَ اللَّهُ فِي أَرْحَامِهِنَّ إِنْ كُنَّ يُؤْمِنْنَ بِاللَّهِ وَالْيَوْمِ الْآخِرِ وَبُعُولَتُهُنَّ أَحَقُّ بِرِدِّهِنَّ فِي ذَلِكَ إِنْ أَرَادُوا إِصْلَاحًا وَلَهُنَّ مِثْلُ الَّذِي عَلَيْهِنَّ بِالْمَعْرُوفِ وَلِلرِّجَالِ عَلَيْهِنَّ دَرَجَةٌ وَاللَّهُ عَزِيزٌ حَكِيمٌ”

“And they (women) have rights (over their husbands as regards living expenses) similar (to those of their husbands) over them (as regards obedience and respect) to what is reasonable, but men have a degree (of responsibility) over them. And Allah is All-Mighty, All-Wise”³⁵.

The Prophet (PBUH), determined clearly that whatever is the property of deceased, will be distributed as described in Quran according to the laws of inheritance.

“Ibn 'Abbas (Allah be pleased with them) reported Allah's Messenger (may peace be upon him) as saying: Give the shares to those who are entitled to them, and what is left from those who are entitled to it goes to the nearest male heir”³⁶.

Therefore, inheritance entitlement is not only of children parents, and spouses, but also the extended family members but in case the deceased has a son(s), the uncle, aunts, and grandparents are not entitled for share in inheritance³⁷. The question of sex reassignment in Gender Dysphoria, greatly confuses the fair and just distribution of inheritance among him/her and other legal heirs as described in the Quran and *Sunnah*.

In case of Disorders of Sexual Development (DSD), if the gender is assigned then the portion of inheritance is given accordingly. This has been agreed by majority of the Islamic jurisprudence scholars³⁸.

Islamic jurisprudence prohibits sex reassignment surgery

Islamic teachings prohibit interference with normal anatomical and physiological structures without any medical reasons. Both male and female are the creation of Allah and one cannot change his gender on pretext of mere misfit to one's fortune. Hence, the supreme value is that Muslims must be content with what God has created in them and should not tamper with their primary natural created characteristics³⁹. The creation of Almighty Allah does not follow the wishes of the people, as mentioned in Quran:

" اللَّهُ مُلْكُ السَّمَاوَاتِ وَالْأَرْضِ يَخْلُقُ مَا يَشَاءُ يَهَبُ لِمَنْ يَشَاءُ إِنَاثًا وَيَهَبُ لِمَنْ يَشَاءُ الذَّكَوْرَ، أَوْ يَزْوَاجَهُمْ ذَكَرًا أَوْ إِنَاثًا وَيَجْعَلُ مَنْ يَشَاءُ عَقِيمًا إِنَّهُ عَلِيمٌ قَدِيرٌ "

"To Allah belongs the dominion of the heavens and the earth; He creates what he wills. He gives to whom He wills female [children], and He gives to whom He wills males. And it is not for any human being that Allah should speak to him except by revelation or from behind a partition or that He sends a messenger to reveal, by His permission, what He wills. Indeed, He is Most High and Wise" ⁴⁰.

There is no doubt that corrective procedures in congenital or acquired deformities/disorders have remarkably improved the quality of lives through scientific achievements. This should be considered as required intervention, as a part of medical assistance and very much encouraged. At the same time man always wished to alter the nature in one way or the other on one pretext or the other claiming to furtherance of humanity. This attitude is condemned by the Almighty in Quran and considered the temptations of Satan, the rejected:

"I will command them and they will alter Allah's creation"²⁶.

Islamic teachings even specify the code of social ethics for gender encounters and ask women and men to remain in their domains but when they do interact must abide by the laid down principles of interaction with the opposite sex:

" وَقُلْ لِلْمُؤْمِنَاتِ يَعْضُرْنَ مِنْ أَبْصَارِهِنَّ وَيَحْفَظْنَ فُرُوجَهُنَّ وَلَا يُبْدِينَ زِينَتَهُنَّ إِلَّا مَا ظَهَرَ مِنْهَا وَلْيَضْرِبْنَ بِخُمُرِهِنَّ عَلَىٰ جُجُوبِهِنَّ وَلَا يُبْدِينَ زِينَتَهُنَّ إِلَّا لِبُعُولَتِهِنَّ أَوْ آبَائِهِنَّ أَوْ آبَاءِ بُعُولَتِهِنَّ أَوْ أَبْنَائِهِنَّ أَوْ أَبْنَاءِ بُعُولَتِهِنَّ أَوْ إِخْوَانِهِنَّ أَوْ بَنِي إِخْوَانِهِنَّ أَوْ بَنِي أَخَوَاتِهِنَّ أَوْ نِسَائِهِنَّ أَوْ مَا مَلَكَتْ أَيْمَانُهُنَّ أَوْ التَّابِعِينَ غَيْرِ أُولِي الْإِرْتَبَةِ مِنَ الرِّجَالِ أَوْ الطِّفْلِ الَّذِينَ لَمْ يَظْهَرُوا عَلَىٰ عَوْرَاتِ النِّسَاءِ وَلَا يَضْرِبْنَ بِأَرْجُلِهِنَّ لِيُعْلَمَ مَا يُخْفِينَ مِنْ زِينَتِهِنَّ وَتَوْبُوا إِلَى اللَّهِ جَمِيعًا أَيُّهَا الْمُؤْمِنُونَ لَعَلَّكُمْ تُفْلِحُونَ "

"And tell the believing women to reduce [some] of their vision and guard their private parts and not expose their adornment except that which [necessarily] appears thereof and to wrap [a portion of] their head covers over their chests and not expose their adornment except to their husbands, their fathers, their husbands' fathers, their sons, their husbands' sons, their brothers, their brothers' sons, their sisters' sons, their women, that which their right hands possess, or those male attendants having no physical desire, or children who are not yet aware of the private aspects of women. And let them not stamp their feet to make known what they conceal of their adornment. And turn to Allah in repentance, all of you, O believers, that you might succeed" ⁴¹.

Islamic jurisprudence scholars prohibit sex reassignment surgery on the basis of divine instructions

Sex reassignment surgery amounts to tampering with one's natural consonance with the primordial evil handiwork of Satan' and secondly, it alters the social role of

particular natural gender created and assigned by the Creator or hence, is ultra-vires of the Prophetic prohibition on effeminacy and masculinity and vice versa²⁵. It is also deception of reality from the Islamic perspective and is condemned by the Prophet (PBUH):

“Anyone who plays deceit does not belong to our community⁴²”.

Sex reassignment surgery is irreversible and will lead to secondary infertility:

“Sa'id b. al Musayyib heard Sa'd b. Abi Waqqas (Allah be pleased with him) saying that Uthman b. Maz'un decided to live in celibacy, but Allah's Messenger (may peace be upon him) forbade him to do so, and if he had permitted him, we would have got ourselves castrated⁴³”.

This surgery is neither curative not corrective one, rather involve unnecessary destruction or removing the normal anatomical structure and reconstruction of abnormal rather malfunctioning organs which also entail surgery and anesthesia related complications and also the complication of unnecessary hormone therapy. Moreover, these individuals are creating unwarranted, self-inflicted psychological trauma as these individuals will find it very hard to be socially accepted in the society. Fatwa councils of Pakistan, Malaysia, India, Saudi Arabia, Egypt and others countries ruled that:

A sex change operation [in a non-DSD individual] is totally prohibited and considered to be criminal in accordance with the Holy Quran and the *Sunnah* of the Prophet (PBUH)⁴⁴.

The Muslim physician, performing sex reassignment procedures on a normal man or women, is regarded as performing a sinful act, that is prohibited by the vast majority of the Islamic jurisprudence scholars. Only two notable scholars; Ayatollah Khomeini in Iran

and Sheikh Muhammad al-Tantawi in Egypt, in the late 1980s came up with fatwas (rulings), allowing sex reassignment surgery. These opinions were massively rejected by other jurists and authorities in this field⁴⁵.

The only exception to the general ruling is corrective procedures related to a person who has both genders' potential in their body (hermaphrodites). For those who are hermaphrodites, a medical treatment can be sought to unify one gender. In this case it will be an improvement – a reverting to the natural state (of having one sex and gender)—rather than the changing of existing sex.⁴⁶

It is emphasized that while deciding on these matters, the multidisciplinary team should include a religious scholar as a team member. The confidentiality of information, regarding patients, their families, diseases and medical care must be protected.

