

Organ Transplantation in Islam Perspectives and Challenges

Edited by Jan A. Ali Printed Edition of the Special Issue Published in *Religions*



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Editor

Jan A. Ali

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Editor Jan A. Ali Western Sydney University Australia

Editorial Office MDPI St. Alban-Anlage 66 4052 Basel, Switzerland

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About the Editor

Jan A. Ali

Jan A. Ali (PhD) is a Religious Sociologist specialising in Islam. He is a Senior Lecturer in Islam and Modernity in the School of Humanities and Communication Arts at the Western Sydney University. He was the Convenor of Islamic Studies in the School of Humanities and Communication Arts and Community and Research Analyst in the Religion and Society Research Centre at the Western Sydney University. Jan is the Founding Convenor of WSU Postgraduate Islamic Studies Network. His recent book entitled *Islam and Muslims in Australia: Settlement, Integration, Shariah, Education and Terrorism* was published in 2020 by University of Melbourne Press. He studies existential Islam from a sociological perspective.





Introduction to Special Issue: Organ Transplantation in Islam: Perspectives and Challenges

Jan A. Ali

Editorial

School of Humanities and Communication Arts, Western Sydney University, Penrith, NSW 2751, Australia; jan.ali@westernsydney.edu.au

It has been suggested that tissue and organ transplantation, as a surgical procedure to restore lost or mutilated body parts, is a centuries-old practice confirmed in an ancient Sanskrit text on medicine and surgery called the Sushruta Samhita in circa 600 B.C (Schlich 2010). Ancient Egyptian, Greek, Roman, and North and South American surgeons transplanted teeth and Arab medical practitioners mastered this technique over a millennium ago (Peer 1955; Kee 1986). Hamilton (2012) found in his study that various images of the third-century twin physician saints Damian and Cosmas in several shrines reveal them transplanting a human limb. Although the concept is not new, the way complex medical surgical procedures are carried out and the types of organ transplantations practised such as heart transplantations today are new modern medical marvels achievable due to the progress made in medicine, science, and technology.

From the early to mid-twentieth century the skin and "monkey gland" transplantation, the growing of organs from stem cells in laboratories, and the successful grafting of an organ from person (donor) to person (recipient) (Hamilton 2012) revealed the true marvel of modern medicine and put a new spotlight on surgeons (Seghers and Longacre 1964). Towards the end of the twentieth century, the clinical success of organ transplantation between humans was resounding, reaching the status of a routine and normal procedure.

Organ transplantation or *organogenesis* as it is known in medical and biological sciences is a treatment for otherwise fatal end-stage organ failure. It is a medical procedure involving the movement of a piece of tissue, or a part of an organ, or a whole organ from one location in the body to another (autotransplantation), from one body to another (allograft or allotransplantation), or from an animal body to a human body (xenograft or xenotransplantation). Allotransplantation is the most common type of transplantation procedure applied to the most common treatment of end-stage kidney, liver, lung, and heart diseases. Human kidneys are the most commonly transplanted organs globally followed by the liver and the heart. Organ or tissue transplantation is seen as a disease-cure source and an effective lifesaving procedure; therefore, the objective is to provide the recipient facing imminent death with a functional replacement, offering him or her the opportunity for an improved and enduring quality of life. Today, numerous vital organs and intricate tissues can be successfully transplanted including the kidney, liver, heart, lung, skin, pancreas (e.g., the islets of langerhans), intestine, bone, cornea, middle ear, bone marrow, heart valves, and connective tissue (Al-Bar and Chamsi-Pasha 2015).

However, the practice of tissue and organ donation and transplantation has always attracted intense ethico-moral and legal debates. These debates are nowhere as intense as is in Islam. Tissue and organ donation and transplantation are not specifically discussed in the Islamic scriptures, namely the Qur'an and hadiths (records of the traditions and sayings of the Prophet Muhammad). In fact, these two great texts of Islam are silent on the matter. For centuries this was not a subject of much philosophical, intellectual, and theological interest and discussion in Islam and has only become a concerning matter in the last fifty years with the clinical success of organ transplantation between humans becoming an

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established medical procedure. Many Muslims are asking the question if they can donate tissues and organs and undergo tissue and organ transplantation.

Muslim scholars and jurists are only now beginning to come to grips with the medical practice of tissue and organ donation and transplantation. They continue to debate the matter in their quest for a resolution. The central question they seek to address is whether tissue and organ donation and transplantation are permissible or not in Islam. As the debates continue, Muslim scholars and jurists remain divided and no consensus exists regarding the permissibility or impermissibility of tissue and organ donation and transplantation in Islam.

Two principal positions exist on the question of whether tissue and organ donation and transplantation are permissible or not in Islam. Before explaining these positions in some detail, two points need to be made here. One is that during the era of the "Islamic Golden Age", different Muslim powers tried to bring about and preserve a greater Islamic unity by encouraging a greater level of cooperation between different Muslim sects and mosque communities divided by doctrine, theology, and practice and established Islamic ecumenism—the *ummah*, that is the idea of a single people. Islam then existed as a community state under the central authority of the caliphate (Islamic state) operating as a central governing system designed to cater for all its citizens in all spheres of life, although the caliphate was not an ideal socio-political system. Under the caliphate law, education, health, the military, social services, economy, judiciary, and the bureaucracy were intertwined. The state leadership established the pattern for the organisation and administration of the state activities and Islam was the source of state theology, ideology, identity, unity, and solidarity. Muslim empires such as the Ottoman (1299–1922), Safavid (1501–1736), and Mughal (1526-1857) who operated autonomously and sometimes were hostile towards each other were not perfect central governing systems but nevertheless had some semblance of central authority and uniformity (Esposito 2000). This is apparently not the case today. Contemporary Muslim populations are vastly diverse and their societies largely operate under the principles of secularism than under the *shari'ah* (Islamic law) (Lapidus 2014). In contemporary Muslim countries, there are huge variations in the implementation of Islamic law and the application of Qur'anic instructions and in many instances even an absence of reliance on Islamic law and religious texts can be noted and the religion rarely, if ever, plays an important role in the government, legal system, and social organisation of society (Nasr 2003). The decision-making machinery is diverse and inconsistent and Muslims do not have a real sense of ummah (Lapidus 2014).

Second is that in the absence of a legitimate and universally recognised established central authority, *who speaks for Islam* in the modern world is an unresolved question. Different Islamic institutions, organisations, *muftis* (plural—Muslim legal experts who have the authority to give rulings on religious matters), and *sheikhs* (plural—Muslim religious leaders and scholars) in different parts of the world claim to represent Islam and all Muslims, but how much legitimacy they really hold is highly questionable. In light of this fact, the discourse about tissue and organ donation and transplantation in Islam has become extremely technical and varied and consequently more than one position now exists on the matter. The subject of tissue and organ donation and transplantation is a highly contested one with diametrically opposite positions in existence today.

One group of scholars and jurists, mainly from the Middle East and from the Sunnibased Shafi'i school of jurisprudence and Shia sects (Jaffer and Alibhai 2008), have been claimed to give priority to living over spirituality and take an anthropocentric stance on the issue, generally favouring tissue and organ donation and transplantation. Proof of this can be found in the actions, for example, of the Supreme Council of the Ulama in Riyadh, Saudi Arabia in 1982 when it approved organ harvest and transplantation under medically necessary conditions (Report of the Senior Ulama Commission 1982, p. 46) and when the International Islamic Fiqh Academy of Jeddah (IIFA), under the directions of the Saudi Government in 1988, officially sanctioned organ transplantation (Ali and Maravia 2020). The other group comprise scholars and jurists from the subcontinent where around a third of the world's Muslim population live. These scholars and jurists argue that spirituality takes priority over living and hold a theocentric view declaring that tissue and organ donation and transplantation are not permissible in Islam. They rely on the Islamic view that the body is a "gift" from God and human beings do not own their bodies; there is no ownership over human bodies only custodianship (Aramesh 2009). The anti-tissue and anti-organ donation and transplantation position is aptly captured in the following *fatwa* (edict): "None is owner of his life and parts of the body, therefore neither can he sell it nor can gift to anyone. Such dealings are wrong and invalid" (Darul Ifta 2020, Fatwa: 1138/982=B/1429).

Although the Qur'an and hadiths are silent on the issue of tissue and organ donation and transplantation, Muslim scholars and jurists still rely on these sources to deliberate on the matter. These sources are still resourceful for them. They use these sources to explain related concepts and abstract topics, as well as employing legal sources or jurisprudential tools known as *ijtihad* (analogical deduction) to finally determine whether tissue and organ donation and transplantation are permissible or not in Islam. Muslim scholars and jurists from both camps, for deliberative purposes, use a combination of sources such as the Qur'an, hadiths, and various Islamic principles to develop their argument in favour or against tissue and organ donation and transplantation.

In the current literature on tissue and organ donation and transplantation in Islam, a large body of scholars and researchers often assert that the majority of Muslim scholars and jurists have arrived at the conclusion that tissue and organ donation and transplantation by living donors and from cadaveric bodies are permitted. This is problematic. The concern with such an assertion is two-fold. One is that the literature downplays the significance of the anti-tissue and anti-organ donation and transplantation perspective. Muslim scholars and jurists with this view make some solid cases for their position and they cannot be overlooked or simply diminished. Second, the literature does not question the philosophical unpinning, theological subjectivity, ethno-parochial partiality, and methodological inadequacy of Muslim scholars and jurists who support tissue and organ donation and transplantation. The discussions and debates concerning the permissibility or impermissibility of tissue and organ donation and transplantation need to be predicated on sound systematic analysis of Islamic scriptures and shari'ah, and the arguments must be developed adequately and objectively with a deep grounding in methodological soundness, precision, and proficiency.

An authoritative response to how Islam deals with and manages tissue and organ donation and transplantation is very much in a formative phase. More robust intellectual and scholarly discussions and debates are needed, and balanced and objective arguments must be presented. Tissue and organ donation and transplantation need to be examined and understood using Islamic theological knowledge, Islamic scriptures, legal and jurisprudential principles, and social scientific approaches in an attempt to dispel many myths and misunderstandings surrounding the issue in Islam.

This Special Issue aimed to do precisely that; freshly explore the scholarship on the debates regarding tissue and organ donation and transplantation in Islam. It not only describes the prevailing works and judgments made by Muslim scholars and jurists but also, and perhaps even more importantly, critiques them by putting their ontological and epistemological methodologies, theological rationales, and legal and jurisprudential principles under scrutiny. To this end, a collection of six research papers were gathered which explored from differing scholarly vantage points various issues surrounding tissue and organ donation and transplantation in Islam. Diverse in their approaches and analyses, what brings all six papers together in this Special Issue is the fact that they all work within the larger question of permissibility/impermissibility of tissue and organ donation and transplantation in Islam. In the paper entitled *Applicability of Islamic Methodology Concerning Novel Issues to the Organ Transplantation in Religious Scholars' Contemporary Discourse*, the author surveys the works of some leading scholars in the field who have studied the various

religious viewpoints based on different schools of thought in Sunni Islam about tissue and organ donation and transplantation in Islam. The paper with the title A Review of the Rulings by Muslim Jurists on Assisted Reproductive Technology and Reproductive Tissue Transplantation looks at assisted reproductive technology in reproductive medicine in the context of tissue and organ donation and transplantation in Islam. There are complex religious, legal, moral, and ethical concerns surrounding tissue and organ donation and transplantation in Islam and the author uses the legal frameworks of ijtihad (independent judgment) and al-maqaasid al-shar'iyyah (the higher objectives of Divine decree) to assesses the Sunni juristic rulings pertaining specifically to the question of permissibility of assisted reproductive technology within the larger framework of tissue and organ donation and transplantation in Islam. In the paper entitled Organ Donation in Islam: A Search for a Broader Quranic Perspective, the author examines the Quranic verses cited by various scholars in their attempt to justify the permissibility of tissue and organ donation and transplantation in Islam. Data were collected from 36 studies which relied on Quranic verses to justify the permissibility of tissue and organ donation and transplantation. The author found that this approach made little effort to examine the verses using specific methodologies in the science of the Quran. The authors of Are Online Fatwas Credible? A Critical Analysis of Fifty Fatwas on Organ Donation and Transplantation examine the growing digitisation of religious understanding in the cyber world, in particular, the religious rulings pertaining to the question of permissibility or impermissibility of tissue and organ donation and transplantation in Islam. They assess the diversity and complexity of 50 online fatwas on tissue and organ donation and transplantation from various fatwa organisations, government bodies, and councils across 16 linguistically, ethnically, socio-culturally, and theologically different countries and argue that state appointed and controlled religious authorities who have no autonomy lack credibility in their fatwas. In the paper entitled Islamic Perspectives on Organ Transplantation: A Continuous Debate, the author examines in depth the two key perspectives on the questions of permissibility and impermissibility of tissue and organ donation and transplantation in Islam and highlights that further robust academic, theological, and sociological debates and research are needed to adequately address the questions. The author in the paper entitled A Gift of Generosity—An Explanation of Organ and Tissue Donation and Transplantation for Muslim Audiences explores the virtues of tissue and organ donation and transplantation in any end-of-life discussions. The premise of this work is that should individuals opt for tissue and organ donation or tissue and organ transplantation or both, then they must do so with full and proper understanding of the process through which organs become diseased and the reasons and methods of their replacements.

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Article Islamic Perspectives on Organ Transplantation: A Continuous Debate

Jan A. Ali

School of Humanities and Communication Arts, Western Sydney University, Penrith, NSW 2751, Australia; Jan.Ali@westernsydney.edu.au

Abstract: From a medical perspective, as well as an ordinary human perspective, organ transplantation is often understood as a process through which health is restored to sick humans and, consequently, their quality of life improved. Organ transplantation is a medical surgical procedure carried out by an expert or a team of experts who remove a failing or diseased organ or organs from the human body and replace it or them with a functioning organ or organs. With such positive portrayal of the process, organ transplantation is highly recommended and encouraged in modern medicine. However, in Islam, the Qur'an and hadiths-the two great texts of the religion-are silent on the subject. In other words, there is no discussion of the subject in the texts and, therefore, it is not clear whether organ transplantation is permissible or not in Islam. Thus, is organ transplantation an accepted modality of treatment that eliminates the patient's agony from end-stage organ failure, remains an open-ended question. Whilst some Muslim scholars and jurists argue in favour of organ donation and transplantation, there are others who reject the practice as a breach of shari'ah. This paper posits that the subject of organ donation and transplantation in Islam is an unresolved matter without a ubiquitous consensus. The purpose of the paper is to educate the readers about the two key perspectives on the subject, and highlight that more research and a robust academic and sociological debate are needed to resolve the question of organ donation and transplantation in Islam.

Keywords: organ transplantation; Islam; Qur'an; hadiths; shari'ah; modern medicine

1. Introduction

Recent medical advances made in the fields of organ procurement and organ transplantation have brought about new treatment regimes in patients and better management and even cure of diseases. The West has become the leader in this medical field, making great strides in disease control, management, and cure through a variety of medical means and surgical procedures, including organ and tissue transplantation. With the advancements made in modern western medicine and technological innovations, organ transplantation is, for the first time in human history, taking place on a mass scale. Organ transplantation is a medical surgical procedure undertaken by an expert or a team of experts who remove a failing or diseased organ or organs (or parts thereof) from the human body and replace it or them with a functioning organ or organs. Although the transplantation in the modern era started in earnest in the 1940s (Scott 1981, p. 19) it was not until the discovery of effective immunosuppressive drugs in the late 1970s that the medical experts began to achieve great success in bone marrow, kidney, liver, thymus, cornea, pancreas, lungs, heart, intestine, uterus, and nerve cell transplantations, rendering organ transplantation a medical routinal activity in the late twentieth and early twenty-first centuries. The surgical procedure is performed to cure a disease and prolong life. In modern medicine, three types of organ transplantation are practiced:

- autograft or autotransplantation;
- ii allograft or allotransplantation;
- iii xenograft or xenotransplantation.

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Copyright: © 2021 by the author. Licensee MDPI, Basel, Switzerland. This article is an open access article distributed under the terms and conditions of the Creative Commons Attribution (CC BY) license (https:// creativecommons.org/licenses/by/ 4.0/). The surgical procedure is performed to alleviate suffering, cure end stage disease, and prolong life. However, organ transplantation, certainly, is not a new phenomenon. In fact, autografting as a form of organ transplanting technique is a prehistoric phenomenon. Ancient Hindu surgeons used to apply it to repair noses damaged, for example, by syphilis, and ear defects caused, for instance, in warfare, using the neighbouring skin. The procedure is described in the classic Sanskrit text on medicine written by Susruta Sanhita in 6th century BC (Zhorne 1985, p. 10).

However, the sociological and anthropological study of this phenomenon, particularly in the context of Islam, is one of the most under-researched areas. In Islam, organ transplantation and donation are not specifically discussed in the scriptures, namely the Qur'an and Hadith. Both of these two great texts of Islam are silent on the issue of organ transplantation and donation, and the debates surrounding organ transplantation and donation are only recently beginning to surface in Islamic scholarship (Ali 2019, p. 59). The Qur'an, *Sunna* (sayings and actions of Prophet Muhammad), and shari'ah (Islamic law) collectively have not addressed the question of organ transplantation, therefore interpretations and *fatwas* (nonbinding rulings on a point of Islamic law offered by a qualified jurist or a recognised authority) abound, and a unitary singular Islamic response to the topic remains absent. Additionally, as Islam differs from a Catholic papacy-type central authority, where doctrinal authority is centralized in the papacy, decision making in Islam takes place within the framework of multiple authorities with the *ulama* (religious scholars) and *fuqaha* (jurists) having important roles to play.

Generally speaking, instructions can be found in Islam that direct its adherents to protect the body at all times and accord it care and attention during illness. Protection of the body and its treatment during illness is directly linked with the idea of preservation of life and account for a good deed. Many Islamic scholars, in light of this, view organ transplantation permissible in Islam. However, not all Islamic scholars and jurists necessarily agree with organ donation and transplantation. They consider organ transplantation and donation to be prohibited in Islam.

Currently, no general consensus exists among Muslim scholars, including Muslim jurists, in the context of a specific Muslim-majority country or globally, on permissibility or impermissibility of organ donation and transplantation. The opinions are divided and can be located in one of the two overarching categories:

- i permissibility;
- ii impermissibility.

Given the fact that the two great texts of Islam—Qur'an and hadith (recorded sayings and actions of the Prophet Muhammad)—as well as the shari'ah are silent on the issue of organ donation and transplantation, how, then, does Islamic faith reconcile itself with the progress and advancements made in different fields, including medicine, by humanity in time and space, i.e., in modernity? More specifically, how does Islamic faith engage with organ transplantation debates and practices? These are important questions in the sociology of Islam. It is important to note that organ donation and transplantation in their current forms are modern medical developments, born out of new scientific and medical discoveries and progress made not in Islamicate, but outside it, in the West. Muslims who have to face the possibility of having organ transplantations or making organ donations not only have to pay heed to Islamic theology and legal precepts, but also have to deal with the deep and extensive effects of organ transplantation involving donors, recipients, families, and medical professionals. Organ donation and transplantation, therefore, is not only a "private transaction" between the donor and recipient, but one that occurs within the context of an intricate nexus of relationships extending to incorporate families, friends, professionals, and members of Muslim community. Often seen as a very generous way of saving a life, organ donation through transplantation is also a very powerful gesture of "gift exchange" embodying strong social and cultural meanings.

In this paper, I want to posit that the subject of organ donation and transplantation in Islam is an unresolved matter. The subject of organ donation and transplantation has been exceedingly contested within Islam and a ubiquitous consensus is absent. Further research and more robust academic and sociological debate are needed, not only to resolve the question of organ donation and transplantation in Islam, but to do so on the basis of a mature and analytical understanding of different perspectives and issues surrounding the phenomenon.

Various sensitive and complex issues are intertwined with the debate on organ donation and transplantation and when employing the authority of the Qur'an, hadiths, and shari'ah in addressing the question of organ donation and transplantation, the matter of interpretation and the existence of multiple Islamic responses to the topic become apparent. With no central authority in Islam, a huge internal sectarian, and theological and ideological division in the *unmah*, a general consensus on matters of organ donation and transplantation is difficult to locate. Contemporary Muslim scholars and jurists use *ijtihad* (independent scholarly reasoning or juristic interpretation) to deliberate on the matter, and there is more than one *ijtihad* or one set of *ijtihads* in existence. Thus, the central thesis of this paper is that, as organ donation and transplantation in Islam takes place within a multidimensional framework, there remains no confirmed resolution regarding permissibility or impermissibility of organ donation and transplantation in Islam. The paper proceeds to demonstrate this with a discussion of two key Islamic perspectives on organ transplantation, one in its favour and another against it, and facilitates the reader to draw an informed conclusion.

2. Definition

Organ is a term derived from Greek *organon* meaning implement or a tool for making or doing something. Transplant is a process of moving or transferring someone or something from one location to another. The combination of the two terms organ and transplantation, or *organogenesis* as it is known in medical and biological sciences, produces the meaning of moving an organ or tissue from one location in the body to another, from one body to another, or from an animal body to human body.

In medical terms, organ transplantation is a surgical procedure involving the removal of a failing or damaged organ caused by refractory disease or injury from the human body, and replacing it with a working organ retrieved from a deceased or living donor. According to Al-Bar and Chamsi-Pasha "Organ donation is the donation of biological tissue or an organ of the human body, from a living or dead person to a living recipient in need of a transplantation" (Al-Bar and Chamsi-Pasha 2015, p. 209). Loeb offers a more detailed definition of organ transplantation, stating:

By transplantation we understand the complete or partial separation of a piece of tissue, or of a part of an organ, or of a whole organ, from its normal connection and its transfer to a different place, either in the same individual (autotransplantation), or in a closely related individual (syngenesiotransplantation), or into another, not directly related individual of the same species (homoiotransplantation), or into an individual belonging to a different species or class of animals (heterotransplantation, in the wider sense). The joining together of two organisms also may be considered as transplantation (Loeb 1930, p. 547).

Organ transplantation is a medical procedure conducted by a specialist or a team of specialists. The individual from whose body the organ is retrieved is called the donor and the person in whose body the organ is transplanted is known as the recipient. The organ or organs may be procured from living donors, cadavers, or even an animal source. In some instances, with the technological innovations and advances made in medical science, artificial organs are being used, too. Transplanted organs can be artificial or natural and can be whole such as a kidney, heart, and liver, or partial such as heart valves, skin, and bone. In modern medical professions, organ or tissue transplantation is promoted as a disease cure-source and an effective lifesaving procedure, offering the recipient the opportunity for an improved and enduring quality of life.

Today, the following organs and tissues can be successfully transplanted:

- kidney;
- liver;
- heart;
- lung;
- skin;
- pancreas (e.g., the islets of Langerhans);
- intestine;
- bone;
- cornea;
- middle ear;
- bone marrow;
- heart valves;
- connective tissue (Al-Bar and Chamsi-Pasha 2015).

In modern medicine, three types of organ transplantation are practiced. Autograft or autotransplantation, which is a surgical procedure wherein an organ, a tissue, or sometimes both from one part of the body is transplanted to another part in the same individual, for example, in the body from the trunk to the arm. Allograft or allotransplantation is a transplantation process of organs, tissues, or cells from a genetically non-identical donor of the same species to a recipient, for instance, a heart from Mr White to Mr Blake. Most human organ and tissue transplantations in modern medicine are allografts. Xenograft or xenotransplantation is a surgical procedure where organs or tissues are removed from one living species to another, for example, a heart valve removed from a monkey and transplanted to a human.

3. Organ Transplantation in History

Contrary to popular belief, organ transplantation is not a novelty of the modern world. It is often thought that tissue and organ transplantation within the overall medical advancement has a rather short history, but historians note that medical professionals and surgeons have been trying to restore lost or mutilated body parts centuries before the modern organ transplantation inventions (Hamilton 2012). Barker and Markmann (2013, p. 1) claim that "The idea of replacing diseased or damaged body parts has been around for millennia". The first detailed description of repairing defects of nose and ears using autografts from close by skin and surgically replacing the damaged nose is found in an ancient Sanskrit text on medicine and surgery called the Susruta Sanhita (circa 600 B.C.) (Filliozat 1964; Zhorne 1985). Using elegantly described surgical procedures for nose and ear transplantation in the Susruta Sanhita, medieval Muslim surgeons, and subsequently the Italian surgeon Gaspare Tagliacozzi (1545–1599), and then, in the seventeenth and eighteenth centuries, the British surgeons training in India, expanded and developed organ transplantation procedures (Al-Bar 1996). Ancient Egyptian, Greek, Roman, and North and South American surgeons transplanted teeth, and Arab medical practitioners mastered this technique over a millennium ago (Peer 1955; Kee 1986).

In the 1800s, tooth transplant-related activity attracted public attention in France, and in the 1920s, skin and "monkey gland" transplantation put a new spotlight on surgeons (Seghers and Longacre 1964). By the 1960s, medical practitioners gained a new high status on the back of their successful innovative organ grafting procedures. People were simply astounded with the prospect of xenotransplantation success, where surgeons were to remove diseased organ in a human and replace it with pig organ. Moreover, they were captivated by complex arm, leg, and face transplants, and enthralled by the possibility that surgeons could grow organ from stem cells in laboratories.

However, it was not until around the middle of last century in 1950s that organ transplantation procedures showed signs of greater success when surgeons were able to successfully graft an organ from person (donor) to person (recipient) (Hamilton 2012). Before this, human-to-human, organ grafting was perceived as an impossibility as the human body, with some rare exceptions, almost always rejected the grafting of an organ

procured either from humans or animals. When surgeons could not positively respond surgically or pharmacologically to this reaction against foreign tissue across the entire animal family, any hope to succeed in such an endeavour was given a serious blow. Many members of the medical fraternity came to respect the persistent and pervasive power of the body to fight against foreign tissue, and realised that to intervene in "nature" was not going to yield a positive outcome. However, there were some who later became the pioneers in organ transplantation by persisting with their mission, facing massive biological challenge, as well as peer resistance and sometimes even aggression, along the way (Hamilton 2012). It is true that what the pioneers of organ transplantation achieved in the 1950s and 1960s is considered precious and admirable, though it was not the case during the initial period. Recognition of the pioneering work took place slowly, but it was eventually recognised as one of clinical medicine's grandest contributions. Those pioneers laid an important and strong foundation for the future of organ transplantation, and "By the end of the twentieth century, clinical success with organ transplantation between humans was almost complete, having reached the status of a routine, noncontroversial service" (Hamilton 2012, p. XIV).

Some historians have suggested that activities of organ transplanters prior to 1940s were "prescientific" or antiquated (Klasen 2011; The International Encyclopedia of Surgery 1881). As science and medicine were not as advanced at the time as they later became, there can be some truth in such a claim; however, there is no denying that early works were pivotal to the overall and future success of organ transplantation as we know it today.

In the last fifty years, the world has witnessed some major advances in the field of medical research, many of which resulted in actual clinical applications. Generally speaking, these applications have produced tremendous benefits to patients, with lifechanging results. As a vast majority of these new clinical applications are novel, they often generate controversy and raise new ethical questions. One such advance is solid organ transplantation, which has created and continues to create concerns around ethics, morality, and law. Fox asserts that:

Transplantation and dialysis, in a dramatic, somewhat magnified form and with nuances of their own, present virtually the whole range of medical, ethical, legal, social, cultural, and psychological problems that classically accompany medical experimentation with human subjects and the process of therapeutic innovation. ... These procedures have also given rise to a set of more unique phenomena, associated with certain values, beliefs, and attitudes that have basic symbolic or sacred meaning in modern society (Fox 1970, p. 406).

Organ transplantation, no doubt, has become a very useful and valuable form of treatment, particularly for end stage of kidney, liver, and heart failure. The success of transplantation is measured by the survival of the transplanted organs and the patients. Kidney failure excepted, organ transplantation is the only form of possible treatment for organ failure such as the liver and heart. Solid organ transplantation has increased over the years due to its general success, the reason being that the ability to control the transplant patient's immune response has improved. Heinemann says that:

With the development of cyclosporine and related improvements in immunosuppressant therapies, the threat of transplant rejection has dramatically declined, and demands for transplantable organs now consistently outweigh any increases in their availa1ility (Heinemann 2008, p. 76).

As a result, there has been a reduction in the incidence of acute graft loss and the side effects of immunosuppressive regimens, affording transplant surgeons heightened confidence and mobilising them into areas of structural non-life-threatening defects surgery and transplantation. It is due to this expansion in transplantation practice that we have seen an increase in transplantation of hands and other body parts. These are reconstructive transplants, however, and must be treated separately from the more complex organ transplantation.

Nuances of Organ Transplantation Practise in Muslim History

Although Islamic scripture is silent on the issue of organ transplantation the historical documents (Al-Bar 1996; AlNawawi n.d., p. 293; 1978, p. 190; Asshirbini n.d.) reveals that Muslim surgeons practised organ transplantation throughout Islamic history going all the way back to Prophet Muhammad's time (Hawa 1971). It has been reported that, during the prophetic career of Muhammad (570–632), a companion of his—Qatada ibn Nu'man—damaged his eye in the battle of Uhud, and Prophet Muhammad himself replanted it, which functioned better than the other, normal eye (Hawa 1971, p. 97). In another instance, it has been related that, in the battle of Badr, Prophet Muhammad replaced the damaged arm of Muawath bin Afra and the impaired hand of Habib bin Yasaf (Asshibani n.d., p. 244). Asshirbini (n.d., pp. 190–91). In his book, Mughni, Al Muhtaj discusses extensively the bone implantation practised by early Muslim surgeons in all three key forms—autografting, allografting, and xenografting.

It is known that "Muslim jurists sanctioned transplantation of teeth and bones, which had been practiced by Muslim surgeons for over a thousand years" (Al-Bar and Chamsi-Pasha 2015, p. 210). Muslim surgeons relied on juristic provisions and support to Islamically legitimise their practise. The practise, however, was rare, on a very small scale, and not in the way it is performed today. "Transplantation of human organs, as is practised today, was certainly unknown to the classical Muslim jurists" (Ebrahim 2001, p. 49).

4. Two Key Islamic Perspectives on Organ Transplantation

Islam is said to be a *din wa-dawla* (religion and the state) which existed and spread as a community-state under the central authority of the caliphate. Although the caliphate was not a perfect socio-political system, it nevertheless operated as a central governing system, attempting to cater for all its citizens in all spheres of life. Ira Lapidus (2014) notes that, in comparison to contemporary period, Islam and Muslims were much less diverse, particularly during the "Islamic Golden Age", and the nature of the society was religious and not secular. For example, under the Abbasids (750–1517) initiatives were developed to bring about a greater Islamic unity by encouraging a greater level of cooperation between different Muslim sects and mosques divided by doctrine, theology, and practice. Abbasids also promoted Islamic ecumenism—the idea of single people, that is, the unity of the *ummah*. Even during the existence of Ottoman Empire (1299–1922), Safavid Empire (1501–1736), and Mughal Empire (1526–1857), when these sovereignties operated independently and sometimes against each other, within them was still some semblance of central authority and uniformity which cannot be found in the Muslim world today (Esposito 2000). Although there was some variation in the implementation of the law and the application of Qur'anic instructions, the religion, nevertheless, played an important role in the government, law, and social organisation of society (Nasr 2003). The decision-making machinery was moderately consistent, the Muslim population was less diverse and varied, and Muslims enjoyed a real sense of ummah (community of believers) (Lapidus 2014).

The development of Islam and state institutions, such as the caliphate (Islamic state), law, education, health, the military, social services, judiciary, and the bureaucracy, were intertwined. The caliphate, or state leadership, established the pattern for the organisation and administration of the state activities. Islam was the source of state, theology, ideology, identity, unity, and solidarity. The political, military, judicial, and fiscal control of the Muslim community was managed from the top—the leadership. The state leader—caliph—was elected through the process of consultation, nomination, and selection by the *shura* (consultative committee) who, after pledging their allegiance, presented the caliph to the community for approval by public acclamation.

During the heyday of Islam and when Islamic states existed, Muslim rulerships would govern large geographical territories and socio-economic, religious, and political decisions would flow from the central authority, which would issue instructions on religious and worldly matters, often in consultation with the scholars and jurists. However, with the official abolition of the Ottoman Empire in 1922, the last bastion of Islam, Islam and Muslims lost their central authority, and thus was produced a crisis of religious authority. One of the consequences of this is that the global Muslim community, today, is very diverse and divided along national, ethnic, parochial, sectarian, theological, and ideological lines, and so who speaks for Islam and represents the Muslim community is a very open question.

In relation to the discourse about organ donation and transplantation in Islam, there are extremely technical, varied, and diametrically opposite positions on the matter. A single consensus on organ donation and transplant in Muslim societies or in the Muslim world does not exist; the subject, therefore, is a highly contested one. It is not the aim of this paper to examine differing positions exhaustively and in detail individually, however the paper will concentrate on two distinct prevailing schools of thought under which organ transplantation is generally discussed by scholars in contemporary Muslim communities. Before proceeding, it is worth reiterating that two great texts of Islam—Qur'an and hadiths, are silent on the issue of organ donation and transplantation.

In Islam, every human life is very valuable and, therefore, killing (any unlawful death) a person is akin to killing the entire humanity and saving a person is comparable to saving the entire humanity. The Qur'an says "And do not kill the soul which God has forbidden [to be killed] except by [legal] right" (6: 151). The high value that Islam places on human life and the significance of preserving life is integral to Islamic faith, legal system, and ethics (Hamdy 2012). Human life in Islam is treated equally, and there is no privileging of Muslim life or discrimination against non-Muslim life. Qur'an sates, "And We have certainly honoured 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" (17: 70). Here, we can see that Islamic religion describes all human beings as "children of Adam", naturally excluding any discrimination or prejudices based on race, colour, sex, or belief, and bestowing upon humans equal rights and universal dignity.

Muslims believe that they have a special relationship between the self and the body. It is an important principle in Islam born out of the belief that the God is both the Creator and the Sustainer of human life. It is He who gives life and Who takes it. Life and death are in His exclusive hands. Except under the *hudud* crimes (Criminal Law), no person or authority has the right to end a human life (Hassaballah 1996). As human life is precious in Islam, so then is equally precious the human dignity, including the dignity of a diseased body (Sachedina 2009). According to Islamic teaching, human beings neither have absolute control over their lives nor ownership over their bodies. As such, humans must take all the precautions and every step to preserve body-inviolability.

Contemporary Muslim scholars and jurists employ legal source or jurisprudential tool known as ijtihad (there are five sources of law in Sunni Islam—Qur'an, hadith, qiyas (analogical deduction), *ijma* (scholarly consensus), and *ijtihad* (independent scholarly reasoning or juristic interpretation)) (Kamali 2008)—to deliberate on the issue of body-inviolability or, more broadly, on the issue of organ donation and transplantation. As the two great texts of Islam are silent on the issue, Muslim scholars and jurists start their discussions based on the assumption that their deliberations on the issue of organ donation and transplantation are "informed" and undertaken in "good faith", which God, in His infinitive wisdom, will endorse. Abul Ebrahim remarks that "Contemporary Muslim jurists have deliberated on the issue and proposed certain juristic guidelines based on deductions from the broad teachings of the two original sources of the Sharī'ah, namely, the Qur'ān and the Sunnah" (Ebrahim 2001, p. 51). They use Qur'an and Hadith to explain related concepts and abstract topics, such as transplanting God's property or ownership of the human body (Aramesh 2009; Hamdy 2012), human dignity (Hamdy 2012), body intrusion or prohibition of mutilation (Ebrahim 1995), and human rights (Kamali 1993) for deliberative purposes. Marcotte says that "Some have noted that religious proofs based on the Scriptures (Qur'an and hadiths) or on Islamic principles have been used to argue both for and against particular positions" (Marcotte 2010, p. 33).