Those who are unhappy with their gender composition bestowed to them, must remind themselves that not everything they aspire is bestowed according to the wishes, thoughts and desires of individuals. The Creator has moulded in the best way:

“ فَأَيُّهَا سَوِيَّتُهُ وَتَفَخَّتْ فِيهِ مِنْ رُوحِي فَتَعَوُّوا لَهُ سَاجِدِينَ ”

“*But He fashioned him in due proportion and breathed into him something of His spirit. And He gave you (the faculties of) hearing and sight and feeling (and understanding): little thanks do you give⁴⁷”.*

A Muslim must be thankful to Almighty Allah for the best of best creation being human being (man or women) and be grateful, to the Almighty for the honors he awarded to him/her:

“ يَا أَيُّهَا النَّاسُ إِنَّا خَلَقْنَاكُمْ مِنْ نَكَرٍ وَأُنْثَىٰ وَجَعَلْنَاكُمْ شُعُوبًا وَقَبَائِلَ لِتَعَارَفُوا إِنَّ أَكْرَمَكُمْ عِنْدَ اللَّهِ أَتْقَاكُمْ إِنَّ اللَّهَ عَلِيمٌ خَبِيرٌ ”

“O mankind! We created you from a single (pair) of a male and a female and made you into nations and tribes that you may know each other. Verily the most honored of you in the sight of Allah is (one who is) the most righteous of you. And Allah has full knowledge and is well acquainted (with all things)”⁴⁸.

” وَلَقَدْ كَرَّمْنَا بَنِي آدَمَ وَحَمَلْنَاهُمْ فِي الْبُرِّ وَالْبَحْرِ وَرَزَقْنَاهُمْ مِّنَ الطَّيِّبَاتِ وَفَضَّلْنَاهُمْ عَلَى كَثِيرٍ مِّمَّنْ خَلَقْنَا تَفْضِيلًا ”

“And We have certainly honored the children of Adam and carried them on the land and sea and provided for them of the good things and preferred them over much of what We have created, with [definite] preference”⁴⁹.

A Muslim strongly believes that humans have been created in the most excellent of moulds and has been given the finest body which no other living being has been given, and he has been blessed with the noblest faculties of thought, knowledge and intellect which no other creature has been blessed with.

” لَقَدْ خَلَقْنَا الْإِنْسَانَ فِي أَحْسَنِ تَقْوِيمٍ ”

“Surely We created man in the best mould”⁵⁰.

Conclusions

Sex-reassignment medical procedures whether by way of surgery or hormonal therapy or both undeniably entails altering one’s birth gender through painful experiences of surgery and hormonal therapy. It is changing one’s nature and is prohibited in Islamic medical ethics and consider unlawful in *shari’ah*.

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CHAPTER TWELVE

CLIMATE CHANGE AND HEALTH

Charles Gwanzura*

Abstract

Climate change has been described as the greatest global threat to the world in the 21st century¹. Carbon dioxide plays a critical role in regulating the temperature of our planet. Increasing levels of carbon dioxide is contributing to the greenhouse effect which is warming the earth. Unchecked, climate change poses a wide range of risks to population health. This includes the direct effects of heat waves, air pollution, and physical weather disasters, climate related changes in the ecosystems leading to poor crop yields (malnutrition) and vector borne diseases. And the indirect consequences related to impoverishment, displacement, resource conflicts (e.g. water), and post-disaster mental health problems.

Keywords: Climate change, greenhouse effect, population health, post disaster.

What is climate change?

Climate change is any significant long-term change in the expected patterns of average weather of a region (or the whole Earth) over a significant period of time².

Why does climate change matter?

Small changes in average temperature can translate to big changes across the planet, leading to rising sea levels, more extreme weather and some areas becoming much harder to live in. Plants, animals, humans and societies have developed in a climate that has varied only a little, over extremely long time scales. We are not adapted to cope with rapid climate changes.

The Millennium Development Goals 4, 5 and 6 are specifically related to health, yet several cross cutting issues also include MDG 1, 7 and 8³.

Islam teaches us to care for the environment inclusive of all natural resources, animals, crops, water, both land and sea. The reality of climate change demands that we all rethink how our collective actions and lifestyles impact our environment and planet Earth.

The Qur'an states:

"ظَهَرَ الْفَسَادُ فِي الْبَرِّ وَالْبَحْرِ بِمَا كَسَبَتْ أَيْدِي النَّاسِ لِيُذِيقَهُمْ بَعْضَ الَّذِي عَمِلُوا لَعَلَّهُمْ يَرْجِعُونَ"

*"Corruption has appeared on land and sea because of that which men's hands have done"*⁴.

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The Qur'an explains that animals are also communities like us.

”وَمَا مِنْ دَابَّةٍ فِي الْأَرْضِ وَلَا طَائِرٍ يَطِيرُ بِجَنَاحَيْهِ إِلَّا أُمَّمٌ أُمَّتُكُمْ مَا قَرَّرْنَا فِي الْكِتَابِ مِنْ شَيْءٍ ثُمَّ إِلَىٰ رَبِّهِمْ يُحْشَرُونَ“

“There is not a moving creature on earth, nor a bird that flies with its two wings, but are communities like you. We have neglected nothing in the Book. Then to their Lord they will be gathered.”⁵.

Several Quranic chapters are named after animals, such as the Bee, Ant, Spider, and Cattle.

What are the causes of climate change?

- Global greenhouse gas emissions

Worldwide, net emissions of greenhouse gases from human activities increased by 35 percent from 1990 to 2010. Emissions of carbon dioxide, which account for about three-fourths of total emissions, increased by 42 percent over this period. As with most countries, the majority of the world's emissions result from electricity generation, transportation, and other forms of energy production and use.

Some gases in the Earth's atmosphere act a bit like the glass in a greenhouse, trapping the sun's heat and stopping it from leaking back into space.

Many of these gases occur naturally, but human activity is increasing the concentrations of some of them in the atmosphere, in particular: Carbon dioxide (CO₂), Methane, Nitrous oxide and Fluorinated gases

CO₂ is the greenhouse gas most commonly produced by human activities and it is responsible for 64% of man-made global warming. Its concentration in the atmosphere

is currently 40% higher than it was when industrialization began.

Other greenhouse gases are emitted in smaller quantities, but they trap heat far more effectively than CO₂, and in some cases are thousands of times stronger. Methane is responsible for 17% of man-made global warming, nitrous oxide for 6%.

- Causes for rising carbon emissions

1. Burning coal, oil and gas produces carbon dioxide and nitrous oxide.
2. Cutting down forests (deforestation). Trees help to regulate the climate by absorbing CO₂ from the atmosphere. So when they are cut down, that beneficial effect is lost and the carbon stored in the trees is released into the atmosphere, adding to the greenhouse effect.
3. Increasing livestock farming. Cows and sheep produce large amounts of methane when they digest their food.
4. Fertilisers containing nitrogen produce nitrous oxide emissions.
5. Fluorinated gases produce a very strong warming effect, up to 23,000 times greater than CO₂. Thankfully these are released in smaller quantities and are being phased down by EU regulation

Direct carbon emissions

Direct carbon emissions come from sources that are directly from the site that is producing a product. These emissions can also be referred to as scope 1 and scope 2 emissions.

Scope 1 emissions are emissions that are directly emitted from the site of the process or service. An example for industry would be

the emissions related to burning a fuel on site. On the individual level, emissions from personal vehicles or gas burning stoves would fall under scope 1.

Scope 2 emissions are the other emissions related to purchased electricity, heat, and/or steam used on site. In the US, the EPA has broken down electricity emission factors by state.

Indirect carbon emissions

Indirect carbon emissions are emissions from sources upstream or downstream from the process being studied, also known as scope 3 emissions.

Examples of upstream, indirect carbon emissions may include:¹

1. Transportation of materials/fuels
2. Any energy used outside of the production facility
3. Wastes produced outside of the production facility

Examples of downstream, indirect carbon emissions may include:¹

1. Any end-of-life process or treatments
 2. Product and waste transportation
 3. Emissions associated with selling the product
- Ozone depletion

Ozone depletion and climate change are linked in a number of ways, but ozone depletion is not a major cause of climate change.

Atmospheric ozone has two effects on the temperature balance of the Earth. It absorbs solar ultraviolet radiation, which heats the stratosphere. It also absorbs infrared radiation emitted by the Earth's surface, effectively trapping heat in the troposphere. Therefore, the climate impact of changes in ozone concentrations varies with the altitude at which these ozone changes occur. The major ozone losses that have been observed

in the lower stratosphere due to the human-produced chlorine- and bromine-containing gases have a cooling effect on the Earth's surface. On the other hand, the ozone increases that are estimated to have occurred in the troposphere because of surface-pollution gases have a warming effect on the Earth's surface, thereby contributing to the "greenhouse" effect.

The effects of climate change on human health

Climate change poses a wide range of risks to population health – risks that will increase in future decades, often to critical levels, if global climate change continues on its current trajectory. The three main categories of health risks include:

- direct-acting effects (e.g. due to heat waves, amplified air pollution, and physical weather disasters),
- impacts mediated via climate-related changes in ecological systems and relationships (e.g. crop yields, mosquito ecology, marine productivity), and
- The more diffuse (indirect) consequences relating to impoverishment, displacement, resource conflicts (e.g. water), and post-disaster mental health problems.