These are complex and abstract concepts requiring critical analysis and careful deliberation and, given scholars' own understanding and perspectival proclivity, there are inevitably many interpretive challenges as well as plural interpretations. Hurst attests stating:

There is no single consensus on organ transplant in the Islamic community; this is not entirely surprising. In Islam, there is no papacy, as in the Roman Catholic Church, to articulate dogma on certain contentious matters. While legal opinions (i.e., fatwas) may be sought about controversial or contemporary issues from Muslim scholars who are acknowledged experts in matters of Islamic law and ethics, these still may profoundly differ based upon the scholar's interpretation of the authoritative texts (Hurst 2016, p. 3).

Thus, in a decision-making process based on the directives of interpretation and Islamic legal maxims, the scholars and jurists exercise their legal discretionary powers (*ijtihad*) (Moosa 1998) to arrive at a decision and, as a result, the prevalence of multiple opinions on organ donation and transplantation.

According to some scholars, the two prevailing positions on organ donation and transplantation are geographically and nationally divided. For instance, Oliver et al., says in regard to Indo-Asian and Arab Muslim scholars that "Of note, there appears to be some discrepancy between Indo-Asian and Arab Muslim scholars in that the former are often less approving of organ donation" (Oliver et al. 2011, p. 438). This dichotomisation may raise some questions due to the complex internal diversity in each of these two regions. However, to diminish the importance of geographical or regional differences is academically precarious. Hughes explains:

Geographic differences are certainly important in Islam. But also important are the numerous legal schools and their interpretations. Since Islam is a religion predicated on law (sharia), variations in the interpretation of that law have contributed to regional differences (Hughes 2016).

Therefore, perhaps a more plausible geographical and national divide can be drawn between the subcontinent, not Indo-Asian, Muslim scholars, particularly from Hanafi school of jurisprudential-based (it is one of the most dominant of the four Sunni schools of religious law) Deoband seminary, which is the largest seminary in the subcontinent, and Arab Muslim scholars, many of whom follow one of the following Sunni legal schools—Shafi'ism, Malikism, and Hanbalism. Thus, it can be said that the Muslim scholars and jurists who are located in the Arabic speaking part of the world, who are thought to give priority to living over spirituality and take an anthropocentric view, generally consent to the permissibility of organ donation and transplantation. Various examples are testimony to this assertion. In 1959, Sheikh Hassan Mamoon, the then Grand Mufti of Egypt offered the first fatwa in the modern times endorsing organ donation, sanctioning corneal transplantation from cadavers and from those who consented to organ donation upon their death (Fatwa No. 1084 dated 14 April 1959) (Dar Allfta Almisryah 1982). In 1982, the Supreme Council of the Ulama in Riyadh, Saudi Arabia, approved organ harvest and transplantation when considered medically necessary (Report of the Senior Ulama Commission 1982, p. 46). In 1986, the Islamic Fiqh Council of the Organisation of the Islamic Council in Amman, Jordan delivered a ruling (ruling no. 3/07/86) in favour of organ donation, both from a cadaver and living person (Al-Bar 1996, p. 109). In 1988, the resolution reached by the International Islamic Fiqh Academy of Jeddah (IIFA) led to the Saudi Government officially endorsing organ transplantation (Ali and Maravia 2020).

Those living particularly in the subcontinent where around a third of Muslim population reside, it has been said, argue that spirituality takes priority over living, and harbour a theocentric view, therefore subscribing against organ donation and transplantation. This position is reflected in the following examples: In the late 1960s, a number of Pakistani scholar-jurists with links to Deoband Seminary arrived at the decision that organ transplantation was not permissible in Islam (Moosa 2002); "None is owner of his life and parts of the body, therefore neither can he sell it nor can gift to anyone. Such dealings are wrong and invalid" (Darul Ifta 2020, Fatwa: 1138/982=B/1429); organ giving and receiving are prohibited, "This opinion was held by Muhammad Shafī (d. 1976), former chief muftī of Darul Uloom Deoband India" (Ali and Maravia 2020, p. 4); and Muhammad Shafi Uthmani, former Grand Mufti of Pakistan, advised against organ transplantation as it is a process which undermines the station of human beings in the divinely created universal system, saying:

God Most High has created the entire universe and creation for the benefit and use of the human being, and the human being has been created as the master and consumer of the entire universe. The following Quranic verses are evidence of this point: "And verily we have honored the children of Adam," and "He has created for you all that is on the earth" (Uthmani 1967, p. 30).

It can be posited that the rationale for two separate positions on organ transplantation in Islam continues due to different sets of rationalisation offered by the two opposing schools of thought. The subcontinent Muslim scholars are largely influenced by Deoband seminary which is based on Hanafi school (Warren 2013) observes that Hanafi school of jurisprudential thought have always been deemed among the most flexible, liberal, and rational in Islamic law) of jurisprudence, and is very influential in south and central Asia (Moj 2015). Theologically, the Deobandis subscribe to the doctrine of *taqlid* (conformity to legal precedent), and are relatively free from any state influence, despite being located in world's largest democracy—India. Deobandis have their own worldview based on their own interpretation and understanding of Islam, and remain aloof from modern value-system.

Arab Muslim scholars, however, are very diverse, particularly jurisprudentially, and are vulnerable to state influence and intervention. In the Arab world, there is at least some level of interaction between the state and religion and, as states are modern nationstates, the influence and dominance of modern worldview is pervasive. Brown explains as follows:

What is unusual in the Arab world is not the public role of religion but the extent and range of that role. ... But as the process of state formation began across the Arab world during the nineteenth and twentieth centuries, in each place it developed differently. As a consequence of this, official religious institutions evolved quite differently as well. In its particularities—and even in many of its most general features—this evolution was rooted substantially in the process of modern state formation. Indeed, state formation and the organization of religion have gone hand in hand, ...

The commonalities among Arab states are straightforward. Most grant Islam official status, have institutions that offer advisory interpretations of Islamic law (fatwas), administer religious endowments and charities, oversee mosques, and apply some version of Islamic family law. State muftis are largely a nineteenth-and twentieth-century innovation. It was then that states began appointing such religious officials and establishing a designated bureaucracy for issuing legal interpretations, at times to replace or expand upon the Ottoman religious bureaucracy (Brown 2017, pp. 4–5).

As organ transplantation in the modern world is heavily dictated by modern worldview, and Arab Muslim scholars are under direct modern state influences in their respective countries, it can then plausibly be argued that Arab Muslim scholars are vulnerable to a modern worldview which has direct consequences to their decision making about organ transplantation. It is perhaps why there is a distinction in viewpoints about organ transplantation between subcontinent Muslim scholars and Arab Muslim scholars.

4.1. Organ Donation and Transplantation Are Permissible

Those Muslim scholars and jurists who are in favour of organ donation and transplantation have declared that organs, either from a live or dead body, can be transplanted to a patient in end-stage organ failure. They arrive at this decision using legal discretion (ijtihad) in the absence of any scriptural evidence or directives. Additionally, they determine the divine intent when making decisions for organ donation and transplantation by combining various contrasting themes found in the Qur'an and hadiths. These include the necessity to save one's life, the encouragement to save another's life, human dignity and respect, and altruism. They do this by building their argument on the assumption that, although the Qur'an and hadiths are silent on the issue, the scriptural overarching teaching supports organ donation and transplantation, or to put it another way, that organ donation and transplantation does not violate scriptural edification. How? They do this by resorting to the shari'ah to work out the benefits of organ donation and transplantation to human life. As for others, to them the basic function of shari'ah is to protect the interest of people against harm and, therefore, benefits are harmonised with the higher objectives of shari'ah known as maqasid al-shari'ah. Maqasid al-shari'ah is an Islamic legal doctrine which often works in conjunction with another related classical doctrine known as maslaha (welfare or benefit or public interest), and together they aim to advance the preservation of five essentials of human well-being aptly embodied in the *daruriyyat* (necessary) category of benefits. Muslim legal experts have organised the entire range of benefits or interests into three categories:

- i *daruriyyat* (necessary) which is enumerated at five, namely protection of faith, protection of life, protection of progeny, protection of intellect, and protection of property;
- ii *hajiyyat* (complementary);
- iii tahsiniyyat (embellishments).

For Muslim scholars and jurists who are in favour of organ donation and transplantation, organ transferring does not violate but, in fact, clearly complies with one of the five essentials of human well-being, that is, the preservation of life. Thus, they present organ donation and transplantation as a welfaristic and altruistic process and fulfilling the requirement of the preservation of human life.

Violation of human body, either in living or cadaveric state, is prohibited in Islam. The human body is considered to be sacred in Islam, and in hierarchy of creations is given a high status as God's special creation. Whether living or dead, the human body enjoys a special honour and is inviolable in Islam. Life is also considered precious in Islam, as in any cultural tradition, and saving it is recognised in the Qur'an as an act of altruism. In this regard the Qur'an says, "Whosoever saves the life of one person it would be as if he saved the life of all mankind" (5: 32). Organ transplantation proponents read these Qur'anic verses as a directive to make every effort to preserve human life, which is highly rewarding, and also as evidence that the sanctity of life overrides all other considerations. In other words, they construe these verses to be a command from God to preserve life. They also posit that saving life is necessary and therefore determine the permissibility of organ donation and transplantation by using the legal terminology to establish patient's *darura* (necessity) condition when unlawful (*haram*) can become lawful (*halal*). They rely on the following Qur'anic verses:

He hath only forbidden you dead meat, and blood, and the flesh of swine, and that on which any other name hath been invoked besides that of Allah. But if one is forced by necessity, without wilful disobedience, nor transgressing due limits, then is he guiltless. For Allah is Oft-forgiving Most Merciful (2: 173).

Whether it is an act of altruism or necessity, is it a body-violation when an organ is harvested from either a cadaver or living body, and is it also a body-violation to cut open a patient for the purpose of organ transplantation? In this dilemma, the maxim that reconciles the two, according to the organ transplantation proponents, is "necessity overrides prohibition" (*al-darurat tubih al-mahzurat*). They rely on this to build their argument in favour of organ donation "and claim that according to the sharī'a one had in certain circumstances to choose the 'lesser of two evils'" (Heyd 1993, p. 48). They see organ transplantation as a way of eliminating harm by taking an organ from a cadaver or living body and transplanting it in a patient, leading to the saving of a life. Here, the doctrine of choice is applied—if forced to choose then "choose the lesser of the two evils". As for the cadaver more specifically preventing harm takes priority over preserving the body of the deceased and the canon of the "conflict of interests" or *maslaha* is used—when faced with two conflicting interests, "let the one which will bring greater benefit take precedence".

There are also traditions attributed to the Prophet Muhammad that organ transplantation proponents understand to be supportive of organ donation and transplantation. For instance,

Usamah ibn Sharik narrated: The desert Arabs then came from here and there. They asked: Apostle of Allah, should we make use of medical treatment? He replied: Make use of medical treatment, for Allah has not made a disease without appointing a remedy for it, with the exception of one disease, namely old age (Al-Sijistani n.d., p. 3846).

Organ transplantation proponents argue that this hadith is a testimony that God has made a cure for every disease, and organ transplantation is a cure for a diseased or failing organ. They say that here is an Islamic teaching that encourages believers to find cures for their illnesses and leave the ultimate success to God. Replacing a failing organ with a properly working organ which cures the body of dysfunction is similar to taking medicine to permanently eradicate an ailment such as gallstones. The recommendation is that Muslims should try and find suitable medical solutions to their health problems, including organ transplantation, as a solution and not be fatalistic. This is their responsibility.

Another example is:

Abu Huraira reported: The Messenger of Allah, peace and blessings be upon him, said, "Whoever relieves the hardship of a believer in this world, Allah will relieve his hardship on the Day of Resurrection. Whoever helps ease one in difficulty, Allah will make it easy for him in this world and in the Hereafter (Muslim n.d., p. 1508).

This Prophetic tradition has often been considered as supporting organ donation and transplantation, as it underpins the charitable goodness connected to such acts of benevolence. It is seen as something God loves as humans try to mitigate each other's agony and sorrow. Organ donation relieves hardship for those who are in pain and under duress. Donating an organ such as a kidney to someone whose kidney is damaged is viewed as an act of altruism and kindness worthy of great reward from the mighty God in this world as well as in the Hereafter.

4.2. Organ Donation and Transplantation Are Prohibited

Islamic scripture contains numerous principles that can be used to denounce organ donation and transplantation. Those scholars and jurists who take a prohibitive stance against all or some form of organ donation and transplantation, who cite the authoritative sources within Islam, make equally as compelling arguments as their counterparts (Rady and Verheijde 2009, p. 882; Rady et al. 2009, p. 175). One of the premises upon which these scholars and jurists base their argument against organ donation and transplantation is the Islamic principle of self-body nexus.

As mentioned earlier, one can find in Islam a great value is placed on human life. The preservation of life is an integral part of Islamic faith and, as such, Islam treats the body and soul, or the self–body interconnectedness, with great care and reverence. It is for this reason that Muslims not only believe that there is a special relationship between the self and the body, but treat the self and the body as one and with great sensitivity and veneration. The scholars and jurists who stand against organ donation and transplantation often relate to the Qur'anic teaching that the body is a gift from God and, therefore, an individual does not have an ownership claim over the body. The "individual" or the "person" is the body and the soul which together as one is a "gift" from God, therefore, a human does not own himself/herself at all. If anything, humans have only a custodianship or "stewardship" (Sachedina 2009) claim over their bodies. This kind of conceptualisation of the person is in contrast to the idea of the person in modern secular thinking where the person is an individual believed to have independence and the ability to make all decisions relating to life alone and is the owner of his/her body, thus, his/her self.

Under impermissibility stance for both donating and receiving organs, the rationale is that, as human beings do not have ownership over their bodies, bodies are sacred and mere amanah (trust) endowed by God to humans. In the Qur'an, Allah mentions that He has endowed humans with all they require in respect to bodily organs (Qur'an, 90: 8-9). "This understanding would lead one to infer that man has no right to donate any of his organs since these organs are not in reality his own, but have rather been given to him as an *amānah* (trust)" (Ebrahim 2001, p. 53). The human body is seen as a unique gift and "The Trust" from Allah and is His "property", over which human beings have only responsibility and not ownership. Based on this understanding of the body, organ transplantation is seen as a violation of human dignity (hurama wa karama) and thus sacrilegious infringing the bestowed trust and body-sacredness. A ruling permitting organ donation and transplantation will cause incalculable harm to human dignity and, therefore, such a practise is inexcusable (Moosa 1998). Additionally, as saving the life of the recipient will involve either an act of aggression against the human body (which is a harm) or if it is a living donor putting him or her go through physical pain during surgery (which is a harm) organ transplantation is impermissible for "harm cannot be reduced by another harm".

In regard to the cadaver, particularly any process of harvesting the organs from it violates the sanctity of it. The violation of the sanctity of the cadaveric body, according to the scholars and jurists in this category, is forbidden in Islam. In this regard a Prophetic Tradition is often referred to which says: "Breaking the bones of a corpse is similar to breaking the bones of someone who is alive" (Al-Sijistani n.d., p. 3207).

Ebrahim notes that:

It is true that Islam forbids any act of aggression against human life as well as the body after death. Thus if one were to take an organ out of the dead man's body so as to transplant it into another person, it could justifiably be argued to be tantamount to mutilation of the body and violation of the sanctity of the corpse (Ebrahim 2001, p. 55).

Similarly, Marcotte explains:

Jurists and religious scholars appeal to a central Islamic principle that forbids any alteration of God's creation. Human beings and their bodies are 'creations of God' (*khalq Allah*). As creations of God, our bodies are, in a sense, not completely ours. The main reason for this remains that Islam upholds principles of sanctity (or inviolability) (*hurma*) and dignity (*karama*) of the human body, that embrace both the living and the dead (body), ... (Marcotte 2010, p. 35).

The self-body construct and body ownership argument is simple but interesting. It is a persuasive enough argument against organ donation and transplantation which was popularised by a famous Egyptian Sheikh, Muhammad Mitwalli al-Sha^crawi, in the last decades of 20th century (Hamdy 2012). Sheikh al-Sha^crawi advanced a simple but a dazzling argument which ran against the popular assumption that modern technological innovations have rendered Islamic teachings obsolete (Hamdy 2008) and captured the attention of Muslims from all walks of life. He argued that humans do not own their bodies; their bodies are a trust given to them from God. His argument highlights "the sacredness of human life, and the human body being a trust from God to be protected and the benefit for the public good" (Marcotte 2010, p. 34). Donating the body or its constituent parts will obviously breach this bestowed trust and is unacceptable. His argument was threefold, each based on the principle of Islamic belief:

- human beings do not have the ownership rights over their bodies as if they were properties;
- ii death is uniting with Allah,;
- iii the self–body unity is achieved through piety and worship (Hurst 2016).

From Sheikh al-Sha⁶rawi's viewpoint organ donation and transplantation is irreverent and a clear violation of this trust. Hence, he aptly poses the question that "Humans do not own their bodies; how then can they donate or sell their organs?" (Ali 2019, p. 63).