Climate change thus threatens to slow, halt or reverse international progress towards reducing child under-nutrition, deaths from diarrheal diseases and the spread of other infectious diseases. Climate change acts predominantly by exacerbating the existing, often enormous health problems, especially in the poorer parts of the world. Current variations in weather conditions already have many adverse impacts on the health of poor people in developing nations, and these too are likely to be 'multiplied' by the added stresses of climate change.

A changing climate thus affects the prerequisites of population health, namely clean air and water, sufficient food, natural constraints on infectious disease agents, and the adequacy and security of shelter. A warmer and more variable climate leads to higher levels of some air pollutants. It increases the rates and ranges of transmission of infectious diseases through unclean water and contaminated food, and by affecting vector organisms (such as mosquitoes) and intermediate or reservoir host species that harbour the infectious agent (such as cattle, bats and rodents). Changes in temperature, rainfall and seasonality compromise agricultural production in many regions, including some of the least developed countries, thus jeopardizing child health and growth and the overall health and functional capacity of adults. As warming proceeds, the severity (and perhaps frequency) of weather-related disasters will increase – and appears to have done so in a number of regions of the world over the past several decades. Therefore, in summary, global warming, together with resultant changes in food and water supplies, can indirectly cause increases in a range of adverse health outcomes, including malnutrition, diarrhea, injuries, cardiovascular and respiratory diseases, and water-borne and insect-transmitted diseases.

- **DISEASES**

1. The human body requires evaporative cooling to prevent overheating, even with a low activity level. With excessive ambient heat and humidity, adequate evaporative cooling does not take place. Human thermoregulatory capacity is exceeded. A sustained wet-bulb temperature or Wet-bulb globe temperature exceeding about 35 °C (95 °F) can be fatal Human response

to heat stress can be hyperthermia, heat stroke and other harmful effects. Heat illness can relate to many of the organs and systems including the brain, heart, kidneys, liver, etc.

2. A good example of the impact of global warming on health can be seen in the disease erythromelalgia. This is a vascular disease that is commonly triggered by the involvement of changes in temperature, which leads to syndromes including (first and second degree) burning pain, increased temperature, erythema and swelling, of mainly the hands and feet.

3. **Malaria-MDG 6**

Malaria is a mosquito-borne parasitic disease that infects humans and other animals caused by microorganisms in the Plasmodium family. It begins with a bite from an infected female mosquito, which introduces the parasite through its saliva and into the infected host's circulatory system. It then travels through the bloodstream into the liver where it can mature and reproduce. The disease causes symptoms that typically include fever, headache, shaking chills, anemia, and in severe cases can progress to coma or death.

Climate is an influential driving force of vector-borne diseases such as malaria. Malaria is especially susceptible to the effects of climate change because mosquitoes lack the mechanisms to regulate their internal temperature. This implies that there is a limited range of climatic conditions within which the pathogen (malaria) and vector (a mosquito) can survive, reproduce and infect hosts. Vector-borne diseases, such as malaria, have distinctive

characteristics that determine pathogenicity. These include the survival and reproduction rate of the vector, the level of vector activity (i.e. the biting or feeding rate), and the development and reproduction rate of the pathogen within the vector or host. Changes in climate factors substantially affect reproduction, development, distribution and seasonal transmissions of malaria.

Climate change has a direct impact on people's health in places where malaria was originally not prevalent. Mosquitoes are sensitive to temperature changes and the warming of their environment will boost their rates of production. A fluctuation of two or three degrees is creating exceptional breeding grounds for mosquitoes, for larvae to grow and mature mosquitoes carrying the virus to infect people that have never been exposed before. In communities living in the higher altitudes in Africa and South America, people are at now at a higher risk for developing malaria because of increases in the average temperature of the surroundings. This is a severe problem because people in these communities have never been exposed to this disease, causing an increased risk for complications from malaria such as cerebral malaria (a type of malaria that causes mental disability, paralysis and has a high mortality rate) and death by the disease. Residents of these communities are being hit hard by malaria because they are unfamiliar with it; they do not know the signs and symptoms and have little to no immunity.

4. Dengue fever

Dengue fever is an infectious disease caused by dengue viruses known to be in

the tropical regions. It is transmitted by the mosquito *Aedes aegypti*.

Dengue fever used to be considered a tropical disease, but climate change is causing dengue fever to spread. Dengue fever is transmitted by certain types of mosquitoes, which have been spreading further and further north. This is because some of the climate changes that are occurring are increased heat, precipitation and humidity which create prime breeding grounds for mosquitoes. The hotter and wetter a climate is, the faster the mosquitoes can mature and the faster the disease can develop. Another influence is the changing El Nino effects that are affecting the climate to change in different areas of the world, causing dengue fever to be able to spread.

There are many things that can be done, both on a governmental level and on an individual basis. One improvement would be having a better system of detecting when dengue outbreaks may happen. This can be done by monitoring environments, such as temperatures, rainfall and humidity that would be attractive to these types of mosquitoes and help them to flourish. Another useful plan is to educate the public by letting them know when a dengue outbreak is occurring and what they can do to protect themselves. For example, people should create a living environment that is not attractive to mosquitoes (no standing water), dress in appropriate clothing (light colours, long sleeves), and wear insect repellent.

5. Tick borne disease

The effect of climate on the tick life cycle is one of the more difficult projections to make in

relation to climate and vector-borne disease. Unlike other vectors, tick life cycles span multiple seasons as they mature from larva to nymph to adult. Further, infection and spread of diseases such as Lyme disease happens across the multiple stages adding additional variables to consider. Infection of ticks happen in the larval/nymph stage (after the first blood meal) when they are exposed to *Borrelia burgdorferi* (the spirochete responsible for Lyme disease), but transmission to humans doesn't occur until the adult stages.

6. Mental illness

Direct impacts on mental health happen when a community experiences extreme weather and environmental changes. Direct impacts like landscape changes, impaired place attachment, and psychological trauma are all immediate and localized problems resulting from extreme weather events and environmental changes. Extreme weather events cause negative changes to landscape and agriculture. This leads to communities facing economic disruptions, especially for communities where agriculture is the main source of income. When the economy deteriorates, communities face loss of livelihoods and poverty. Many communities will also face isolation, alienation, grief, bereavement, and displacement

from these effects. Individuals will have an increased rate of anxiety and emotional stress. The rate of effects on mental health increases in already-vulnerable communities. Clayton reinforces that the more powerful the extreme weather event, and the more frequent these weather events are, the more damage is done to the mental health of the community. Some of the extreme weather events responsible for these mental health changes include wildfires, earthquakes, hurricanes, fires, floods, and extreme heat.

Indirect impacts on mental health occur via impacts on physical health and community well-being. Physical health and mental health have a reciprocal relationship. If the physical health of an individual is negatively impacted, the decline in mental health will soon follow. These impacts are more gradual and cumulative. They are threats to emotional wellbeing through concern and uncertainty about future risks. There are also large-scale community and social effects, like conflicts related to migration and subsequent shortages or adjustment after a disaster. Extreme weather events play a major role here; their impacts can be indirect, not just direct. This is due to the effect on physical health from extreme weather events. Each extreme weather event affects humans in different ways, but they all lead to the decline of mental health. Heat indirectly causes mental health issues through physical health issues. The World Health Organization presents the fact that high extreme heat is directly related to certain ailments like cardiovascular disease, respiratory disease, and asthma. One

piece of their evidence is that in summer 2003, during Europe's big heat wave, there were 70,000 recorded deaths related to the heat. Heat exhaustion also occurs during extreme heat. As climate change continues, heat will continue to rise and these problems will exacerbate. These physical problems lead to mental health problems. As physical health worsens and is less curable, mental stability starts to deteriorate.

7. Tuberculosis

The sharing of water between livestock and humans is one of the most common factors in the transmission of non-tuberculosis mycobacteria (NTM). NTM is carried in cattle and pig feces, and if this contaminates the drinking water supply, it can result in pulmonary disease, disseminated disease or localized lesions in humans with both compromised and competent immune systems. During drought, water supplies are even more susceptible to harmful algae blooms and microorganisms. Algae blooms increase water turbidity, suffocating aquatic plants, and can deplete oxygen, killing fish.

Water and sanitation

Waterborne diseases: The Prophet (PBUH) taught us to preserve and conserve our natural resources. A Companion of the Rasool (PBUH), was performing ablution and using too much water. The Prophet (PBUH) said, 'what is this extravagance'. The Companion answered, 'is there extravagance with water in ablution?' The Nabi (PBUH) said: 'Yes, even if you were on the banks of a flowing river'. (Ibn Majah).

Safe drinking water and sanitation reduce morbidity from diseases such as cholera, dysentery, typhoid and schistosomiasis. Climate change can induce these diseases

through droughts and floods. Safe drinking water is a necessary for good health. Climate change has reduced precipitation levels resulting in clean water scarcity. However, flooding has caused water contamination, infrastructure destruction and population displacements. Zimbabwe, Malawi, Mozambique were greatly affected by Cyclone Eline and recently Cyclone Idai in 2019. Increases in heavy rainfall, especially when interspersed with periods of drought, can contribute to flooding and contaminate water supplies. Dangerous waterborne diseases include cholera, giardiasis, cryptosporidiosis, and *naegleria fowleri* — the brain-eating amoeba. Flooding can cause sewer overflows, with potential increases in infectious diseases. Flooding can also cause injuries and deaths, mold, psychological effects, and an increase in the populations of rats, mosquitoes and other disease-bearing hosts. Infectious diarrhea is one of the most prevalent waterborne diseases globally. Severe diarrhea may be life-threatening, particularly in young children and the malnourished. Climate change is expected to worsen this.

Vector borne diseases

Rising temperatures and changes in precipitation expand the habitable areas for disease-carrying animals, including birds, rodents, snails, and insects. This can increase the spread of such diseases as yellow fever, schistosomiasis, lyme disease, tickborne encephalitis, and hantavirus pulmonary syndrome. Mosquitoes carry malaria, dengue fever, West Nile Virus, zika, SARS, coronaviruses and other diseases. Higher temperatures boost their reproductive and biting rates, lengthen their breeding season, and accelerate the maturation rate of the malarial pathogen.

Changes in temperature and precipitation as a result of climate change are likely to alter

the geographic distribution of malaria in Zimbabwe, with previously unaffected areas becoming prone to transmission. According to the World Health Organization, in 2010, 219 million people around the world were infected and 660,000 died from malaria. As global warming continues, as many as 90 to 200 million additional people may be at risk of malaria by the latter half of this century.

Effects of pollution on climate change

Pollution is the introduction of contaminants into the natural environment that cause adverse change. Pollution can take the form of chemical substances or energy, such as noise, heat or light. Pollutants, the components of pollution, can be either foreign substances, energies or naturally occurring contaminants. Pollution is often classed as point source or non-point source pollution.

Air Pollution

Higher temperatures increase ground-level ozone, a dangerous air pollutant. Industrial emissions, recent wildfires in Australia, Brazil and United States are worrisome. Ozone exposure can reduce lung function, permanently damage lung tissue, provoke new cases of asthma, and aggravate other chronic lung diseases. Ozone also affects the cardiovascular system and can increase the risk of dangerous heart arrhythmias. Further, ozone exposure increases the number of low birth-weight babies, currently the leading cause of infant mortality. Exposure to ozone in the first and third trimesters of pregnancy can cause 20% intrauterine growth retardation. Climate change is increasing the extent, intensity, and frequency of wildfires. The smoke contains particulates and toxic gases such as carbon monoxide, nitrogen oxide, and volatile organic compounds which reduce air quality, aggravate health problems,

including heart and lung diseases, infections, and emergency department visits. Smoke exposure increases cardiovascular and respiratory diseases, asthma, bronchitis, chronic obstructive pulmonary disease among others. The allergy season will grow longer as ragweed and other pollens spread. Urban heat islands, pollutants, and allergens will combine to aggravate asthma. With possible drier conditions under climate change in Zimbabwe and globally, wild fires are expected to increase in intensity.

Water pollution

Climate change is making heavy intense downpours, droughts and rising water temperatures more common. This can alter the quality of our drinking and recreational water. Bacteria and viruses thrive in these new conditions and when they come into contact with humans, can cause numerous illnesses. Lack of water can also impact human health, especially in drought conditions.

Land pollution

Land pollution is the degradation of earth's land surfaces often caused by human activities and its misuse. Haphazard disposal of urban and industrial wastes, exploitation of minerals, and improper use of soil by inadequate agricultural practices are a few of the contributing factors. Also, increasing urbanization, industrialization, and other demands on the environment and its resources is of great consequence to many countries. Therefore land pollution may directly or indirectly lead to climate changes.

Effect of climate change on food security (MDG 1)

Climate change can disrupt food availability, reduce access to food, and affect food quality.

For example, projected increases in temperatures, changes in precipitation patterns, changes in extreme weather events, and reductions in water availability may all result in reduced agricultural productivity. In the last 20 years, Zimbabwe has had 10 droughts, with a wide range of impacts on human health, including temperature related morbidity and mortality caused by extreme temperatures. Severe weather events caused malnutrition, water, food and vector borne diseases such as cholera outbreak two years ago. Most parts of Zimbabwe are experiencing decreased fresh water supplies leading to water rationing. Depleted water levels in the Zambezi River and Kariba Dam has compromised hydro power generation, giving rise to frequent power cuts. This has given rise to the use of fossil fuel coal at Hwange Thermal Power generation thereby increasing toxic gas carbon emissions, affecting the ozone and increasing global warming. With frequent power cuts, most residents are now opting for firewood, thereby worsening deforestation and smoke related diseases. This scenario is not unique to Zimbabwe but it is a global challenge especially in third world countries.

With compromised nutrition and food security in Zimbabwe among other Southern Africa countries, most affected and vulnerable are children, especially diabetics, the orphans, the elderly, pregnant women, widows, the disabled and HIV infected and affected. People living with HIV, diabetics are special groups in terms of vulnerability to food insecurity and malnutrition, in that they need access to food and nutrients to adhere to treatment. (UNDP2017)

1. Moderate warming and more carbon dioxide in the atmosphere may help some plants to grow faster. However, more severe warming, floods, and drought may reduce yields.

2. Livestock may be at risk, both directly from heat stress and indirectly from reduced quality of their foods supply. Droughts lead to poor or no harvests and deficits in food supplies and food security. Due to climate change, Zimbabwe is currently facing staple food shortages of grain and is importing to feed its citizens.
3. Fisheries will be affected by changes in water temperature that make waters more hospitable to invasive species and shift the ranges or lifecycle timing of certain fish species.
4. Population migrations – The United Nations Environment expects that climate change will increase migrations in landlocked countries such as Zimbabwe. Global warming is drastically affecting agricultural productivity, safe water and destroyed biodiversity. Many will relocate. Secondly, with the increasing severe weather events, flooding will affect many communities and result in mass displacements. Lastly, with the rising sea levels, many coastal populations will be forced by climate change effects to relocate.
5. Early child marriages - Due to climate changes induced droughts and famines, some parents are marrying off their immature daughters for lobola/dowry or bridal wealth to avoid starvation and famine as a survival strategy. It should be noted that there are serious negative health issues as children born to teenage mother may experience a higher chance of under-5 mortality and 10 times higher possibility of low birth weight among other challenges. (UNICEF)

Solutions to climate change adaptation

For environmental sustainability, reduction in gas emissions is a must. Focus more on renewable energy sources such as solar

power, wind energy and move away from fossil fuels such as oil and coal.

Farmers have to adopt environmentally friendly and sustainable farming methods. They should grow drought resistant seed varieties to ensure food security. They should engage in irrigation substitutes to complement unpredictable rainfall patterns. There must be widespread public awareness for disaster preparedness and mitigation.

Community initiatives for coping with climate change related health challenges must be intensified. Shifting from growing traditional rain intensive crops to small grains. Cultivating on wetlands and stream bank cultivation in search of reliable moisture content though this leads to river siltation. Relying on mutual community relations and resources through social capital, networks and synergies.

Conclusions

The vast majority of climate scientists and scientific research studies agree that human-caused climate change is happening^{6,7}. The impact on nature, global economy and population health is serious and increasing rapidly. The crisis can be solved because we know exactly what needs to be done, the solutions are available before us and the world community must work together to get its act together to make life on planet earth a better place to live for us and our future generations.

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CHAPTER THIRTEEN

ANABOLIC STEROIDS AND NON-HORMONAL PERFORMANCE ENHANCING DRUGS USE: AN ISLAMIC PERSPECTIVE

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Abstract

Drug abuse occurs in all sports and at most levels of competition, and can be used to change the physique of an athlete. Athletic life may lead to drug abuse for a number of reasons, including performance enhancement, self-treatment of otherwise untreated mental illnesses, and to deal with stressors, such as pressure to perform, injuries, and physical pain. Athletes and mainly the young continue to use a wide range of substances and methods to improve their performance. These drugs, however, can be extremely dangerous and even deadly in certain situations. This fact makes their use prohibited, i.e., *Haram*, from an Islamic point of view. This review tries to draw attention to this danger and give information about the abused substances, especially anabolic steroids.

Keywords: Performance, enhancement, anabolic steroids, *haram*

Introduction

Banned substances and methods are included in the World Anti-Doping Agency (WADA) prohibited list which is updated every January and is freely available on the WADA website.