Sheikh al-Sha'rawi relied heavily on the Qur'anic concept of suicide and its impermissibility to denounce organ donation and transplantation. Suicide is explicitly forbidden in the Qur'an as it says, "Do not kill or (destroy) yourselves: For verily Allah has been to you Most Merciful" (4: 29). In Islam, "Like life itself, the body acquires a type of 'sacralised' status. One cannot commit suicide or dispose of one's life or one's body as one pleases" (Marcotte 2010, p. 36). He deduced that suicide is an unauthorised premeditated cessation of life through freely interfering with one's own body, and so places organ donation on the same level. As the Islamic scriptures does not explicitly address the subject of organ donation and transplantation, Sheikh al-Sha'rawi and other contemporary anti-organ donation and transplantation Muslim scholars and jurists employ various principles in the scriptures to denounce organ donation and transplantation.

From a legal point of view, "necessity overrides prohibition" (*al-darurat tubih al-mahzurat*) is not a sustainable premise for organ donation and transplantation. Using this principle to universally endorse all models of solid organ donation and transplantation is problematic from the viewpoint of Muslim scholars and jurists who do not support the practise, arguing that not all organ transplants are necessarily lifesaving. For example, kidney transplantation may not be an absolute necessity in light of existing alternative modalities of renal replacement therapy to preserve life, such as dialysis. Using such logic, Muslim scholars and jurists against organ donation and transplantation present an argument that tips the scale against the practise, and keep true to Qur'anic teaching which places a heavy emphasis on respect and sanctity of the human body (Haleem 2010).

Thus, the scholarly and juristic formalism in the predilection of analogies and directives of interpretation of the *darura* (necessity) or a primary (life-threatening medical condition) need compel the opponents to organ donation and anti-transplantation to arrive at a determination that considers the practise impermissible. As a category, "necessity", these opponents argue, is treated to be an exceptionally subjective notion by the medical experts and practitioners, but not so in a particularly formalised jurisprudential dogma the opponents themselves use and subscribe to. They, therefore, recommend that alternative to organ donation and transplantation, such as various artificial substitutes and reconstructive devices, should be explored, designed, and used.

5. Conclusions

It is true that there are nuances of increasing acceptability of organ donation and transplantation in contemporary Muslim communities, but there still remains an aura of uncertainty about whether Islam considers organ donation and transplantation to be permissible. The uncertainty originates from ambiguity caused by conflicting opinions among contemporary Muslim scholars and jurists. The Islamic ethical concepts of autonomy, beneficence, justice, and non-malfeasance are divided between theocentricism, anthropocentrism, and adherence to the shari'ah. The shari'ah is a religious law through which Allah guides His faithful believers to the "right way". In the shari'ah, the "right way" denotes, among other things, giving Allah His due right—*huquq-Allah*—and giving individuals their right—*huquq al-ibad*. One guiding directive of Islam is the right to health, and a connection then can be made to the question of whether or not organ donation and transplantation is permissible in an attempt to preserve health. One way for the

contemporary Muslim scholars and jurists to address this is to employ *ijtihad* to determine the divine intent when making decisions for new situations which organ donation and transplantation is one of them.

Many contemporary Muslim scholars and jurists believe that humans do not have ownership of their body and soul as one entity which is considered to be a gift from Allah. Human beings and their bodies are "creations of Allah" (*khalq Allah*) and, therefore, it is forbidden to alter His creation. Our bodies, then, in a sense, are not completely ours and are temporarily entrusted to us, by God, as an *amana* (trust). Additionally, Islam upholds principles of sanctity or inviolability (*hurma*) and dignity (*karama*) of the human body that not only applies to the living body but also the corpse. One could then argue that sanctity of human body strips humans of any rights over it giving the body a sacralised status. This status also applies to the deceased body and its sanctity, therefore the body must be preserved under any circumstance. Some scholars and jurists invoke the following Qur'anic verses "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" (17: 36) to argue that there exists an eschatological need for the preservation of the body, as all body parts must be intact on the Day of Judgement and organ donation and transplantation, if carried out, would be an obstruction to any testimony.

However, then there are some Muslim scholars and jurists who argue that, ethically, the noble act of donating an organ outweighs the necessary mutilation of a dead body, it serves as a form of altruistic service to fellow human beings, necessity overrules prohibition (*al-darurat tubih al-mahzurat*), and general gain counterbalances minor negative consequence. Relying on the following Prophetic teaching, "Whoever helps ease one in difficulty, Allah will make it easy for him in this world and in the Hereafter" (Muslim n.d., p. 1508), they posit that herein is the evidence in support of organ donation and transplantation.

Furthermore, interactions and discussions between medical experts and practitioners of new medical surgical procedures and Muslim scholars and jurists who can better understand the process and perform their informed *ijtihads* are often lacking. Consequently, there is a disjointed response to new medical surgical issues. Additionally, medical experts and practitioners need to be cognisant, when discussing organ donation and transplantation with their patients, that Muslim scholars and jurists are not united on the matter and different interpretations and positions exist.

This reveals that a variety of positions and opinions exist that govern organ donation and transplantation in Islam. The contemporary Muslim juridical culture is internally very diverse and Muslim scholars and jurists from different cultural and parochial contexts, although using the same scriptural sources, end up making diametrically opposite determinations. Sociologically, this is not surprising, as modernity has brought about sweeping transformations in Muslim societies. Muslim societies which were, at one stage, relatively homogeneous in nature, and in which key institutions were linked with the central authority, as described above, are no longer socially organised, nor operate in that way. The introduction of new systems of analysis, modern education, new understanding, technologies of communication, the transformation of many Islamic and Muslim institutions, and the rise of electronic means of communication such as the Internet, have opened up the decision-making process and capacity. It is no longer the state or the institution that determines what is halal (permissible) and haram (impermissible) in Islam. Media Sheikhs (Muslim scholars), Muftis (Islamic scholars who are the interpreters or expounders of Islamic law), and Muslim jurists have become equally relevant and important as the central authority and the use of *ijtihad* (scholarly or individual reasoning) is forever more pervasive.

For these and other reasons, organ donation and transplantation in Islam remains an unresolved issue. Both sides of the spectrum—pro-transplantation and anti-transplantation campaigners—mount equally forceful arguments in favour of their respective thesis.

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Article Organ Donation in Islam: A Search for a Broader Quranic Perspective

Tazul Islam

Faculty of Quranic and Sunnah Studies, Universiti Sains Islam Malaysia, Bandar Baru Nilai, Nilai 71800, Negeri Sembilan, Malaysia; drtazul@usim.edu.my

Abstract: Organ donation is a widely debated issue in Islamic scholarship. Muslim jurists, however, have produced a substantial amount of evidence supporting its legality. Despite this, previous research has revealed that Muslim communities around the world are still wary of organ donation. The main reasons for this attitude are motivational and educational in nature. To address these two problems, the purpose of this research is to look into the Quranic conceptual background, which could help to expand the justification of organ donation in the motivational context. This study investigated the Quranic verses that scholars have cited in their writings on organ donation and transplantation. The theoretical underpinnings for the use of those verses were deduced. Data were collected from 36 studies on organ donation that refer to Quranic verses and examined how those verses were analyzed. This study discovered that a number of Quranic verses were primarily used to justify the permissibility of organ donation, with little effort made to analyze the verses using specific methodologies dedicated to the Quranic texts. As a result, the outcome may not be helpful to solve the current dilemma which is Muslim communities' reluctance to donate organs. Hence, it is important to explore a broad theoretical framework for organ donation based on the Quran. This study suggests how to bring this new perspective to the subject and overcome the existing problem.

Keywords: Quran; organ donation; organ transplantation; charity; Islamic law

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1. Introduction

1.1. Background

In Islamic medical ethics, seeking treatment for every ailment and providing quality care for ailing persons are clearly prescribed. The Arabic term "shifa" (cure) was used in the Quran and repeated six times (Ibrahim et al. 2017) and the Quran itself was also described a 'cure': "And We send down from the Quran that which is a healing and a mercy to those who believe" (Quran, 17: 82). Seeking medical treatment was also advised by the Prophet Muhammad, who said: "O Worshipers of Allah! Seek medical treatment, for Allah has not made a disease without making a remedy for it, with the exception of one disease. They asked, 'O Messenger of Allah! What is it?' He replied, 'Old age'." (narrated by Abu Daawood, At-Tirmithi, An-Nasaa'i, and classified as authentic). He further advised: "Treat Your Sick ones with Charity (al-Jāmi al-Saghīr, Hadīth, 5669)." Organ donation is a charitable, benevolent, altruistic, and humane act. It has the ability to greatly alleviate the suffering and sorrow of those who are sick. It can save many human lives and improve the quality of life for many others (Chamsi-Pasha and Albar 2017).

In Islam, two primary sources of reference, namely the Quran and Hadith (sayings of the Prophet of Islam) are silent as the issue has only emerged in the modern age of sophisticated medical advancement. However, the permissibility of organ transplantation and donation was confirmed by Islamic jurists under the fourth foundation of Islamic law, which is called 'analogy' (Qias). Now, most of the Muslim countries have approved and legalized this medical practice and it is championed by popular religious bodies (Abbasi et al. 2018). Many studies suggest that most of the Western Muslims stated their decisions

concerning organ donation were influenced by interpretation of Islamic religious scriptures such as the Quran and the Hadith (sayings and deeds of Prophet Muhammad). They have rated the importance of both sources respectively by 87.4% and 75.7% (Sharif et al. 2011).

However, in the context of the shortage of organ donors among Muslim communities around the world, as Uskun and Ozturk (2013) found, "most of the religious leaders who responded (71.5%) believe that donation is appropriate according to Islamic beliefs but among the religious officials 32.7% said that they do not have enough knowledge about organ donation." In another survey, Tumin et al. (2013) found that among the major religious groups, the refusal to donate organs stems from a complex array of factors including religious belief and Muslims (adherents of Islam) demonstrate the most ambivalence toward organ donation. They argue that changing Muslim attitudes on the subject has been difficult, resulting in low rates of organ donation. Despite widespread agreement on the importance of organ donation, the low rate of actual donation in practice encourages researchers to encourage people to donate organs.

1.2. Literature Review

The verdict on organ transplantation in Islam is disputable and varying (Abbasi et al. 2018). Organ donation has been deemed permissible by the majority of Islamic scholars. It has also received widespread support from Islamic legal bodies in the East and West, provided certain conditions are met. It was legalized in most of the Muslim countries as practiced in Saudi Arabia, the Gulf Countries, and Iran (Chamsi-Pasha and Albar 2017). However, in practice, the trends and tendencies of organ donation among Muslim communities around the world have yet to reach to a satisfactory level. In the majority of Islamic countries, the numbers are lower than expected. One of the causes of this low transplant activity includes lack of public awareness and lack of support by Islamic scholars (Ghods 2015). Altmörs and Haberal (2016) mentioned that "our literature survey clearly revealed that transplant is still in its early stages in many Islamic states".

Most previous studies on organ donation have focused on Muslim scholars' agreement and disagreement on the issue, as well as permissibility terms and conditions and prohibited practices. The debate also continues on the definition of brain death and raises questions on end-of-life organ donation because surgical procurement of organs from the dying donor could be the proximate cause of death of the donor (Rady and Verheijde 2009). Albar (1996) mentions that "the controversy on end-of-life organ donation stems from: (1) scientifically flawed medical criteria of death determination; (2) invasive perimortem procedures for preserving transplantable organs; and (3) incomplete disclosure of information to consenting donors and families." There are studies in the literature that highlight approaches to the validation of the supportive and opposing Islamic legal verdicts (fatwas) on organ donation (Rady and Verheijde 2014). There is also a significant focus on the role of religion in shaping the attitude of a prospective Muslim donor.

Tumin et al. (2013) mention that the "refusal to donate organs stems from a complex array of factors including religious belief and among the major religious groups, Muslims (adherents of Islam) demonstrate the most ambivalence toward organ donation. One important factor stems from there being no clear theological position on the issue, with conflicting legal rulings from Islamic scholars concerning the legality of brain-death criterion, donation and transplantation." Again, Tumin et al. (2013) find in their survey that "from the initial 68 respondents who indicated 'No' to organ donation, only 18 indicated willingness to change their decision if given permission from religious authority." In a bid to develop their own standpoints towards organ donation, Muslims living in the West rely heavily on fatwas imported from the Muslim world (Ghaly 2012).

Data from a survey of Muslims residing in Western countries have shown that the interpretation of religious scriptures and advice of faith leaders were major barriers to willingness to allow organ donation. Transplant advocates have proposed corrective interventions: (1) reinterpreting religious scriptures, (2) reeducating faith leaders, and (3) utilizing media campaigns to overcome religious barriers in Muslim communities

(Albar 1996). Lack of awareness of the support of Islam for organ donation and fear of disfigurement were the most common barriers cited. The effectiveness of our brief religious education intervention suggests that further education may improve organ donation rates among the Muslim community (Hafzalah et al. 2014). In Turkey, religious beliefs contribute (26.2%) to refusal to donate organs (Bilgel et al. 1991).

Because the issue of organ donation is not unequivocally addressed by the Qur'an and Sunnah, we discovered a significant use of the Quranic reference in the previous literature, either to support the jurisprudential debate on the issue or to support the relevant Islamic legal maxims under the methodology of 'objectives of Islamic law.' Thus, the permissibility of organ donation was processed under ethico-legal deliberation, 'ijtihād, marshaling scriptural evidences and precedents to support their views (Padela and Auda 2020). The majority of the literature used the objectives (magasid) of the Islamic law (preservation of person's religion, life, mind, property or progeny) (Rady and Verheijde 2014) for the validation of the supportive and opposing Islamic legal verdicts (fatwas) on organ donation. It was made permissible because organ transplantation and donation could potentially save a life. Therefore, it fulfills the requirements of the 'preservation of human life' under the legal principle of 'dire necessity' (darūra). This principle overrules prohibitions when a dire necessity (darūra) exists (Padela and Auda 2020). This position is supported by the following verse in the Quran: "But if one is forced by necessity without willful disobedience, nor transgressing due limits-then is he guiltless. For Allah is Oft-Forgiving Most Merciful." Thus, the permissibility of organ transplantation is determined on the urgent need to save the life of the patient in a crucial situation when no other lawful options are available (Isa 2016). Other legal maxims are used and championed in verses from the Quran. For example, (i) deeds are judged by their goals and purpose; (ii) harm must be eliminated, "and if anyone saved a life it would be as if he saved the life of the whole people" (Quran, 5: 32); (iii) hardship begets facility, supported by the following Quranic verse: Translation: "Allah intends every facility for you. He does not want to put you to difficulties" (Quran, 2: 185). The majority of the Muslim scholars and jurists belonging to various schools of Islamic law have invoked the principle of the priority of saving human life (Chamsi-Pasha and Albar 2017).

However, in the vast majority of cases, the verses in question were neither substantively analyzed in light of Quranic exegetical traditions, nor were they thematically addressed in context of the numerous other verses on the same subject. Therefore, a broad Quranic conceptual basis of the topic has yet to emerge. The same situation exists in the prophetic traditions of Islam (Sunnah). A broad conceptual base of the topic based on these two primary sources of Islam could help to overcome the current dilemma of "negative attitudes toward organ donation" (Padela and Auda 2020) among Muslim communities. Because, as Rady and Verheijde (2016) argue, the "moral precepts described in the Quran encourage Muslims to be beneficent, but also to seek knowledge prior to making practical decisions." Direct scriptural sources along with the legal rulings by jurisprudents could be more effectively used to explain the ethical, moral, and legal foundations of transplantation and associated issues (Golmakani et al. 2005). A mere legal position of permissibility has proven to be less effective in changing the attitudes of Muslim communities because it remains a moral choice rather than legal obligation. This problem will continue to exist unless a comprehensive Qur'anic perspective on the motivational paradigm on this issue is developed through a thorough examination of the verses involved.

2. Materials and Methods

This research collected data from secondary sources include journal articles, books, and theses. There is generally plenty of literature available on organ donation or transplantation. An Islamic perspective of the concept has also attracted a considerable attention from scholars of the field. From more than 100 hundred references, we have selected 36 studies which have clearly made Quranic reference either to justify the permissibility of organ donation or its impermissibility. We have examined the context and theoretical underpinnings of those

verses. Moreover, an investigation was also made to identify the analytical rigor that was used in dealing with the selected verses. Many empirical studies on organ donation were conducted among the majority and minority Muslim communities to examine their knowledge, attitudes, and practice. As the aim of the current study was to explore a potential expansion of the existing theoretical limit of organ donation in Islam, it remains a textual analytical methodological limitation. I therefore found the scope of using empirical instruments or the empirical cycle—observation, induction, deduction, testing, and evaluation—is limited.

3. Results

The findings show that organ donation and the Quran are inextricably linked. The absence of the term "organ donation" in Quranic usage does not imply that the concept is not present. Scholars of the field have evidently discovered many conceptual underpinnings of organ donation, each of which is corroborated by the Quranic verses. The popular concepts in this connection include: (a) forced by necessity (darurah); (b) saving human life (hifz al-Nafs); (c) accountability for own deeds; (d) generous donation (Ithar); (e) generosity (fadl and ihsan); (f) human dignity (karamah); (g) concept of life and death; (h) cooperation; (i) sacrifice life for the sake of God; (j) breastfeeding; (k) prohibition of killing life; (l) concept of facilitation (taysir); (m) prohibition of causing harm; (n) importance of treatment. However, those using these evidential processes did not always adhere to a strict methodology when analyzing the verses. Hence, there was hardly any substantial Quranic solution to the existing problem of organ donation offered (see Table 1).

According to the previous literature, there is enough convincing debate about the legal permissibility of organ donation. However, there is hardly any motivational model for organ donation among Muslim communities. Thus, a search for such a Quranic model requires basic premises. This research addresses this particular problem.