The current regimen of implemented control against these drugs started in 1967 when the International Olympic Committee (IOC) established a Medical Commission in response to an increase in the usage of performance enhancing substances. WADA was established in 1999. Afterwards, evidences of doping by different pharmacological agents, in Russian, Chinese, Kenyan, and other nationalities were reported. Banning decisions in various sports were consequently taken. In the past decade, the WADA list of banned performance-enhancing substances has grown to over 192 drugs and methods.

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Possible Performance Enhancing Drugs:

Anabolic steroids.
 Androstenedione.
 Human Growth Hormone (HGH)
 Erythropoietin.
 Diuretics.
 Creatine.
 Stimulants.

Basic Science

Anabolic-androgenic steroids (AAS) are derivatives of testosterone with increased anabolic effects and reduced virilizing effects which include muscle building and androgenic or masculinization effects. There are more than thirty types of anabolic steroids.

The AAS appear to promote protein synthesis through increased transcription while also acting as glucocorticoid antagonists, limiting catabolism. This is manifested clinically by increase in the muscle mass and body weight. They also induce various potentially ergogenic psychotropic actions, altering neurochemistry, and may stimulate human growth hormone and insulin growth factor 1 (IGF1) synthesis, as well as down regulate myostatin¹.

The primary AAS mechanism of action involves the stimulus for DNA transcription. Once they are available at the cellular level, the lipid-soluble AAS molecules diffuse across the cell membrane into the cytoplasm, where they bind with the intracellular androgen receptors. These receptor-bound compounds enter the cell nucleus to bind with DNA, which promotes transcription, thus stimulating protein synthesis².

Pharmaceutical companies and clandestine laboratories may develop various AAS to maximize anabolic effects, minimize androgenic effects,

improve pharmacokinetics, increase receptor affinity, and, in some cases, avoid detection. The AAS are available as oral, injectable, and buccal agents, subcutaneous pellets, and transdermal patches, creams, and gels³.

This area of medicine is different from other areas of medicine from 2 important aspects. Firstly,, athletes and trainees often obtain medications from sources other than physicians, as it is not legal in most cases. Secondly,,the physicians' knowledge of the possible effect of these medications is poor because the doses and and even the medications used have rarely been studied in a controlled fashion or experiment.

Therapeutic and non-therapeutic AAS abuse

Steroids have become popular for many uses over the years, including it's a method used for increasing strength and muscle mass, increasing user performance, improving the performance of user athletes with large scale however improper use in sports. The possible therapeutic uses for AAS, which include therapy for male hypogonadism, certain rare anemias, and other medical conditions are: anti-catabolism for those with chronic wasting syndromes; and preserving or restoring bone health⁴. The non-therapeutic AAS use is a worldwide phenomenon. Abuse of AAS occurs for

performance improvement, physique development, and body-image enhancement.

The first reports of the non-therapeutic AAS use occurred following the 1954, world weightlifting championship⁵. Males abuse AAS at greater frequency than do females. Abusers of AAS include adolescents, collegians, professional and Olympic athletes, body builders, and recreational athletes, among others. The non-medicinal abuse of AAS often begins in adolescence, sometimes as early as middle school. Those who use AAS for non-therapeutic reasons often do not participate in organized sports.

Epidemiology of AAS abuse

Adolescents are the most studied population for the prevalence of AAS abuse. The first national high school survey (1988) suggested AAS abuse by 6.6% of male high school seniors. A survey of male Indiana high school athletes in 1999 indicated a 6.3% lifetime prevalence of AAS abuse^{6,7}. According to the National Institute of Drug Abuse, the use of anabolic steroids continues to be a significant problem in the adolescent population. Their continuing monitoring studies found that in 2014 the percentage of students that had abused anabolic steroids in the preceding year was: 0.6% 8th graders, 0.8% 10th graders, 1.5% 11th graders, and 1.9% of the 12th graders⁸.

The prevalence of AAS abuse by elite athletes has also been examined. In a 1989 study, 37.5% of competitive body builders admitted AAS abuse, whereas a 1995 investigation revealed that 66.7% of competitive power lifters abused AAS⁹. A few well-designed studies described AAS abuse by gym attendees. In body-

building gyms, AAS abuse prevalence rates were reported as 69.9% in the United Kingdom as per a regional study¹⁰ and 69.2% in Jordan¹¹.

Patterns of AAS abuse

Unique patterns of AAS abuse have evolved through anecdotal evidence. Research suggests that most AAS abusers administer doses well beyond medicinal levels. These doses vary depending on the desired outcomes, but weekly totals in excess of 1000 mg are not uncommon while typical medicinal doses for hypogonadal males are 35 to 70 mg per week.

Abuse often occurs in cycles, or periods of use followed by non-use, typically lasting 6 to 12 weeks. The efficacy of these abuse patterns is unconfirmed by research, but extreme athletic performances and physiques may indicate that practice is ahead of science¹².

Sources of non-therapeutic AAS

Although AAS abusers may obtain androgens from physicians, their supplies more commonly come from other sources, such as the internet, training partners, gymnasium owners or instructors, teammates, and coaches. The 2009 National Collegiate Athletic Association (NCAA) study revealed that the most common AAS source for collegiate abusers was a teammate, friend, or family member. About 14% acquired their drugs via the internet, whereas physicians, coaches, and athletic trainers were the declared sources for 13%, 7%, and 6%, respectively¹³.

Health effects of AAS

Supra-physiologic AAS dosing may occasionally be associated with hypomanic or manic syndromes that are often characterized by irritable or aggressive behavior. Episodes of major depression may be associated with AAS withdrawal. New AAS innovations seek to enhance or minimize certain effects, improve administration or absorption, improve receptor affinity, and more recently, avoid detection. In spite of all advancements, abusers of AAS may develop a dependence syndrome related to both myoactive and psychoactive effects and may exhibit other forms of drug dependence, such as opioids¹⁴.

Abuse of AAS directly affects the male reproductive system, with possible side effects including hypogonadism, decreased spermatogenesis, decreased sperm motility, erectile dysfunction, impotence, gynecomastia, and male pattern baldness. Many of these conditions are reversible with cessation of AAS, although breast tissue changes and hair loss often require additional treatments, including surgery¹⁵.

The cardiovascular effects of therapeutic AAS remain unclear. Substantial research findings now suggest that AAS abuse negatively influences the cardiovascular system. The best evidence indicates that non-therapeutic AAS-related conditions include cardiomyopathy¹⁶.

Cholestatic jaundice and peliosishepatis might occur with the non-therapeutic abuse of AAS, especially when the oral C17a-alkylated group of AAS is involved¹⁷. A possible immunosuppressant effect of AAS abuse may exist in humans. Abusers risk local and systemic infections (including hepatitis and human immunodeficiency virus) with unsterile syringe usage¹⁸.

AAS abuse prevention

The abuse of AAS often begins during adolescence, and thus prevention strategies should also begin at a young age. Prevention techniques generally include educational or screening paradigms, or both. Not all health care professionals or educators understand AAS pharmacology, the mentality of athletes and AAS abusers, or common AAS abuse patterns.

One US-based research group developed and tested a number of AAS prevention protocols for adolescents. An early study suggested that educational interventions stressing solely the negative effects of AAS were not only ineffective but increased adolescents' desire to abuse androgens¹⁹.

Considering the various AAS abuse (or intent to abuse) stages may assist health care professionals in offering specific support, such as keeping athletes' self-esteem high with alternatives to AAS, like evidence-based nutrition and weight-training principles. Trying to avoid unfounded scare tactics concerning the negative consequences of AAS, and commenting on the negative aspects of AAS abuse, such as increased acne, stunted growth, or jaundice (i.e. the issues younger adolescents and adults will likely be concerned about) is imperative. Not complementing their physical appearance (e.g., muscularity) or strength gains which may reinforce or encourage AAS abuse must be ensured. Instead, strategy of discussing personal sacrifices that accompany AAS abuse, such as money, time, social experiences, risk of disease and injury, and counterfeit or tainted products, among others, must be adapted. Health care professionals owe their patients evidence based knowledge to help in their health care decisions.

Identification of the AAS abuser (or potential abuser) by a health care professional is critical to help prevent any negative consequences. Proper direction, guidance, support, and possible referrals are essential in assisting AAS abusers and potential abusers²⁰.

Other performance enhancing Drugs

The main features of this group of drugs are briefly described²¹⁻²³.

Androstenedione

This drug allows athletes to train harder and recover quicker from strenuous work-outs. The use of androstenedione carries the risks of acne, decrease in sperm production, shrinking of the testicles, and masculinization in women.

Human Growth Hormone (HGH)

Human growth hormone is administered through injections. Risks include fluid retention, cardiomyopathy, muscle weakness, and joint pain.

Erythropoietin

This hemopoietic agent routinely used for the treatment of certain cases of anemia, is occasionally taken by athletes to increase the oxygen carrying power in muscles. This practice is extremely dangerous and can cause death, strokes, and heart attacks.

Diuretics

Diuretics cause a change in the body's natural water and salt levels. In this sense, diuretics are used to lower weight or

clean out the body to help pass drug tests. Taking diuretics can lead to dehydration, exhaustion, heatstroke, heart arrhythmias, and death.

Creatine

This is the most popular supplement among the performance enhancing drugs in sports. It is sold over the counter and is used to help the muscles release energy. Side effects of creatine are stomach and muscle cramps, nausea, weight gain, and in high-doses, can cause liver and kidney damage.

Stimulants include:

Amphetamine

D-methamphetamine

Ephedrine

Caffeine and cocaine

Methylphenidate

Pseudoephedrine

Dimethyl-amylamine (DMAA)

Stimulants are widely used by athletes to improve alertness which is needed in certain types of sports. Complications from stimulant use are variable and depend on the dose used. Relatively mild complications include nausea, insomnia, anxiety, tremor, and panic attacks. More concerning ones can be agitation, hypertension, and tachycardia. There can also be some potentially life-threatening complications like myocardial infarction and stroke

Higher doses of stimulants might lead to aggressive behavior and psychosis. Use during activity might predispose one to extra exertion, which can lead to heatstroke and rhabdomyolysis

Recreational drugs

Opioids — Opioids have been used to increase an athlete's pain threshold during competitions. In rare circumstances, a retrospective Therapeutic Use Exemption (TUE) may be necessary for appropriate administration of an opioid following an injury or illness. Application for a TUE should be made as soon as possible after the event.

Alcohol — Alcohol is occasionally used to reduce performance anxiety during athletic events. It is banned in some sports, such as archery, air sports (aerobatics, hang-gliding), automobile and motorcycle racing, and power boating. Alcohol can be quantified by blood testing.

Cannabinoids — include marijuana and hashish. The active ingredient is tetrahydrocannabinol (THC), which can also be found in synthetic form, delta 9-tetrahydrocannabinol.

Also included in the list of cannabinoids banned during competition are the mimetics of cannabinoids, such as Spice, JWB-18, JWB073, and HU-210.

A survey of French university students found increased cannabinoid use for "sliding sports," including windsurfing, skiing, snowboarding, surfing, and sailing.

Physical effects on sports performance are not well known, but can reduce anxiety.

Adverse effects include reduced alertness, impaired short-term memory, and psychomotor retardation. May also cause dysphoria, increased anxiety, paranoia, and psychosis.

Given the long excretion profile for cannabinoids and the potential for

"passive inhalation," WADA sets the acceptable limit for free and conjugated urinary carboxy-THC at 15 mcg/L. This group of compounds is tested "in-competition" in all sports.

Beta blockers:

Beta blockers decrease heart rate, hand tremor, and anxiety, and thus they are used by athletes in sports such as archery or billiards where these effects confer a benefit.

Beta blockers are of little use, and may be even counterproductive, in endurance sports as they reduce maximum heart rate and increase stroke volume (via increased filling time for a given intensity of activity), reduce gluconeogenesis in skeletal muscle, and restrict muscle blood flow.

Beta blockers are banned in-competition for specific sports, such as archery, automobile racing, billiards, darts, golf, shooting, and some ski and snowboard disciplines. Beta blockers can be detected by gas chromatography mass spectrometry.

MDMA (ecstasy) – While not a performance-enhancing drug per se, MDMA may give a perception of enhanced energy that some athletes may believe to be helpful. Some MDMA users may feel a sense of wellbeing, mental stimulation, and reduced anxiety

Nicotine

May act like a stimulant by reducing anxiety, elevating mood, enhancing weight loss and satiety, and improving attention. Chronic use through smoking increases the risk of cardiovascular disease, COPD, and several types of cancer. Nicotine is not prohibited in most sporting events, obviating the need for testing.

Desmopressin

A synthetic analogue of vasopressin (ADH). It causes increased water reabsorption in the renal collecting ducts. It has been taken to mask use of erythropoietin, taken to modify the hematologic factors used in the WADA Athlete Biological Passport (ABP) program.

Desmopressin was added to the WADA list of prohibited substances in 2011 when a study demonstrated substantial hemodilution in athletes, and reductions in plasma concentrations of hemoglobin and other blood parameters.

Blood transfusions

Blood transfusions can be autologous (using one's own blood) or allogenic (i.e. homologous; using blood from a different person). In sports requiring endurance, blood transfusions can be used to increase the number of erythrocytes and oxygen carrying capacity of the blood to improve performance and speed recovery. Blood transfusions prior to athletic competitions to enhance performance are prohibited by the WADA.

Platelet-rich plasma and other platelet-derived preparations contain growth factors and are used to treat injury, but they are not prohibited by WADA, as no specific performance-enhancing effect has been demonstrated. Potential adverse effects of blood transfusions include sudden fluctuations in blood pressure, stimulation of atherosclerosis, oxidative damage to organs, impaired blood cell function, infections, and iron deposition in organs

Islamic ethical considerations

Physical activity and sports was practiced by our best example, Prophet Muhammad (Peace be upon him). He was reported to have raced with his wife Ayeshah (عائشة رضى الله عنها) أم المؤمنين, wrestled with one of his companions named “Rakanah” and did archery with his companions.

روى أبو داود والنسائي ، وابن ماجه وابن حبان والبيهقي ، من حديث هشام بن عروة ، عن أبيه ، عن عائشة قالت : سأقت رسول الله صلى الله عليه وسلم فسبقته ، فلما حملت اللحم سابقته ، فسبقني ، فقال : هذه بتلك .

It was narrated by Abo Daowud, Al Nisaa’ee, Ibn Majah, Ibn Hibban and Al Bayhaqee from the Hadeeth of Hesham Ibn ‘Orwaa about father about Ayeshah that she said: “I raced the Messenger of Allah (Peace be upon him) and I won, then when I put on weight I raced him again and he won and he said this one is for that.”

وروى عبد الرزاق عن معمر ، عن يزيد بن أبي زياد ، أحسبه عن عبد الله بن الحارث ، قال صارح النبي صلى الله عليه وسلم أبا ركانة في الجاهلية ، وكان شديداً ، فقال : شاة بشاة ، فصرعه النبي صلى الله عليه وسلم فقال : عاودني في أخرى ، فصرعه النبي صلى الله عليه وسلم ، فقال : عاودني ، فصرعه الثالثة ، فقال أبو ركانة : ماذا أقول لأهلي شاة أكلها الذئب ، وشاة نشرت ، فما أقول في الثالثة ؟ فقال النبي صلى الله عليه وسلم : ما كنا لنجمع عليك أن نصرعك ، ونغرملك ، خذ غنمك .

And it was narrated by Abdel Razzak from Moamar from Yazeed Ibn Abee Ziad (I think from Abdullah Ibn Al Hareth) said that the Prophet wrestled father of Rakanah in Al-Jahiliyyah and he was tough who said (we wrestle one goat for a goat) and the Prophet (PBUH) won and he said let’s do it again. And the

Prophet (PBUH) won then he said let's wrestle another time and the Prophet won for the third time. Then Abo Rakaneh said What shall I say to my family: one goat was eaten by a wolf, another one went astray, what about the third goat? So the Prophet (PBUH) said we would not compile on you your defeat in the wrestling match and your goat loss. Take your goats.

{حديث سلمة بن الأكوع } : خرج النبي صلى الله عليه وسلم على قوم من أسلم يتناضلون في السوق ، فقال : ارموا بني إسماعيل ، فإن أباكم كان راميا .متفق عليه.

From the Hadeeth of Salameh Ibn Al Akwa' that the Prophet (PBUH) went one day on a group of people from the tribe Aslam who were doing archery in the market, so he said: "Fire your arrows sons of Ismael (son of Ibrahim Peace be upon them) as your father was an archer). Agreed upon²⁴.

These activities and sports were performed for fun, pleasure or in a competitive manner (amateur or professional capacity)²⁵.

As with many food or drugs the initial *fatwa* is that anything is licit until proven that it is *haram* by a legitimate proof. If the drug is normally harmful by nature or dose, then it becomes *haram* to use it because it violates the protection of life and health which is a component of life.

There was progressive development of laws, regulations and *fatwas* regarding the use of performance enhancing drugs that were adopted in individual countries or worldwide during the last 130 years and the types of drugs considered as a PED were more elaborated. It is customary for a professional athlete or a

national representative of a country in international events and their training teams to have been informed in writing of the prohibited drugs for their particular sport.

The punishment for the drug violations vary from disciplinary hearings, to banning from further participation in sports or bad reputation as a cheater. Until presently, the use of these drugs are not illegal and does not fall into criminal law, except if it is considered under the jurisdiction of the food and drug administration authority²⁶.