Table 1. Quranic verses used in the literature and their theoretical connection.

Accountability for own deeds 6:163, 17:15, 35:18; 39:7 Padela and Auda (2020) Breastfeeding 2:233 Bakru (2001) Concept of facilitation (taysir) 2:185: 4:28: 5:6: 22:75 Bakru (2001) Concept of life and death 32:9; 4:93; 56:83-85; 36:78; 9:35 Padela and Auda (2020), (2009); Arbour et al. (2012) Cooperation 60:8-9:5:2 Arbour et al. (2012); Bakru (2001); Arif (2011) Forced by necessity 2:173, 5:3, 6:119,145, 6:115,145; 5:3; 16:115; 5:3, 6:145 Bakru (2001); Azizah, A. N.; Uthman (2009) Generosity (fadl and ihsan) 2:237; 28:77 Bakru (2001) Generous donation (Ithar) 59:9; Azizah, A. N.; Arif (2011); Shadhili (n.d.); Bakru (2001) Human dignity 4:29, 2:102, 6:141, 17:26, 30:38, 51:19, 70:24 Padela and Auda (2020). **Importance treatment** 2:193; 5:3; 6:145; 16:115; 3:180, 9:134-135, 4:29, 2:190, 38:41-42, 37:145-46,2:173 Shadhili (n.d.)

Table 1. Cont.

Prohibition of causing harm 2:195, 4:29 Shadhili (n.d.) Prohibition of killing life 4:29 Bakru (2001) Sacrifice life for the sake of God 2:207 Arif (2011) Saving human life 5:32; 17: 23, 4:92, 5:32,6:151, 2:132–133, 39:42 Rady and Verheijde (2009). Azizah, A. N.; Arif (2011); Shadhili (n.d.); Bakru (2001); Chamsi-Pasha and Albar (2017).

4. Discussion

It was observed in the previous research that a few verses were chosen randomly to support the concept of organ donation rather than using a conceptual framework based on all the relevant verses. This popular analytical style is often named as a 'thematic approach' to the Quran. This robust evidential process is potentially more powerful than a 'selected-few approach'. The selected-few approach could be convincing to establish the permissibility of organ donation from a legal point of view. However, it may not be sufficient motivation for Muslim communities to change their attitudes towards organ donation in practice. Mere evidence of the permissibility of organ donation hardly conveys the motives and benefits behind this practice. Thus, it has limited capacity to generate a strong moral imperative towards organ donation. In Islam, this act should be seen as a virtuous deed (al-amal al-salih) which is a guiding principle for Muslims' behavior. Virtuous deeds are intertwined with the Islamic belief system (iman). In fact, practicing virtuous deeds demonstrates that one's heart holds the correct belief. This is why the Holy Quran speaks of true Muslims very often as "those who believe and do good deeds". In Islam, donation is linked to one's faith. The Prophet of Islam said: "donation (sadaqah) is a proof." It means the proof or evidence of the true faith the giver possesses (Bagutayan et al. 2018).

The scope of permissibility and moral imperatives for organ donation could be understood in a wider framework. It has been observed that the contextualization of Quranic evidence of organ donation by previous researchers was often from a narrow perspective rather than using the broad Islamic concept of 'social solidarity'. For example, the concepts of patient care, application of the juristic principle 'forced by necessity (darurah)', importance of saving human life (hifz al-Nafs), generosity in donation (ithar), human dignity (karamah), mutual cooperation, sacrifice life for the sake of God, a juristic concept of facilitation (taysir), etc., are discussed briefly as well as superficially. In fact, these concepts are nothing but sub-issues of the Islamic concept of social solidarity and responsibility. This study hypothesizes that if this background concept were discussed in light of the Quran and Sunnah, a motivational domain for volunteerism in organ donation might emerge.

Social Solidarity, Volunteerism, and Human Bond

Social solidarity in Islam is meant to encourage all parties of society take a collective responsibility towards the broader community in order to bring about a common good. Consequently, all individuals in society will be able to contribute to preserving the public interest and repelling harms (Abu Zahra 1991). This definition is championed by the following sayings of the Prophet Muhammad: "The relationship of the believer with another believer is like (the bricks of) a building, each strengthens the other." The Prophet illustrated this by interlacing the fingers of both his hands (Al-Bukhari and Muslim). "A believer is the mirror of his brother. A believer is the brother of another believer. He protects him against loss and defends him behind his back" (Al-Adab Al-Mufrad 239).

among themselves and being kind, resembling one body, so that if any part of the body is not well then the whole body shares the sleeplessness (insomnia) and fever with it" (Sahih al-Bukhari 6011). "A Muslim is a brother of another Muslim. Thus, he should not oppress him. Whoever fulfills the needs of his brother, Allah will fulfill his needs; whoever removes the troubles of his brother, Allah will remove one of his troubles on the Day of Resurrection; and whoever covers up the fault of a Muslim, Allah will cover up his fault on the Day of Resurrection" (Riyad as-Salihin 233).

In Islam, social solidarity is a 'general obligation' that is owed to everyone in the community, regardless of ruler or subject. The general principle in this common responsibility is reflected in the statement of the Prophet of Islam: "All of you are guardians and responsible for your wards and the things under your care. The Imam (i.e., ruler) is the guardian of his subjects and is responsible for them and a man is the guardian of his family and is responsible for them. A woman is the guardian of her husband's house and is responsible for it. A servant is the guardian of his master's belongings and is responsible for them (Al-Adab Al-Mufrad, Book. 9, 206)." All of them are connected to the close bond of social solidarity between human beings within the framework of the solid faith (Qutb 2013). Therefore, Islamic social solidarity encompasses every aspect of human life including health-care rights. Islam is not merely an order of charity and philanthropy but a comprehensive order of development, production, and public interest. This is how the concept of Islamic social solidarity is denoted (Qutb 2013). Many Muslim scholars have seen it as a foundation of Islamic society which regulates a complete social system (Habib 1963). A Turkish Muslim scholar, Nursi (2009) considers it as a virtue. He encourages Muslims to practice social solidarity and to take the Quranic direction in this regard-"The believers are together like a well-founded building, one part of which supports the other"—as a guiding principle in life. He adds, "My first and last advice to you is to preserve your solidarity; avoid egotism, selfishness". Muslims should rather assist each other with all their capacity in order to achieve the common goal; they march towards the aim of their creation in true solidarity and unity. Solidarity in a society results in tranquility in all its activities.

The principles of social solidarity could be achieved by donation for the sake of God (Al-Zuhaili 1997): "For those who do 'good' in this world, there is good, and the home of the Hereafter will be better. And excellent indeed will be the home (i.e., Paradise) of the Muttaqun (pious) (Quran, 16: 30)." "By no means shall you attain Al-Birr (piety, righteousness, etc., it means here Allah's reward, i.e., Paradise), unless you spend (in Allah's cause) of that which you love; and whatever of good you spend, Allah knows it well (Quran, 3: 92)".

According to Darwaza (1963), any community that exercises solidarity and cooperation develops a spirit of affection, love, satisfaction, and tolerance. It could promote among the community a sense of respect and protection of life. As a result, members of the community would seek volunteerism for the common good. Qutb (2013) asserts that when Islam deals with donation, the entire Islamic system is based on the concept of solidarity. His opinion is supported by the following Quranic verse: "And whatsoever you expend in the way of God shall be repaid you in full; you will not be wronged (Quran, 8: 60)".

Islam encourages volunteerism as a priority. Muslims are encouraged to follow this paradigm of their very first generation. "And those who made their dwelling in the abode, and in belief, before them; love whosoever has emigrated to them, not finding in their breasts any need for what they have been given, and preferring others above themselves, even though poverty be their portion. And whoso is guarded against the avarice of his own soul, those—they are the prosperous (Quran, 59: 9)". This verse introduces the concept of 'priority donation'. It was expounded by many Quranic exegetes as follows: (a) highest degree of generosity in donation of an asset that the owner loves and still needs (Al-Sadi 2000); (b) prioritizing public interest over self-interest in sacrificing one's legitimate fortune for the sake of God (Al-Zuhaili 1997); (c) donating one's assets for the public welfare (Ibn Ashur 1997).

The bonds of religion and Islamic brotherhood are enjoined by Islam. Unity is based on the 'brotherhood of belief' from which springs mutual co-operation in many areas of life. As a result of this sacred brotherly bond, all Muslims are united as a single community. Through sincerity and self-sacrifice, the Islamic brotherhood of the unified community of believers has unfolded to a high degree (Nursi 2009): "And the believers, the men and the women, are friends one of the other; they bid to honor, and forbid dishonor; perform the prayer, pay the alms, and obey God and His Messenger." "Those—upon them God will have mercy; God is All-mighty, All-wise." (Quran 9:71) "They enjoin good and forbid evil".

Achieving good and repelling evil requires guardianship, solidarity, and cooperation. Hence the believing nation stands united (Qutb 2013). Islam considers 'the principle of mutual assistance' to be fundamental in life, rather than conflict. In the ties between communities it accepts 'the bonds of religion, class, and country,' in place of racialism and nationalism. Its aims are to place a barrier before the illicit assaults of the soul's base appetites and to urge the spirit to sublime matters, to satisfy man's elevated emotions and encourage him towards the humanly perfections. As for the truth, its mark is concord; the mark of virtue is mutual support, and the mark of mutual assistance, hastening to help one another. The marks of this religion are brotherhood, attraction, unity, and solidarity.

In the aforesaid religious maxims, 'brotherhood', 'solidarity', and 'charity' are essential motivators for organ donation among Muslim communities around the world. Like other faith groups, Muslims have a strong faith-based social tie which they use for their common good. Brotherhood is considered as a fundamental agent to this end. It leads to social solidarity in the community which eventually brings about volunteerism. To overcome the current reluctance to donate organs requires a high degree of volunteerism which results from brotherhood and social solidarity.

5. Conclusions

Transplantation in general is seen as an ongoing form of charity (Van et al. 2011). The justification of organ donation is popularly accepted by the Muslim population in the East and West. There is hardly any fundamental difference in this general acceptability among majority and minority Muslims. The reason behind this coherent stand lies in Western Muslim communities' heavy reliance on on fatwas imported from the Muslim world (Ghaly 2012). Nonetheless, the general public is still hesitant to participate in practice. As a result, it is important to realize that legal permissibility has little impact on changing people's minds about organ donation. To improve this situation, the Muslim religious community must be motivated by a variety of Qur'anic imperatives. This could help in making transition from juristic justification of the permissibility of organ donation to a moral obligation in the framework of social responsibility. If a conceptual model of organ donation is developed based on the Quranic concept of social solidarity, an automatic spirit of volunteerism to donate an organ to save a life could emerge among Muslim communities around the world.

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Article Applicability of Islamic Methodology Concerning Novel Issues to the Organ Transplantation in Religious Scholars' Contemporary Discourse

Faroque Amin

School of Social Sciences, Western Sydney University, Liverpool, NSW 2170, Australia; faroque.amin@westernsydney.edu.au

Abstract: Classical Islamic theology has laid down a meticulous and intricate methodology of dealing with novel issues from theological perspectives; to understand and actualise religious viewpoints regarding any matter or event that did not take place during the early formative period of Islamic Shari'ah, i.e., the lifetime of the Prophet (S.). During the later formative period, classical Islamic scholars developed several principles such as Qiyas (analogical deduction), Ijma'(consensus), Istihsan (public interest), 'Urf (local norms) and so on, that all together would build the construct of the concept of Ijtihad (independent interpretation), and which would be carried out by competent religious scholars. Organ transplantation, of which organ donation is a conceptual component, is a contemporary issue that was not familiar among Muslim scholars in the early era. Therefore, it is the contemporary religious scholars' responsibility to address this matter and bring Islamic judicial inference into the discussion. In doing so, some of the scholars differ in opinions. This paper aims to offer an introductory survey of the religious viewpoints on this issue, as presented by leading scholars from different schools of thought. This study will also include the judicial principles they have adopted in reaching those opinions. By doing so, this paper will introduce an overview of current and ongoing theological discourse on the matter of organ transplantation and donation.

Keywords: islamic theology; ljtihad; organ transplantation; organ donation

1. Introduction

An innate characteristic of any religion is that, being a belief system, it impacts the actual life of its followers. These impacts often differ between religions in varying degrees and from various dimensions. The nature of religion and the religiosity of its adherents both play roles in determining those impacts. A religious person or group usually seeks approval or legitimacy from the religious authorities in their day-to-day living matters. However, the impact and manifestation of the belief system on people's lives differ among religions and societies; Islam seems to have a more substantial presence in the Muslim communities.

In fact, in the wake of the 20th-century Islamic revivalism as an aftermath of the global Muslim experience of colonial rule, one of the slogans promulgated by the ideologues of these movements states 'Islam is a complete code of life'. Early revivalist scholars of the 19th century, such as Jamal al-Din al-Afghani (1838–1897) and Muhammad Abduh (1849–1905), focused on the aspects of rationality and the applicability of Islam in modern life. Their successors in the next century, such as Hasan al Banna (1906–1949), Syed Qutb (1906–1966) and Abul A'la Maududi (1903–1979), took one step forward and attempted to portray the religion as an autonomous civilisation by reclaiming the completeness of Islam. With time, that slogan has found a general acceptance among Muslims worldwide.

The primary reason for this acceptance is the motivation to return to the ideals of the early Islamic era. Muslims consider this era as a time when the basics of knowledge were completed. All later developments are viewed as further progress.

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Copyright: © 2021 by the author. Licensee MDPI, Basel, Switzerland. This article is an open access article distributed under the terms and conditions of the Creative Commons Attribution (CC BY) license (https:// creativecommons.org/licenses/by/ 4.0/). The formative centuries of Islam clearly show that this religion continued through gradual progress to adapt to the changing times and places over the centuries, with a careful preservation process of its primary textual sources, namely the Qur'an and the Sunnah (prophetic traditions). The central force of this progress was Ijtihad (independent reasoning); the process of determining the religious views on any novel issue based on the revealed texts and other Islamic judicial principles.

Many centuries later, Muslim scholars started to agree to the point that all major religious issues had been settled. A phrase saying 'Ighlaq Bab al-Ijtihad' (closing the door of independent reasoning) appeared in texts around the end of the 9th century.¹ By this time, most religious scholars agreed that the era of Ijtihad (independent reasoning) was over, and the era of Taqlid (following/imitation) had begun.

The doctrine of modern revivalist Muslim scholars of Islam being a 'complete code of life' gently abolished this concept of the door of independent reasoning being closed, and extended the acceptance of Ijtihad in Muslim societies until the end of time. This paper aims to observe the application of Ijtihad in determining Islamic views on the Organ transplantation issue, along with introducing a comparative survey of these religious views as constructed by contemporary Muslim scholars.

2. Shari'ah vs. Fiqh

Before delving into the issue of Islamic views on organ transplantation, it is imperative to summarily mention the difference and association between two different terms, Shari'ah and Fiqh, to understand this issue's nature and place in Islamic discourse. One might say that organ donation and transplantation are an issue of Shari'ah, whereas another might see it as an issue of Fiqh. Although neither opinion could be described as wrong, one seems more appropriate than the other.

Shari'ah literally means 'the path to drinkable water'. In Islamic terminology, it denotes the whole religion given by God for his slaves, the human beings. It includes everything commanded, encouraged, discouraged and forbidden for them by the law-Giver. In the Qur'an, Allah said: "And then We set you, (O Prophet), on a clear high road in religious matters. So follow that and do not follow the desires of those who do not know" (Sura Jathiyyah (45): 18).

According to Islamic theology, the Shari'ah given to the last Prophet Muhammad (S.)² is a continuation of all religious systems given to all the prophets before him. Therefore, the previous religions are also named Shari'ah in Islam, e.g., the Shari'ah of Moses, the Shari'ah of Jesus, etc. The word Shari'ah indicates religion in general, as it appears in a prophetic tradition narrated by Ibn Abbas, where the Prophet (S.) said: "Between Adam and Noah there were ten centuries and all of them (mankind) was on the shari'ah of truth. Later, when they differed, Allah sent the prophets and messengers" (al-Hakim 2002, vol. 2, p. 442).

According to the interpretations by scholars such as Hakim al-Nisapuri (933–1014), in this Hadith (prophetic tradition), the Shari'ah of truth (haqq) refers to a religion without idolatry or polytheism.

The word 'Fiqh' means knowledge or understanding. In theological terms, it denotes the knowledge of the ruling of Shari'ah regarding practical issues that are derived through elaborated evidence (Al-Mausuah al-Fiqhiyyah 1983, vol. 1, p. 13). In other words, it is the knowledge of Shari'ah ruling according to the texts of the Qur'an and Sunnah.

During the Prophet's lifetime, he provided religious rulings supported by revelation, al-Qur'an, and thus he was the primary source of Fiqh. Besides, he allowed people to go to other knowledgeable and qualified companions with their Fiqhi questions. Moreover, he sent such companions to different places as religious teachers and preachers.

After the Prophet's death, those scholar companions became the source of Fiqh and laid the foundations for later generations to construct the body of Islamic knowledge. The Qur'an and the prophetic traditions conjointly remained as the primary sources of Fiqh, as well as Shari'ah, since then. Based on this context, Shari'ah denotes broader and more general perspectives of religion, while Fiqh denotes specific knowledge of Shari'ah rulings or Islamic jurisprudence. Shari'ah cannot be changed as the whole religion is called the Shari'ah of Muhammad (S.), whereas Fiqh can be changed and developed based on new information and interpretations. Fiqh is usually associated with a pioneering scholar of a specific school of thought, for instance, the Fiqh of Abu Hanifa, the Fiqh of Shafe'i, the Fiqh of Ahmad bin Hanbal, the Fiqh of Malik, the Fiqh of Shi'a and so on.

To summarise, any religious issue can be an issue of Shari'ah. Still, not all would directly be associated with Fiqh, unless it invokes the matter of religious judicial standards such as permissibility or prohibition. In this sense, the issue of organ transplantation is an issue of Fiqh in a precise manner. However, in a broader sense, it is a Shari'ah issue as well.

3. Ijtihad

Ijtihad literally means to endeavour, to strive, to work hard, etc. In Islamic legal terminology, it means the process of finding out the religious rulings based on the sources of religion, i.e., the Qur'an and the Prophetic traditions. In brief, Ijtihad is translated as the process of independent reasoning for the issues of Fiqh.

As the famous Hadith describes, when the Prophet was sending a companion named Mu'adh bin Jabal as the ruler of Yemen, he asked Mu'adh how he would judge if a matter of dispute arose there. Mu'adh replied, "According to the Qur'an." The Prophet asked what he would do if he did not find the solution in the Qur'an, to which Mu'adh said he would judge according to the Sunnah. The Prophet thereupon asked him again what he would do if the answer was found neither in the Qur'an nor in the Sunnah. He replied, "Then I shall struggle to come to the best opinion and not spare any effort in doing so." The Prophet patted his back and told him he was right (Ash'ath 2008, vol. 4, p. 180).

In a simplified manner, it is famously said that the sources of Islamic Shari'ah, according to the Sunni schools of thought, are four; Qur'an, Sunnah, Ijma' (consensus) and Qiyas (analogy). However, an in-depth search in the scholarly works and theories of early and classical scholars may find more Shari'ah sources, broadly divided into two categories; primary and secondary sources.

Primary sources of Shari'ah are infallible as they were revealed. They are the Qur'an and Sunnah. Secondary sources are subject to changes depending on the interpretations of the primary sources, and according to the principles of Islamic jurisprudence (Usul al-Fiqh). These sources include Ijma' (consensus), Qias (analogical reasoning), Istihsan (juristic preference), Maslaha Mursalah (public interest), Ijtihad (reasoning), Istidlal (inference), 'Urf (local custom) and so on. The degree of the acceptance and performance of these secondary sources varies in different schools of thought (mazahib).

Hashim Kamali (Kamali 2008, p. 25), a prominent contemporary academic on the topic of Islamic law and jurisprudence, loosely incorporated all these secondary sources under the category of Ijtihad. According to him:

"Ijtihad means striving or exertion by the mujtahid (one who carries out Ijtihad) in deriving the rules of Shari'ah on particular issues from the sources. Normally such rules are not self-evident in the sources and their formulation necessitates a certain amount of effort on the part of the mujtahid. Ijtihad may consist of an interpretation of the source materials and inference of rules from them, or it may consist of an opinion regarding the Shari'ah ruling on a particular issue. Since the divine revelation has come to an end with the demise of the Prophet, Ijtihad remains the main instrument of interpreting the divine message and relating it to the changing conditions of the Muslim community."

Yusuf al-Qaradawi, an influential Egyptian Islamic scholar, described Ijtihad as a process of reasoning referenced by the revealed sources of Shari'ah, and carried out following the judicial principles by able Islamic legal scholars, who have reached specific standards (al-Qaradawi 1996). However, he emphasised that the increasing complexity

of modern issues requires consultation with experts and specialists of different fields to perform Ijtihad soundly.

4. Organ Transplantation

Organ transplantation is the process where an organ is removed from a body and placed in another body to replace a damaged or missing organ. The objective of this process is to provide a functional replacement. Transplantable organs currently include some vital organs such as the heart, kidney, brain, liver, lungs, pancreas, intestine, etc. The kidneys are the most commonly transplanted organs globally, followed by the liver and the heart.

David Hamilton, a British transplant surgeon, mentions that, although the era of successful organ transplantation in its current understanding started in the mid-20th century, there were precedents in earlier times. Accounts of plastic surgery, to some extent, are found in surgical records from 600 BCE, and the issue of using donors' tissues appears in records from medieval times. Several images of the 3rd-century twin physician saints Damian and Cosmas in various shrines show them transplanting a human leg (Hamilton 2012). The concept is also mentioned in several science fictions from earlier times.

According to Thomas Schlich, the first successful human corneal transplant, which is considered a tissue transplant, was performed in 1905 in the current Czech Republic. Earlier to that, the first successful organ tissue transplantation, a thyroid transplant, took place in 1883. In 1954, the first-ever successful organ transplantation, a kidney transplant, took place in Boston, USA (Schlich 2010). Since then, technology has advanced rapidly and the medical science related to organ transplantation procedures has achieved several incredible successes.

Currently, this medical procedure continues to include more vital organs and intricate tissues. Organ transplantation provides hope and solutions for patients with the possibility of imminent death, extending their lives and returning them to healthy living for a more extended period. However, the practice of organ transplantation constantly has been confronted by moral and ethical debates. Medical practitioners, philosophers and intellectuals continue to address those issues in the quest for solutions.

5. Muslim Response

In the early years of Islam, becoming wounded on the battlefield was commonplace. In several prophetic traditions, it was mentioned that the Prophet (S.) replaced a lost eye of a companion, Qatadah ibn Nu'man, after the battle of Uhud, and an arm of another two companions after the battle of Badr. However, these historical events are not considered as the medical procedure of organ transplantation, and the Prophet (S.) never claimed them to be of any medical nature. Rather, these events in Muslim history are considered prophetic miracles or extraordinary abilities (Mu'jiza) as given by God only.

On the other hand, his companions and contemporaries were not given such miracles. Like any other ancient society, people with experience and ability conducted medical treatments according to their knowledge. Islamic theology never opposed the acceptance and necessity of such pragmatic knowledge. Muhammad Albar views that "Muslim jurists sanctioned transplantation of teeth and bones, which had been practised by Muslim surgeons from a thousand years ago" (Albar 2012). Early discussions about bone and teeth transplantation were found in some books of Muslim scholars such as Al Majmu' by Imam Nawawi (1233–1272) and Mughni al-Muhtaj by Imam al-Khatib al-Shirbini (d. 1570).

The most famous Muslim physician in history, Ibn Sina (1210–1288), considered bone transplantation "a hazardous operation that he would never attempt to perform" (Albar 2012). However, the modern understanding of organ transplantation is a novel medical procedure requiring Ijtihad (reasoning) to extract religious rulings.

Islam considers disease as a natural phenomenon (Sunan Kawniyyah), as well as a type of tribulation and process of expiating minor sins. At the same time, taking medication and other practical measurements for cure and protection are always encouraged, like any other natural phenomenon. Usama Ibn Shuraik narrated, "... O Messenger of Allah,

should we seek medical treatment for our illnesses? He replied: yes, you should seek medical treatment, because Allah, the Exalted, has let no disease exist without providing for its cure, except for one ailment, namely, old age" (Tirmidhi 2007).

When this issue came into public consideration in the 20th century, Muslim scholars resorted to reasoning. Preserving human dignity is one of the vital objectives of Islamic law (Maqasid al-Shari'ah). As part of this objective, the human body, living or dead, has to be honoured. Therefore, mutilation of any dead body or any sort of disrespect for it is prohibited in Islamic law under any circumstance. However, the issue of performing postmortems or removing organs from a cadaver is considered from another legal perspective. In this case, the Maslaha (benefit) of saving a human life supersedes the harm, if any, done by organ removal. However, a living donor cannot provide an organ that would end his/her life. In this case, the principle of doing no harm takes priority.

As Ijtihad is a process of independent reasoning, outcomes can undoubtedly be different, called *lkhtilaf* (disagreement). Some Muslim scholars, notably among them a popular Egyptian cleric Sheikh Metwali al-Sharawi (1911–1998), took a strong stance in 1988 against the permissibility of organ transplantation in Islam. His simplistic expression, "Our bodies belong to God only, so it's not yours to give", created a stir and gained popularity in many Muslim societies. This opinion gained popularity among the traditional Muslim communities worldwide. The argument was simplified enough for mass understanding. Moreover, the rejection of modernity was one of the inherent socio-religious characteristics of 19th and 20th century Muslim thought. This may have also helped this viewpoint gain more acceptance.

However, mainstream Muslim judicial scholars maintained a steady process of reasoning regarding the issue of organ transplantation. Starting in 1959, the Grand Mufti of Egypt allowed blood transfusion, and in 1966, not long after the first successful organ transplant procedure in the western world, the then Grand Mufti of Egypt allowed organ transplants. Later in various international conferences participated by the leading Muslim jurists from around the globe, organ transplant issues from Islamic perspectives were discussed elaborately and allowed in general with consideration of the restriction on relevant ethical issues such as organ selling or human trafficking for organ transplantation. National Islamic scholars' councils and boards of several countries such as Algeria, Kuwait and Saudi Arabic also announced religious rulings about the permissibility of organ transplantation. However, large swathes of Muslim societies remain resistant to the idea of organ transplantation. Lack of literature, discussion and publicity might have played a role in the existence of this phenomenon.

6. Theological Principles and Opinions

In Islam, a human is considered as the slave of the creator. Their body is not owned by themselves, rather it belongs to God. Based on this principle, neither suicide nor euthanasia is allowed in Islam. The same principle also prohibits selling any human organ alive or posthumously. Although a general consensus is established among contemporary Islamic scholars about the permissibility of organ transplantation by donation, provided that it meets certain conditions, some traditionalist scholars extend the same principle to interpret it as the reason for prohibiting organ transplantation in Islam. Consequently, a general rejection against the permissibility of organ transplantation in Islam remains prevalent, at least conceptually if not practically, among the Muslim masses. To address public resistance to organ transplantation, governments in different countries such as Malaysia, UK, Canada and Singapore have published pamphlets and brochures promoting the practice from an Islamic point of view.

The effect of this theological misconception, which is similar in all Muslim societies worldwide, is demonstrated in the experience of Sherine Hamdy, a US anthropologist who studied Egyptian society with a particular focus on the organ transplantation issue. She mentioned that the first kidney transplantation in Egypt was carried out in the mid-1970s, but the government and religious scholars could not clarify their standpoints until the

late 1980s. However, when the stories of the exploitation of poor organ sellers and the problems faced by the organ recipients due to a non-existent legal framework started to come out in the media, the official religious scholars in Egypt declared the permissibility of organ transplantation in Islam. However, it soon became an issue of debate when Shaykh Sha'rawi, a famous religious scholar and television figure, stated that kidney donation is not allowed because 'it is not yours to give'. In this regard, Hamdy described her experience of a prolonged discussion with a pro-organ transplantation Shaykh (religious scholar) of al Azhar University. Although that scholar agreed with the permissibility of organ transplantation, he still dwelled in the philosophical aspects which, according to Sherine, seemed "worlds away from the predicaments of end-stage kidney-failure patients in the Tanta dialysis wards. He believed that if we were all certain about our place within God's plans of Creation and servitude, then none of these 'contemporary' questions would be ethically vexing" (Hamdy 2012, p. 54). In this abstract statement, the Shaykh preferred to accept fate as God's decision instead of finding a higher-level medical solution such as organ transplantation.

Medical technology has progressed rapidly over the last century, and the discussion of organ transplantation has become more intricate, to include questions and possibilities that were unknown previously. Naturally, the disagreement between Muslim scholars on these issues has also increased. However, most scholars have a general agreement about the acceptance of organ transplantation. Therefore, the opinion of organ transplantation's permissibility is attributed to the opinion of 'Jamhur' or the majority of scholars in current religious texts and books.

This 'majority' of religious scholars have exercised their 'ijtihad' authority to derive the permissibility of organ transplantation in Islam based on specific textual evidence and with some certain conditions. The characteristic of 'Ijtihad' as being the process of independent reasoning becomes evident when it is found that opposing scholars pondered upon the same textual evidence and reached a different outcome due to their unpermissive explanation.

The Qur'an states, "If anyone saved a life, it would be as if he saved the life of the whole people" (chapter 5: verse 32), "Allah intends every facility for you; He does not want to put to difficulties" (chapter 2: verse 185), "Allah desires that He should make light your burdens, and man is created weak" (chapter 4: verse 28) and "Allah would not place a burden on you, but He would purify you and would perfect His grace upon you" (chapter 5: verse 6).

In the prophetic tradition it is stated that one day, when the Prophet (S.) was sitting among his companions, a nomad person came to him and asked, "Oh Messenger of Allah, shouldn't we give ourselves medicine?" The Prophet replied, "Yes, oh slave of Allah! Give yourselves medicines. Allah has not created any disease without creating the cure for it, except one disease." The people asked, "What is that disease?" He replied, "Death" (al-Jawziyyah 1998).

Apart from these textual references, several Islamic judicial maxims were widely quoted by religious scholars to allow organ transplantations. These are "Removing harm is one of the objectives of Shari'ah", "When a matter becomes narrower, the solution becomes wider", "Necessity allows the prohibited" and so on. They also generally quoted the commonly agreed objectives of Islamic Shari'ah. One of those primary objectives is 'to protect the religion, life, intellect, wealth, dignity and lineage of a human being'. The scholars expounded that if protection of life required organ transplantation, then it would become permissible. (Athar 2015; Rady and Verhejde 2014; Shuriye 2011).

This permissibility comes with certain conditions. Islamic scholars categorise organ transplantation into two types: transplanting an organ from a living person, and transplanting an organ from a dead body.

There are some general conditions for the first category. First of all, the need for organ transplantation has to be an utmost necessity after exhausting all the other possible and available medical options. Moreover, the donor cannot be harmed in any way as a result

of the procedure. The donor is also prohibited from receiving any material or immaterial reward at all. Finally, the transplantation cannot cause mixing in the lineage in any way.

For the second category, transplanting an organ from a dead body, the generally agreed-upon conditions are: the death has to be confirmed where there is no possibility of returning to life, the need of the organ receiver has to be extreme without any alternative, the deceased had provided their consent for organ donation in an entirely sound state of mind and voluntarily before their death and, finally, it cannot lead to a mixed lineage in any way, which means the transplantation of any active reproductive organ is categorically forbidden (al-Quradagi 1990; Bakur 2001).

On the other hand, arguments from the opponents of organ transplantation are based on the stricter interpretation of the same textual evidence. Instead of allowing the ease that can be implicated by those verses from the Qur'an and prophetic traditions, they state that these textual depositions cannot supersede the ownership of a human body by its creator. Additionally, to remove an organ for any other reason besides saving its holder's life is considered an act of desecrating what was initially created by God. Another argument proposed by the opponents of organ transplantation is based on the philosophical statement of body-soul integration. They claim that there is no separation between the soul and the body in Islam and, therefore, organ transplantation cannot be allowed, even when a person is clinically dead. However, the strongest argument is often the simplest one. The primary argument of the opponents is that organ transplantation cannot be allowed for the same reason as suicide being prohibited in Islam, a human being's soul and body is owned by God, and they are not allowed to violate them in any way (al-Quradagi 1990; Ali and Maravia 2020; Hurst 2016). To arrive at this conclusion, religious scholars holding the opposing views also exercised their authority of ljtihad, or personal reasoning. Although the opposing views are broadly classified into two categories, more in-depth reasoning and interpretations resulted in more variation of opinions inside both of these broader categories. A religious scholar generally condoning the acceptance of organ transplantation in Islam may see a specific organ as non-transplantable, whereas other scholars may see it as being allowed to transplant.

7. Major Literature

In this section, I will briefly introduce the important books and authors on this topic in English and Arabic (two major languages of the Muslims), including the scholars of Islamic studies and other specialisations found through searching various libraries.³ This section aims to produce an introductory survey of the critical literature on this topic that needs more circulation among the religious scholars, with the ultimate objective of removing general assumptions from Muslim societies and increasing informed knowledge on this topic.

Abul Fadl Mohsin Ebrahim, an Emeritus Professor of Islamic Studies in South Africa, authored the earliest book found in English on Islamic views of organ transplantation. The book titled *Biomedical Issues: An Islamic Perspective* was published first in 1988.⁴ Later, he wrote several books on Islamic aspects of relevant areas such as medical research, euthanasia, cloning, animal experimentation and reproductive health. The earliest book found in Arabic was written by Abdul Salam Abdul Rahim al-Sukary and titled *Transfer and Transplantation of Human Organs: A Comparative Study from Islamic Viewpoint.*⁵ Two books are currently in wide circulation among Arabic readers: *Fiqhi Issues of Human Organ Transplantation*⁶ was written by Ared Ali Aref, an Iraqi professor of Islamic Studies in the International Islamic University Malaysia, and published in 2010; and *Organ Transplantation in Islamic Shari'ah Perspective*⁷ was written by Yusuf Qaradawi, a Qatar-based Egyptian Islamic scholar, also in 2010. An international conference on organ transplantation in 2009, organised by the Centre of Islamic Research of Al-Azhar University,⁸ preceded both publications.

In English, a plethora of literature on Islamic viewpoints on organ transplantation is available. Still, it seemingly fails to reach the Muslim masses and traditional Muslim scholars in many countries and languages. *Islamic Bioethics: Problems and Perspectives*,⁹ authored by Dariusch Atighetchi,¹⁰ contains a chapter outlining the circumstances relating to the organ transplantation issue in numerous Muslim countries. The book *Contemporary Bioethics: Islamic Perspectivee*¹¹, published in 2015 and jointly authored by Mohammed Ali al-Bar¹² and Hassan Chamsi-Pasha,¹³ discusses Islamic viewpoints on different medical-related issues including organ transplantation. *Islam and Biomedical Research Ethics*¹⁴ by Mehrunnisha Suleman¹⁵ was published as recently as 2021 and explains the role of institutional forms of Islamic religious texts, scholars and their legal edicts in biomedical issues in Muslim countries. While discussing their topics, all these authors write about the widespread incorrect assumptions among Muslim communities in different parts of the world about Islamic viewpoints on organ transplantation.