These laws, by-laws and regulations now becomes a form of a contract or oath عقد (أو عهد أو ميثاق) a person takes upon himself, and it is mandated by the Quran to comply with that oath.

"يَا أَيُّهَا الَّذِينَ آمَنُوا أَوْفُوا بِالْعُقُودِ"
سورة الأنعام آية 1 (1)

"O you who have believed, fulfill [all] contracts. Surat Al Anaam verse 1

Since steroids and performance enhancing drugs are used in secrecy and not in public and especially in sports and competitions, it is a form of deception:

عن أبي هريرة رضي الله عنه أن رسول الله -صلى الله عليه وسلم- مرّ على صُبْرَةِ طعام، فأدخل يده فيها فنالت أصابعه بللاً، فقال (: ما هذا يا صاحب الطعام؟) ، قال: أصابته السماء يا رسول الله، قال (: أفلا جعلته فوق الطعام كي يراه الناس؟ من غشّ فليس مني (رواه مسلم .

It was narrated by Abu Hurairah (May Allah be pleased with Him) that the Messenger of Allah (Peace Be upon Him) passed by a pile of food and he inserted his hand into it and found it wet by his fingers, he said to the owner: "What is

this?” The owner of the food said; “It rained over it, oh Allah’s Messenger.” The Prophet said “You should have put the wet food on top, so it would be seen by people. Whoever cheats are not from me.” Narrated by Muslim.

The usage of anabolic agents and Performance- Enhancing Drugs in sports, even if they pose not harm to an athlete’s body or life amounts to cheating and its use is prohibited.

International agencies like the World Anti-Doping Agency (WADA), provide detailed information about the prohibited drugs and substances for competitive sports like the Olympics and Para-Olympics. Each country and world region have an anti-doping agency to fight this harmful phenomenon²⁷.

It is also medically clear that excessive use of steroids can affect the life and the body integrity of a person, thus its use becomes prohibited or *haram* as alluded in the Holy Quran Sura Al Nisaa Chapter 4 verse 29.

”وَلَا تَقْتُلُوا أَنْفُسَكُمْ ۚ إِنَّ اللَّهَ كَانَ بِكُمْ رَحِيمًا” النساء 29

“And you should not kill yourselves. Verily Allah is merciful to you”.

Another effect that can result from the abuse of steroids is azoospermia and infertility, and it goes contrary to the aim of preserving the progeny and the human race.

The use of Performance Enhancing Drugs is known to also change the body’s nature as created by Allah and may lead to diseases and death. It can be likened to an answer to the call of Satan to change the creation of Allah.

”وَلَا ضَلَّانَهُمْ وَلَا مَتَّبِعِيهِمْ وَلَا مُرْتَبِّئُهُمْ فَلْيَبْتَئِكُنَّ آذَانَ الْأَنْعَامِ
وَلَا مُرْتَبِّئُهُمْ فَلْيَعْيِرَنَّ خَلْقَ اللَّهِ وَمَنْ يَتَّخِذِ الشَّيْطَانَ وَلِيًّا مِنْ
دُونِ اللَّهِ فَقَدْ خَسِرَ خُسْرَانًا مُبِينًا”

سورة النساء آية 119

And lead them astray. I shall fill them with fancies and order them to cut off the ears of cattle. I shall order them to alter the creation of Allah. ' Indeed, whosoever chooses satan for a guide, instead of Allah, has surely suffered a clear loss.)
Chapter 4 (119)

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CHAPTER FOURTEEN

BENEFITS AND RISKS OF GENETICALLY MODIFIED FOOD

*Hamed R. Tahruri**

Abstract

GMO foods or bioengineered foods have been available for consumption since the 1990s and started to appear on supermarket shelves in USA in 1994. There are many controversies regarding their safety, in spite of the fact that there are regulations regarding their use. The main issue of concern for human health is allergenicity of the GM foods, possibility of gene transfer and gene out crossing. The Codex Alimentarius Commission (Codex) is the joint FAO/WHO inter-governmental body responsible for developing the standards, codes of practice, guidelines and recommendations and risk analysis related to their use for human consumption. There has been controversy on mandatory GMO food labeling between USA and EU countries where it is believed that it is the right of the consumer to know all facts about the food they consume. Research, continuous evaluation and follow-up are needed regarding the safety of GMO foods.

Keywords: GMO foods, bioengineered foods, allergenicity, GMO labeling.

Introduction

The term genetically modified food organisms (GMOS) originally referred to organisms (plants or animals) in which there was manipulation of the DNA of a certain organism and its insertion into the genomes of another organism, whether it was animal, plant or micro organism¹. The DNA in GMO is altered in a way that doesn't occur naturally by mating and/or natural recombination². Oliver³ suggested modifying the term to be described as (biotechnologically modified organism). The foods derived from these organisms are called GM foods². These foods have been available for consumption since the 1990s and they appeared on supermarket shelves in USA in 1994⁴. Such manipulation could be for scientific, medical, economic or dietary reasons⁵. The organism that is genetically produced can be used as a source of food supplement or for the production of medicinal preparation or in resistance of herbicides or other purposes.

Most currently available GM foods are plants, mainly fruits and vegetables⁶. There are many controversies regarding their safety, in spite of the fact that there are regulations regarding their use. The Codex Alimentarius Commission (Codex) is the joint FAO/WHO intergovernmental body responsible for developing the standards, codes of practice, guidelines and recommendations that constitute the Codex Alimentarius, meaning the international food code. Codex developed principles for the human health risk analysis of GM foods in 2003¹. Also, in USA such foods and their products should meet the same safety requirements as those of traditional foods⁶.

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In spite of this, there is still controversy on the use of these foods and their benefits and risks⁷. It has been reported that two thirds of the people in the USA know that GM foods are available in the markets whereas only few people in other countries are aware of GM foods⁴. However there is a misunderstanding on the safety of these foods globally. Consumers are concerned about human health and the environment. In addition there has been controversy on mandatory GMO labeling between the USA and EU countries where it is believed that it is the right of the consumer to know all facts about the food they consume⁴. Many countries in the world do not accept GM food to be imported⁸. Recently, it has been accepted in the USA that in 2020 labeling must be applied on GM foods produced by large companies and that in 2022 it will be mandatory for all foods marketed in the USA⁹.

Three basic traits apply to GM crops; these are (a) resistance to insect damage, (b) resistance to viral infections, and (c) tolerance to certain herbicides. These traits are reflected in the increase food production and consequently providing more food supply and the reduction in food prices¹.

However, the main issue of concern for human health is allergenicity of the GM foods, possibility of gene transfer and out crossing. In this brief review on GM foods the benefits and potential health hazards are discussed.

Benefits of GM Foods

1. Increased food production: Genetic modification has made crops resistant to bacterial, viral and fungal diseases as well as damage by insects. For example virus resistance makes plants less susceptible to diseases caused by

such viruses, resulting in higher crop yields^{10,11}. Yields of corn, cotton and soybeans are said to have risen by 20 percent to 30 percent through the use of genetic engineering⁴. It was estimated that for the period 1996–2013 biotechnology was responsible for additional global production of 138 million tons of soybeans, 274 million tons of corn, 21.7 million tons of cotton lint, and 8 million tons of canola¹². The incorporation of gene for toxin production from the bacterium *Bacillus thuringiensis* (Bt) in food plants led to resistance of these plants against insects. This toxin is currently used as a conventional insecticide in agriculture and is safe for human consumption. GM crops that inherently produce this toxin have been shown to require lower quantities of insecticides in specific situations, e.g. where pest pressure is high¹.

2. Herbicide tolerance: Herbicide tolerance was achieved through the introduction of a gene from a bacterium which conveyed resistance to some herbicides. In situations where weed pressure is high, the use of such crops has resulted in a reduction in the quantity of the herbicides used¹.
3. Achievement of lower price as a result of increased crop product: By engineering resistance to insect damage, farmers have been able to use fewer pesticides while increasing yields, which enhances safety for farmers and the environment while lowering the cost of food and increasing its availability¹.
4. Increased nutritional value: Good examples are the high methionine content of lupine¹³ and high oleic

acid in soy bean obtained by genetic engineering on this oil-rich plant⁶. It is known that oleic acid is a healthy fatty acid that has a beneficial effect on insulin utilization in diabetic patients and other glucose intolerance conditions¹⁴. Soy bean is rich in linoleic acid (omega 6) with relatively good amount of linolenic acid (omega 3). Oleic acid is naturally abundant in olive oil and increasing its content in soy bean oil will give an additional benefit of this oil.

Other beneficial applications with regards to nutrition is the production of high vitamin A rice in an attempt to prevent vitamin A deficiency³. Vitamin A deficiency, manifested by night blindness and xerophthalmia, is common in many parts of the world, particularly the developing countries^{15 16}. And high-carotene rice was thought to be a preventive approach to combat vitamin A deficiency diseases. Also, attempts have been made to produce low-lactose milk (humanized milk)^{17,18}, which would benefit people with lactose intolerance.