It should be noted that a large number of Muslims in this era of the Internet attempt to gather preliminary information through internet search engines. A basic search shows that many popular online fatwa and Islamic resource websites such as islamqa.info, aboutislam.net (previously onislam), fatwa-online.com, islamcity.org, islamway.net and islamweb.net have some materials regarding Islamic views on organ transplantation. There is a typical pattern of focusing on 'donation' instead of 'transplantation' visible in most online materials. However, many other major and popular Islamic websites have nothing on this issue, as well. Finally, numerous academic journal articles published in recent years have focused on some Islamic aspects of organ transplantation. However, they are primarily out of the reach of the general population.

8. Conclusions

An elementary survey of the existing literature demonstrates a general absence of religious literature regarding the Islamic viewpoints on organ transplantation. However, publications on this topic authored by intellectuals from different areas have appeared in recent years.

According to Islamic theology, not everyone can express religious viewpoints without achieving such authority by gaining certain qualifications and standards. A scholar has to reach some specific higher standards of Islamic knowledge before they attempt to perform independent reasoning. Regarding a complex issue such as organ transplantation, advice and consultation would be sought from specialists, but the attempt should be initiated and carried out by religious authorities. Common misconceptions and misunderstandings regarding organ transplantation prevailing in Muslim societies will not be abolished unless the religious scholars come forward with verbal and written contributions.

Among the books and essays written by Islamic scholars on organ transplantation, a trend of increasing acceptance is observable with the continuation of time. The texts published in the 2010s have a less rigid approach towards this issue than the books published in the 1990s or earlier. However, they generally continue to emphasise a few factors. The primary objective of the legitimacy of organ transplantation in Islam rests on the humanitarian cause and welfare of other human beings and the community. Many scholars consider this issue of such importance that they have demanded that the state or a board of medical experts be involved in organ transplantation processes so as to not take this matter lightly nor make it easily available.

This article summarises Muslim scholars' viewpoints on organ donation and transplantation, with a particular focus on the influence of Islamic Shari'ah's 'Ijtihad' framework to demonstrate its impact on this issue of Fiqh. Further research will include the schools of thought of those scholars, focusing on the impact of their schools on their reasoning or 'Ijtihad' outcomes.

Overall, organ donation in Islam can be a very complex issue. The theological authority in Islam is constructed upon a multidimensional structure of individual vs. collective scholarship as well as a diverse knowledge framework. When a novel issue is not unanimously agreed upon among Muslim scholars, it is not allowed to be judged as wrong or right. The Prophet said that the scholar practising 'Ijtihad' or reasoning may reach the right or wrong conclusion. As long as they have the intention to reach the truth, both will be rewarded. Therefore, the Muslim masses have the absolute right to follow their scholars if they consider their reasoning correct.

The Ijtihad framework in Islamic Shari'ah can be progressive and obstructive at the same time, depending on the religious scholars' interpretation frameworks. It keeps the possibility of both acceptance or rejection open and, therefore, also keeps the flexibility alive. Islamic scholars who allow organ transplantation in Islam have practised their Ijtihad authority by analysing the textual evidence. However, a small number of scholars holding opposing views also base their opinion on textual evidence. In most cases, they are the same texts with different interpretations. As rigidity and orthodox views are generally considered of a more religious nature among the masses, this comparative reality remains unknown to many Muslims. As a result, a great number of general Muslims are not aware of the fact that the majority of contemporary religious scholars consider organ transplantation as allowed in Islam, with some certain conditions. One of the most common suggestions found among the proponents of organ transplantation in Islam is to raise awareness about organ donation and transplantation among the masses so that they do not assume religious edicts based on their common knowledge of religion.

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Notes

- ¹ Wael B. Hallaq (1984) conducted an extensive research on this topic titled 'Was the gate of Ijtihad closed?'.
- ² This refers to the Arabic phrase 'sallallahu alaihi wa sallam', meaning 'peace be upon him', which is preferable in the Islamic Shari'ah to add after mentioning the Prophet Muhammad (S.).
- ³ The libraries searched for this purposes were the library of International Islamic University Malaysia (https://lib.iium.edu.my/ (accessed on 15 June 2021)), the library of Western Sydney University (https://library.uws.edu.au/main/ (accessed on 15 June 2021)), the library of Islamic University of Madinah (https://www.iu.edu.sa/site_Page/104923 (accessed on 15 June 2021)) and the WorldCat library catalogue website (https://www.worldcat.org/ (accessed on 15 June 2021)).
- ⁴ Published in Kuala Lumpur by the A.S. Nordeen Publishing House.
- ⁵ This book was found on the library websites of the Islamic University of Madihan and the International Islamic University Malaysia, but no information about the book or the author was available.
- ⁶ IIUM Press, Kuala Lumpur.
- 7 Dar al-Shuruq, Cairo.
- ⁸ For more details, please see: https://www.iifa-aifi.org/ar/2787.html (accessed on 15 June 2021).
- ⁹ 2007, Springer, The Netherlands.
- ¹⁰ An Italian professor of Islamic Bioethics and Theology at the Second University of Naples.
- ¹¹ Springer, London.
- ¹² Director of Medical Ethics Centre in the International Medical Center, Jeddah, Kingdom of Saudi Arabia.
- ¹³ A cardiologist at King Fahd Armed Forces Hospital, Jeddah, Kingdom of Saudi Arabia.
- 14 Routledge, Oxon and New York.
- ¹⁵ A postdoctoral researcher at the Centre of Islamic Studies in University of Cambridge.

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Are Online Fatwas Credible? A Critical Analysis of Fifty Fatwas on Organ Donation and Transplantation

Salih Yucel ^{1,2,*} and Ismail Albayrak²

- ¹ Centre for Islamic Studies and Civilisation, Charles Sturt University, Bathurst, NSW 2795, Australia
- ² Faculty of Theology and Philosophy, School of Theology, Australian Catholic University,
 - Melbourne, VIC 3002, Australia; Ismail.albayrak@acu.edu.au
- Correspondence: salih.yucel@acu.edu.au

Abstract: The cyber world affects many aspects of personal and communal life in our modern world. One significant form of this influence is the growing digitisation of religious understanding. This article will focus on one facet of this virtual religious discussion, namely the religious rulings of organ donation and transplantation in Islam. This study will emphasise that discussion of the credibility of online fatwas is a neglected area that deserves significant scholarly attention. It will examine the diversity and complexity of 50 online fatwas on organ donation and transplantation selected from various fatwa organisations, government bodies, and councils across 16 countries, which differ linguistically, ethnically, socio-culturally, and by religious orientation. This article has three main arguments. First, it argues that state appointed and controlled religious authorities who work under close scrutiny of the state lack credibility in their fatwas. This has especially been the case in the post-colonial period where authoritarian states have deprived many Muslim scholars of their scholarly freedom to produce independent fatwas. Secondly, the paper asserts that an absence of field experts in the fatwa-making process in such areas as medicine, psychology, law, and public policy has weakened the credibility of online fatwas. Finally, the online fatwas evidenced in this study shows little, if any, consideration of opposing views on organ donation and transplantation, further damaging the reliability of the rulings produced. Finally, the online fatwas evidenced in this study shows little, if any, consideration of opposing views on organ donation and transplantation, further damaging the reliability of the rulings produced.

Keywords: organ donation; fatwa; Islam; freedom; ijtihad

1. Introduction

The digitisation of religion is a very complex and dynamic subject. It brings new opportunities but also challenges. The importance of digital, virtual, or cyber religion (what is digital religion? cyber religion? virtual religion?) is increasing daily, with everdeveloping technology and the participation of new players from different religious and spiritual tendencies. As Heidi A Campbell points out, "the online world should be viewed not only as a technological tool or force but also as a social context and place where culture is made and evaluated" (Campbell 2017, p. 16). Parallel to its importance, studies on the subject are also increasing. However, there is no consensus as to whether this digitisation of religion should be covered under media, religion, or culture studies directly (Campbell 2017). Researchers generally divide the religious environment in the digital world into four main categories: i. religion online (presenting information on the Internet without directly communicating with the addressee), ii. online religious movements and cults etc), and iv. traditional religion (Christianity or Islam etc.) (Siuda 2021; Campbell 2017).

Given the wide range of classification, many do not neglect to benefit from the digital world, from the mainstream representatives of many religions to the most radical groups. Piotr Siuda states this new network, which brings together many fields such as technology,

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Copyright: © 2021 by the authors. Licensee MDPI, Basel, Switzerland. This article is an open access article distributed under the terms and conditions of the Creative Commons Attribution (CC BY) license (https:// creativecommons.org/licenses/by/ 4.0/). religion, sociology, culture and media in general terms, sometimes weakens the position of traditional religious authority, and sometimes transforms it into a new medium (Siuda 2021). Sometimes it can also eliminate ethnic, linguistic, and regional boundaries, leading to decentralised and flexibles applications within the scope of the global operation of the internet (Siuda 2021). Online services, rituals, virtual prayer sessions or pilgrimage programs, which we encounter more frequently with COVID-19, have highlighted the importance of the virtual environment and the importance of individual and social religious communication. By using every apparatus of social media (from Facebook to Twitter, from Instagram to TikTok), the religious life and perception of the masses are shaped and new spiritual meanings and perceptions are formed via these modern digital instruments. Religious leaders or ordinary believers strengthen their communication with the masses with the help of this modern technology. Online fatwas, including the ones related to organ donation and transplantation have become a part of digitalisation of religion. Not having clear evidence in the sacred text of Islam regarding organ donation and transplantation, the matter is left to scholars. The issue is highly debated online as with many other controversial topics.

2. Online Fatwas

Fatwas regarding organs are as old as Islamic jurisprudence. In the last 50 years, specific fatwas on organ donation and transplantation have come to fore in public and scholarly circles. With the rise of new technologies and medical practices there is a need of fresh *ijtihad* in the field of biomedical science (Ghaly 2012). Given the seriousness of the issue, fatwas related to organ donation and transplantation are being fervently debated. However, examinations of the validity of online fatwas on this topic are given limited attention.

While the majority of Muslims currently accept the validity of organ transplant from live and deceased donors within certain conditions, there is not a universal consensus on this issue. In particular Islamic contexts, the topic of organ transplant remains a major subject of debate. The subject of organ transplantation is therefore subject to rigorous debate and interpretation, and rulings on it differ based on time, socio-legal, cultural context, and legal schools of thought.

Given the vehemence of argument on both sides, the debate is unlikely to resolve any time soon. Both positions provide evidence from the major sources of Islam. The ambiguous Qur'an verses (*mutashabih*) and the prophetic traditions (*hadith*) that are used as textual evidence to support arguments for and against organ donation makes it difficult to come to a clear consensus. As the ability to transplant organs between bodies is a recent development, it is difficult to find explicit references to this issue within the Qur'an or the prophetic practice (*Sunnah*). Thus, the need for new *ijtihad*¹ (independent legal reasoning) is necessary to deduce new rulings on unprecedented issues in light of the available Islamic legal sources (Kamali 2008, p. 165). A *mujtahid*² Juristically speaking, holds the qualification and expertise to exercise *ijtihad*. Ibn Ashur asserts *ijtihad* is the only way to overcome the problems faced by Muslim communities: '*ijtihad* is a collective obligation (*fard kifayah*) on the Muslim community according to the needs and circumstances of its different peoples and countries' (Ibn Ashur 2006, p. 224).

Scholars of Islamic jurisprudence (*usul al fiqh*), define *ijtihad* as the application of a jurist's faculties to extract the rules of Islamic law from their sources and apply them to particular issues (Kamali 2008). Since application of the *ijtihad* is *shar'a muawwal* (interpreted ruling), the validity of it should be based on its harmony with the Qur'an, Sunnah (*shar' munazzal/munzal*) and the main principles of Islamic jurisprudence.

Ijtihad is always at the core of juristic reasoning and ruling. The ability to extract the rules from Islam's sacred texts, (the Qur'an and sunnah) raises three main questions: the first is to identify who can be considered a *mujtahid*, what are the criteria to be *mujtahid* in contemporary the Muslim world? The second question is whether the *mujtahid* is free from any socio-political, sectarian or religious pressures of his or her milieu. Put differently,

exercising freedom and intellectual objectivity brings integrity and legitimacy to the process of deriving an outcome or ruling. A fatwa whose integrity is compromised makes the ruling questionable. The final and perhaps most important question deals with the technical aspect of *ijtihad*, namely to what extent are these fatwas deduced in accordance with the deductive methodology of Islamic jurisprudence.

The opinions of Islamic scholars regarding organ transplantation require *ijtihad*. This means that the conclusions they derive are based on Islamic legal maxims (Hurst 2016). Yusuf al-Qaradawi, considered as Global Mufti, states a fatwa remains open for discussion since it is related to new developments not previously discussed by scholars. If the 'matters are left to *ijtihad*, possibly the scholars may have different views' (Dogan 2015, p. 319). It is widely accepted that the fatwas can differ according to the time, location and needs of the people (Hanani Mohd Safian 2016). The question that should be asked here is to what extent are online fatwa givers aware of the particularity of the individual or specificity of the groups or communities they are making their statements for? This difference as can be seen in the table of online fatwas below (Appendix A).

3. Why Questioning the Credibility of Online Fatwas?

This study seeks to examine the credibility of online fatwas which are issued by muftis or other religious authorities with applying the rules of deduction which are set by *usul al fiqh* scholars. As Wael b. Hallaq states 'the mufti, performing a central function, was a private legal specialist who was legally and morally responsible to the society in which he lived, not to the ruler and his interests' (Hallaq 2009). The Mufti's Office (Qadi during Abbasids) was institutionalised during the Abbasids, formalised during the Ottoman reign and ideologised during the colonisation period onwards. Muftis or official religious authorities mostly aligned with the rulers, willingly or unwillingly. Historically, those who did not align with rulers were forced, covertly or overtly, out of office.

The Muslim fatwa making process has gone through many stages, especially during the advent of colonialism in the Islamic world. There are significant differences between *mujtahids* and muftis prior to colonisation in the nineteenth century, compared to the first five centuries of Islamic development. The latter fatwas' credibility is questioned for various reasons. There are major differences between the fatwas of these two periods.

Firstly, most earlier *mujtahids* practised *fiqh* at degree of the *ihsan* (perfection) during the formative and classical period. Their degree of knowledge, asceticism, internalising values, sincerity, piety and independency influenced the majority of the people and still continues today. Most of the assigned muftis in the modern period lack the legal and spiritual knowledge to produce reliable fatwas. This disconnect between the requirements of *ihsan* and spiritual excellence is put forward by Said Nursi (d.1960), who argues that 'they are greatly occupied in physical or material matters, lack sufficient knowledge or have only superficial understanding of spiritual matters' (1996, p. 497). Therefore, as Nursi asserts such people's opinions and judgments concerning spiritual matters carry no weight (p. 497).

Secondly, the early *mujtahids'* fatwas were the product of striving day and night and making all their efforts without neglecting the legacy of Islamic law with a deep spiritual life. Nursi continues that in our time, 'scholars minds plunged in politics, and their hearts are giddy at the life of this world, their disposition and abilities have grown distant from the interpretation of the law' (p. 497). In other words, early *mujtahids'* only worry was to please God rather than political authorities whereas today's assigned muftis are very careful not to disappoint their earthly masters.

Thirdly, the formative and classical period scholars mostly practised the principle of *istighna* strictly and would avoid accepting a position or any gifts from rulers as they considered themselves inheritors of the Prophet who never asked any worldly reward for their mission. *Istighna* can be described as is 'not to be indebted to anyone except Allah. Moralists define it 'as seeking benefit for the community before thinking about one's needs' (Yucel 2017, p. 186). Imam Ghazali (d.1111) similarly notes that 'Early Muslim scholars

sought no benefit with their knowledge except the pleasure of Allah' (al-Ghazali 2013, p. 80). The concept of *istighna*, particularly for early ulama (traditional religious scholars), was taken seriously. Many contemporary renowned ulama avoided accepting a prestigious positions and gifts from rulers as they considered themselves "inheritors of the Prophet" who never asked any worldly reward for their religious teachings or sermons. They would survive by doing different types of works. Hallaq asserts that Muslim jurists 'did not have salaries and their interest in the study of law was motivated by piety and religious learning' (Hallaq 2009). For al-Ghazali not following *istighna* principle is key to evil and such scholars are thieves of the religion (Al-Ghazali 2013, p. 173). Imam Rabbani (d.1624) calls them 'lowest of low and robber of the faith and religion' (Imam Rabbani 2014, p. 59). Nursi said that applying the principle of *istighna* is an obligation (Nursi 1996). Muhammad Awwamah goes further with his criticism accusing scholars who do not apply the principle of istighna as deviants who patch up this world with their religion (Awwamah 2014).

Fourthly, since colonisation, most of muftis have become financially dependent on rulers. Unfortunately, this paradigmatic shift damages the credibility of Islamic scholars and weakens their spirituality and the value of their fatwas in the eyes of society. Kamali asserts 'colonial domination of the Muslim lands also lowered the self-image of Muslims and further encouraged imitation' (Kamali 2008, p. 147) State appointed religious authorities are highly criticised by independent scholars for not following of *usul al fiqh* spiritual principles.

Fourthly, before colonialization, the jurists were generally independent, and expressed their view without fear of rulers. They defended human rights against the rulers. The muftis employed by the ruling elite and aligning with their injustice, corruption, and tyranny have a huge negative impact about credibility of their fatwas in the sight of the people. The last two hundred years of Muslim experiences are full of this kind of examples.

Finally, the early and classical period jurists' fatwas were more spiritual aiming gaining God's pleasure and solving the problem for the happiness of eternal life but contemporary scholars' fatwas are earthlier [justification of rulers' policies for worldly purposes] as Nursi argues (Nursi 1996).