5. Improvements in food processing: Enhancing the flavor and taste of foods and lengthening their shelf-life are other benefits of GM engineering. For example, apple color and spinach tolerance to freezing are among the attempts to increase the acceptability and preservation tools for foods. Other applications in food technology include slowing down of tomatoes ripening to give longer shelf life¹⁹, producing potatoes with better color appearance¹⁹ and fast-growing salmon fish^{7,17}.

Potential Health Hazards of GM Foods

The debates over GM foods focus mostly on uncertainties concerning the potential adverse effects of GM foods on human health and environmental safety^{7,20}. This caused anxiety among consumers; the following issues may justify this anxiety.

1. Safety of GM foods: Besides the controversies on the impact of GM technology on non-target insects such as the monarch butterfly and the flow of transgenes into Mexican maize landraces and thus on biodiversity of plants and the environment²⁰, there has been public concerns about human health^{21,22}. Animal toxicity studies with certain GM foods have shown that they may toxically affect several organs and systems. The results of most studies with GM foods indicate that they may cause some common toxic effects such as hepatic, pancreatic, renal, or reproductive effects and may alter the hematological, biochemical, and immunologic parameters²¹. Although about 90 percent of scientists believe GMOs are safe, a view endorsed by the American Medical Association, the National Academy of Sciences, the American Association for the Advancement of Science and the World Health Organization shows that only slightly more than a third of consumers share this belief⁴. Not much is known about the long-term effects and safety of GM foods since they are a relatively new practice. However, the evidence is not conclusive and GM foods are still hotly debated²¹.

2. Allergenicity: It is thought that GM foods have more potential to trigger allergic reactions. This is because they may contain genes from an allergen, a food that prompts an allergic reaction⁶. The World Health Organization (WHO) discourage genetic engineers from using DNA from allergens unless they can prove that the gene itself does not cause the problem. It is worth noting that there have been no reports of allergic effects of any GMO foods currently on the market⁷. However, “Starlink” maize provides an example of a food hazard caused directly by the expression of the inserted gene²⁰. The modified plant was engineered with genetic information from *Bacillus thuringiensis* in order to endow the plant with resistance to certain insects. The inserted gene encodes a protein, called Cry9c, with pesticidal properties, but with an unintended, strong allergenicity. Several cases have been reported of allergic reaction in consumers after consuming the “Starlink” maize²⁰. Another example is the production of soybeans enriched with the amino acid methionine. The enhanced synthesis of this amino acid is the result of a gene isolated from Brazil nuts. As a consequence, some consumers allergenically sensitized to these nuts have allergic reactions to the transgenic soybean⁷.
3. Cancer: Some researchers believe that eating GMO foods can contribute to the development of cancer. They argue that because the disease is caused by mutations in DNA, it is dangerous to introduce new genes into the body. The American Cancer Society (ACS) have said that there is no evidence for this worry. However, they note that no evidence of harm is not the same as proof of safety and that reaching a conclusion will require more research⁶.
4. Antibacterial resistance: There is concern that genetic modification, which can boost a crop’s resistance to disease or make it more tolerant to herbicides, could affect the ability of people to have defense against illness. There is a small chance that the genes in food can transfer to cells of the body or bacteria in the gut. Some GMO plants contain genes that make them resistant to certain antibiotics. This resistance could pass on to humans. There is growing concern globally that people are becoming increasingly resistant to antibiotics. There is a chance that GMO foods could be contributing to this crisis⁶. The WHO have said that the risk of gene transfer is low. As a precaution, however, WHO has set guidelines for the manufacturers of GMO foods¹.
5. Outcrossing: Outcrossing refers to the risk of genes from certain GMO plants mixing with those of conventional crops. There have been reports of low levels of GMO crops approved as animal feed or for industrial use being found in food meant for human consumption⁶.

Islamic perspectives on GM foods

There are several instructive verses in the Quran regarding food, the variety of its presence in nature, the specific

mention of several nutritious fruits and some basic rules on its consumption.

Allah has not only commanded us to eat halal food but also to consume good food too. The Quran commanded:

"وَكُلُوا مِمَّا رَزَقَكُمُ اللَّهُ حَلَالًا طَيِّبًا وَاتَّقُوا اللَّهَ الَّذِي إِلَيْهِ تُرْجَعُونَ"

"Eat of the things which God hath provided for you, lawful and good: But fear God, in whom ye believe." (al-Ma'idah 5:88)

We should therefore not only avoid haram food and drinks but also eat a healthy and balanced diet that is nutritious, fresh, neither too sugary nor salty, low in saturated fatty acids, devoid of use of herbicides and pesticides and free from chemical additives and preservatives which can be harmful to our health.

The technique of food genetic engineering hopes to increase the yield of crops which would help to lower the price of food, reduces the reliance of farmers on pesticides and herbicides, increases its nutritional value and enhance their flavor and shelf life which are major value propositions for the world food market.

Mankind has been trying to improve the quality of crops and livestock since time immemorial. The Prophet (PBUH) sanctioned the cross-breeding of date crops by the Arabs when he said: "You are more knowledgeable in your worldly affairs" (Muslim, Kitab Al-Fada'il: Bab 39; 6082)

When deliberating on the Islamic perspectives on the issue of using GMO foods and the utilization of genetic engineering and technology, the Islamic *Fiqh* Academy of the Muslim World League gave a decision in its 15th session, held in Makkah al-Mukarramah

on 11th of Rajab 1419 H (31st October 1998) which stated²³:

"It is permissible to utilize the science of genetic engineering and its means (technologies) in the area of agriculture and animal growing, provided undertaking all precautions to prevent any harms on humans, animals or environment, even on the long run".

There has been disagreements between the US and EU on the mandatory labeling of GMO foods. The Islamic *Fiqh* Academy of the Muslim World League has called upon all the companies and factories that produce food and medical materials to show the ingredients of the materials (through labeling). This would empower the consumers who would be informed about their contents and have the choice to utilize them or otherwise with caution to ensure that potential harm if any is avoided.

Conclusions

There is concern regarding GMO food products which have been widely used for human consumption. Examples of these foods include GMO canola oil with high lauric acid, GMO soy bean oil with high oleic acid content, rice with high carotene content, sugar derived from GM sugar beets and corn syrup used as sweetener derived from GM "Starlink" maize. Genetic engineering can make these plants resistant to disease, increase their yield, enhance their shelf life, and improve their nutritional value, less reliant on herbicides, which all contributes to better crop productions. This consequently helps towards the reduction of food prices and contribute to food security.⁶ GM food is thus a potential solution to feed the world population in the midst of the challenges of climate change.

Current research seems to indicate that GM foods are as safe as the currently consumed food products. Regulatory bodies must continue to be vigilant to ensure that all GM foods that is rolled out into the market are safe and are appropriately labeled. Apart from safety issues, there are concerns about them being triggers for allergic reactions, the transfer of antibiotic resistance to humans and the outcrossing of genes from GMO crops to conventional crops, all of which requires better and more careful research and studies.

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Example: Tynan T. Medical improvements lower homicide rate: study sees drop in assault rate. The Washington Post. 2002 Aug 12;Sect. A:2 (col. 4).

j. Audiovisual material:

Example: Chason KW, Sallustio S. Hospital preparedness for bioterrorism [videocassette]. Secaucus (NJ): Network for Continuing Medical Education; 2002.

k. In press:

Example: Tian D, Araki H, Stahl E, Bergelson J, Kreitman M. Signature of balancing selection in Arabidopsis. Proc Natl Acad Sci U S A. In press 2002.

l. Homepage/web site:

Example: Cancer-Pain.org [homepage on the Internet]. New York: Association of Cancer Online Resources, Inc.; c2000-01 [updated 2002 May 16; cited 2002 Jul 9]. Available from: <http://www.cancer-pain.org/>.

m. Qur'anic Verse:

Example: The Glorious Qur'an: Mariam: 19: 54.

n. *Hadith* from printed volume:

Example: Ibn Hajar al-‘Asqalani. Fath al-Bari bi-Sharh Sahih al-Bukhari (The Creator’s Inspiration in Interpreting the Verified Collection of al-Bukhari). Cairo, Egypt: Al-Bahiyah Egyptian Press; 1930. Vol 11, p. 405.

o. *Hadith* from database:

Example: Sahih Al-Bukhari, Book 79, Kitaab al-Tibb, Chapter 1, Hadith 5354. [on-line] Available from: <http://www.muhammad.org>.

11. Number the tables consecutively, and use Arabic numerals. Each table must be cited in sequence at an appropriate point in the text. Each table has to have a caption. These should be brief yet indicate closely the purpose or content of the table. Each column should be precisely defined by headings. Abbreviations and special designations should be explained in a footnote to the table.

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