Today's muftis or Grant Muftis are like bureaucrats of the state in the Muslim world. Instead of following the footsteps and methodological blueprint of great past jurists regarding fatwas, they acted and expressed their opinions in tune with the power of regimes. They become preoccupied with political roles, rather than religious tasks. The state controlled ulama inevitably feel obliged to defend the dominated rulers' policy by giving fatwas at all costs or at least be silent against corruption, oppression and injustice (Yucel 2019). As Kamali (2008) states '*fatwa* under the Shari'ah is a vehicle that facilitates the free flow of thought and expression in religious issues, whereas now it has become an instrument of restriction on freedom of expression in religious matters' (p. 175) in the contemporary Muslim world. The offices of Muftis are frequently manipulated by the states or organs of the states (Yucel 2019). Under the state, particularly undemocratic ones, the autonomous legal tradition of Islamic law has transformed into the legalisation of state ideology with an Islamic mask.

There are numerous examples of fatwas which are given by state appointed religious authorities. These fatwas serve authoritarian regimes which defend and perpetuate injustice, authoritarianism, corruption, oppression, and tyranny in the Muslim countries. Recent examples include fatwas issued by the Grand Mufti of al-Azhar against Muslim Brotherhood accusing them of heresy (*firaq dallah*) (Warren 2017). Despite the fact that during the presidential election, the Muslim Brotherhood representative was elected by 51.73 of votes in Egypt, he treated Muslim Brotherhood as a marginal group. The second example is the fatwa of Mehmet Gormez, the former Director of Presidency of Religious Affairs of Turkish Republic calling the Hizmet Movement, one of the largest transnational's faith based educational movements with 6–7 million sympathisers, a *firaq dallah* (misguided, heretic groups) (Din Isleri Yuksek Kurulu 2017). In the aftermath of the murder of the journalist Jamal Khashoggi, Sheikh Abdulrahman al-Sudais, the Imam of Masjid al-Haram

(Ka'ba), delivered his Friday sermon from a written script announcing Prince Mohammed bin Salman as a divine gift to Muslims and labelled the crown prince with the lofty title the *mujaddid* (reviver of the religion) sent by God to renew the Islamic faith. (Abou El Fadl 2018) Such verdicts and fatwas can be found in all undemocratic Muslim countries.

4. Methodology

In this research, online fatwas were evaluated from undemocratic and democratic countries. The selection criteria are based on fatwa institutions, the author/authors of fatwas, and the content of the fatwas. As part of the analysis, attempts were made to identify who issued the fatwa, how fatwas were methodologically deduced, the contents of the fatwa, and when the fatwas were issued. Fatwa is defined as "a ruling on a point of Islamic law given by a recognized authority (Butterfield 2015, para 1) There is no set standard about online fatwas. Some are deduced by authoritative institutions. Others are based on Muftis' or Imams' views upon questions about organ donation. For some of them, as mentioned in Appendix A, the fatwa deducting authorities are not known. Thus, this negatively impacts on the credibility of fatwas. However, all selected websites present them as fatwas. It can be said that not all these online fatwas about organ donation are in line with the above-mentioned definition.

There are numerous websites which discuss fatwas regarding organ donation and transplantation. Out of the 120 websites sourced, 50 websites were selected which were in English, Arabic, and Turkish. The 50 websites selected were seen as being more authentic compared to the other websites, which copied and pasted existing fatwas from other outlets, and did not disclose their authors. Four of fifty fatwas are from the Shi'ite School of Thought's websites. The selection criteria were based on fatwa institutions, the author/authors of fatwas and the content of the fatwas. We thought that 50 fatwas on these websites (Appendix C) are more reliable compare with others whereas the other 70 websites seemed copy pasted or authors are anonymous. The chosen online fatwas are based on the websites from sixteen countries included Egypt, Saudi Arabia, India, Pakistan, Turkey, Qatar, Malaysia, Oman, Iran, the US, UK, Canada, Australia, Singapore, New Zealand, and South Africa (Appendix A).

5. Theoretical Framework

In this section, 50 online fatwas will be examined. In examination, attempts were made to identify who deduced the fatwa, how the fatwas were deduced (decision making process), when it was pronounced, to whom it was pronounced, and the content of the pronouncement. Firstly, the textual evidence of each fatwa will be discussed. Secondly, the structure will be elaborated. Thirdly, being a topic of bioethics, an examination will be made to assess if other experts, such as physicians and/or psychologists, were consulted in the development of the fatwa.

"The Quran and hadiths—the two great texts of the religion—are silent on the subject" (Ali 2021, p. 1) The theoretical framework used to assess the credibility of online fatwas follows the methodological standards set out and described by two prominent Muslim scholars: Ibn Abidin (d.1836), a Hanafi jurist and Muhammad Hashim Kamali, a contemporary scholar and theoretician in the field of *usul al fiqh*. This involves utilising and maximising the existing methodological tools within existing schools of Islamic law and applying them in new contexts in order to produce new fatwas.

Ibn Abidin stated that absolute (*mutlaq*) *mujtahid*, *mujtahid* in a legal school (*madhhab*), and *mujtahid* in specific matters (*mas'ala*) are deemed who can deduct new *ijtihad* while the rest are *muqallids* (imitators) who cannot deduct new *ijtihad* (Ibn Abidin 2015). Since there is no absolute mujtahid, it becomes apparent in referring to Islamic intellectual tradition for deducting fatwas. Based on the Caliph Umar's (d.644) instruction that sent to the jurist Shuraykh (d.690) clarifies this point further:

"When there is an issue where you need to express an opinion, first look at the book of God and judge accordingly. If you cannot find what you are looking for, look at the issues ruled by the messenger of God. If you cannot find what you are looking for in the prophetic tradition, apply to views of the righteous and just scholars . . . ". (Dadaş 2015, p. 318)

The significance of consulting experts and checking their qualifications has a very special place in the Islamic juristic tradition. Imam Sarakhsi (d. 1090), along with many other scholars, emphasised the importance of verifying the intellectual background of Muslim scholars in light of the Qur'anic verse 16:43: ' ... if you do not know, ask those who have information about the scriptures [*fa-as'alū ahl al-dhikr in kuntum lā-ta'lamūn*]' (Al-Sarakhsi 1993). With regard to organ donation and transplantation, it goes beyond the effort of an individual contemporary jurist. Many contemporary scholars hold the view that deducing rulings requires experts from all relevant fields, and that this should be coordinated as a collective body of independent scholars or independent institutions (Iqbal n.d.; Nursi 1996; Kamali 2008; Ramadan 2004; Ibn Ashur 2006; Butt n.d.).

As mentioned from the outset, there is a wide range of opinion among the Muslim scholars about organ donation. Each opinion has its own argument and evidence. For examining the credibility of fatwas, it is essential to look at arguments and counter arguments as well as the methodology employed to derive a ruling. The below criteria are derived from earlier periods of Islamic jurisprudence (8th to 13th century) to measure the creditability of online fatwas:

(a) Providing evidence in sacred texts; (b) referring to intellectual tradition; (c) discussing counter arguments; (d) providing evidence of counter arguments; (e) consulting with experts; and (f) religious freedom (Hallaq 2004; Acar 2011; Köksal 2018; Kamali 2008). We added the statistic about freedom and freedom of expression of above mentioned sixteen countries according to World Bank data (The World Bank, Freedom of Religion 2018).

Fatwas receive one point based on their adherence to criteria 1 to 5, then all the points are combined for a final score.

6. Results

Of those examined for this paper, 42 fatwas asserted the permissibility of organ donation and transplantation based on their reading of the Qur'an and Sunnah, albeit within certain conditions, while e fatwas hold the view that is unlawful. Out of the eight fatwas that declare organ donation and transplantation unlawful, seven of these fatwas are given by individual scholars. Of the fatwas examined, none could be identified from any government related institutions specifically on the issue of organ donation and transplantation. While al-Azhar University Fatwa Department and Senior Ulama Commission of Saudi Arabia are in favour of donation, Sheikh Muhammad Mutawalli as-Sha'rawi (d.1998), a well-known independent scholar from Egypt, and Abd al-Aziz ibn Baz (d.1999) gave a fatwa against it. Being an official Grand Mufti of Saudi Arabia, Ibn Baz's fatwa seems contrary to his country's senior *ulama* commission's view.

Both proponent and opponents use the Qur'an and Sunnah for deducting the fatwas. 18 of the fatwas examined do not provide any explicit evidence from Islam's sacred text. These fatwas primarily consist of a verdict, being up to a page long at most. This is inconsistent with the description of the required elements for a valid fatwa according to the classical period, as explained in genres such as *rasm al-mufti and adab al-muft (The task of and manuals of mufti)* In these genres *ijtihad* is case-specific and explained in full, incorporating both the Qur'anic verses, hadith, and pre-existing legal rulings upon which is it based and directly addresses the person raising the question. Al-Qaradawi, meanwhile, objects fatwas that fail to examine the evidence in detail during contemporary period (Hanani Mohd Safian 2016).

Thirty-one fatwa givers do not clearly detail the sacred and historical sources for their pronouncements. The remaining fatwas provides evidence from Islam's sacred text and historical sources for their fatwas, as well as unspecified and unrelated verses, reports and events. Despite their lack of explicit evidence, common amongst both camps' fatwas are the

centrality of human dignity, morality, and spirituality. Proponents give permissibility based on the position of saving human life. Opponents also focus on human dignity, morality and spirituality as the centre of fatwas. For them, taking an organ of a deceased contradicts human dignity, morality and spirituality. For both sides, the argument centres on the same premises with opposite conclusions.

The proponents utilise various Qur'anic verses and prophetic traditions for their position (Sahieeh International Qur'anic Translation n.d.). The most frequently mentioned include but are not limited to:

"... And We have certainly honoured the children of Adam ... " (Qur'an, 17:70),

"... And whoever saves one—it is as if he had saved mankind entirely ... " (Qur'an, 5:32),

"... Do not throw [yourselves] with your [own] hands into destruction [by refraining]... " (Qur'an, 2: 195). The proponents argue that 'the necessity makes unlawful to lawful' based on Qur'anic verse (2:173).

With regard to hadith, the most frequently used, though sometimes abused, text is narrated by Usama b. Shurayk: 'A Bedouin came to the Messenger of Allah and said, 'O Messenger of Allah! Should we seek treatment for illnesses?' The Messenger said, 'Yes. Seek treatment because Allah did not make a disease without making a cure for it; some know of it and others do not' "[Recorded by Ahmed]. Furthermore, there is the saying of the Prophet that he said 'Allah has sent down both the disease and the cure, and He has appointed a cure for every disease, so treat yourselves medically, but use nothing unlawful' (Abu Dawud n.d., p. 1). As these verses and traditions are generic in nature, the opponents of organ transplant also appeal to the authority of them. Opponents also use the following verses and traditions:

"... And We have certainly honoured the children of Adam ... " (17:70).

"... And I (Satan) will command them so they will change the creation of Allah" (4:119).

Opponents cite hadith such as "Breaking the bone of a dead person is similar (in sin) to breaking the bone of a living person" (Ibn Maja n.d.) and "Harming a believer after his death is similar to harming him in his life." (Ibn Abi Shayba n.d.) There is also the juristic maxim that 'There should be neither harming nor reciprocating harm' (Ibn Maja n.d.) that is provided by opponents as vital evidence against the permissibility of the organ transplantation.³

In examining over 40 major Quranic exegetical (*tafsir*), works including juristic *tafsirs* from the classical to modern period, there is not a single scholar who associates the abovementioned verses in relation to the permissibility or impermissibility of organ donation or transplantation. Both proponents and opponents use the same or similar verses which are open ended and general. The exegetical works do not relate the content of these verses with this topic. Instead, both sides of this debate deduce fatwas from these verses and traditions based on *qiyas* (analogy), an important principle of Islamic jurisprudence. It is interesting to note that verse 17:70 specifically is used to support the position of both proponents and opponents, with completely different conclusions. This lends weight to holding a degree of relativity to their fatwas. Every *ijtihad/fatwa* is an interpretation, however the degree to which they are upheld is dependent on the evidence used to arrive at the position advocated.

For the proponents of organ transplant utilise the principle of *qiyas* (analogy) is underpinned by the maxim 'necessity makes that which is unlawful as permissible' (Butt n.d.). Since organ donation and transplantation can save a life, it could be seen that in this instance the unlawful is made permissible. The opponents, however, focus on the literal meaning of the verses and traditions. They argue that the 'human body should be left naturally intact as far as possible without any invasive intervention' (Ali and Maravia 2020, p. 21). For opponents, harming the deceased is akin to harming a living person. Some of them go further, raising spiritual concerns in saying that if the recipient of organ as a disbeliever or vice versa there could be further complications. They claim that there is moral responsibility if an organ is donated to a criminal or a disbeliever who disobeys command of God. This touches on eschatological concerns relating to accountability in hereafter. Irrespective of the explicit permissible of this practice, both camps views can be considered as innovative *ijtihad* as organ donation and transplantation is a new issue. Innovative *ijtihad* means an exerted effort to derive ruling for current new problems that are not covered textually in the past (Hanani Mohd Safian 2016).

Of those examined, 35 fatwas do not discuss their opponents' views. 15 of the fatwas examined give counter arguments. Those providing counter arguments are a product of academic or semi-academic institutions, namely the Institute of Islamic Jurisprudence, Dar al-Ifta in al-Azhar University, The National Fatwa Council of Malaysia, Dar al-Ifta of Deoband, the Islamic Science and Research Academy of Australia, the International Institute of Islamic Thought in the US, The Muslim Healthcare Students Network (MHSN), and the Religious Affairs Supreme Consul of Turkey. London Central Mosque also provides both evidence and counter arguments, being the product of an academic in the field. Ten of the fatwas consulted with related expert such as physicians as part of a fatwa committee. It is interesting to note that almost all online fatwas that mention counter arguments and/or evidence for their position come from either Muslims who live in the West or institutions that are established in Western countries. Further research is required to understand the effect of Western cultural understandings on Islamic legal positions.

The remaining 40 fatwas do not mention experts such as physicians, psychologists. This is contrary to the modern understanding of fatwa development. Twenty-two fatwas discuss the conditions for permissibility, such as permission of the donor or the proxy for protecting human dignity during the taking organs. Some of these fatwas also raise concerns about the sale of organs.

In conducting the research, we used statistical analysis using STATA software to understand the relationship between credibility index and the freedom indices across 16 countries. First, we examined the simple correlations between the fatwa credibility index and religious freedom index and found that the correlation is positive and is around 0.20. However, this relationship is not statistically significant. Next, we examined the simple correlations between the fatwa credibility index and freedom of expression index (World Bank, Freedom of Expression Index 2018) and found that the correlation is around 0 and is not statistically significant. The results imply that fatwas could be more credible in countries where there is greater religious freedom However, as we have analysed data only from 16 countries, this relationship is not significant in our analysis. Although historically, freedom is essential for the credibility of fatwas (Kamali 2008), "the state has consequently acquired control of fatwa-making activity with the obvious result that certain restrictions have been imposed on the freedom of individual religious scholars and ulama" (p. 176). However, the online ruling on fatwas about organ donation mostly is in line with democratic and undemocratic states' policies. Therefore, this study did not find a considerable impact on online fatwas. We believe that future research which could gather more data from more countries will be useful in this case. However, we do not find any relationship between organ donation fatwa credibility and freedom of expression index within a country. This result implies that religious freedom appears to be more important than freedom in other areas in a country when interpreting religious texts and questions.

Although there have been arguments for de-territorialised fatwas (Possamai et al. 2016), this does not seem to be the case for fatwas on organ donation or transplantation. In the examined fatwas four influential fatwa regions were identified within the Muslim world. The first group include Indo/Pakistani scholars who view that organ donation and transplantation is permissible within certain conditions. There were instances of some individual scholars or religious authorities prohibiting this practice, though these seem to be in the minority in the Indo/Pakistani region. The second group includes Saudi fatwa institutions who in the majority give permission with certain conditions. The third

group includes Egyptian, mainly al-Azhar University, scholars who in the majority give permission under the certain conditions. Interestingly, since 1959, almost all heads of the fatwas committee in al-Azhar University ruled for the permissibility of organ donation (Gomaa n.d.). The fourth group includes Iranian scholars who are also in favour of organ donation and transplantation. For Saudi Arabia and Iran, Islam is the state religion. Indo/Pakistani scholars consider themselves as representing the traditional Islam. Egypt has had institutionalised fatwas for a millennium.

There are some scholars in these four regions that are silent and/or have different views to those upheld by the major institutions and Islamic groups. Some organisations give contradictory fatwas regarding organ donation and transplantation, such as the Islamic Religious Council of Singapore (MUIS) as seen in the chart. The anarchy created by paradoxical fatwas among the laypeople is prevalent. The MUIS fatwa committee gave a fatwa against organ donation and transplantation in 1973 and then favoured it in 1985 within certain conditions. While this might represent a natural development in understanding the issue at hand, it also places a significant burden on those involved in the practice to be across any changes in the permissibility of this practice. Furthermore, given the variety in the position held amongst online fatwas, confusion is a likely outcome for those looking to understand the permissibility of this action from an Islamic position.

Based on this data (Appendix B), it can be seen that almost a third (32%) of the fatwas do not follow any of the credibility criteria. Approximately one fifth (22%) only satisfy one credibility criteria. One in seven fatwas (14%) satisfy only two of the five credibility criteria. One fifth (20%) satisfy three out of five criteria. A very small number (4%) satisfy most of the credibility criteria whereas only 8% satisfy all five of the credibility criteria.

There are some other points directly contribute to legitimacy and reliability of fatwas. Firstly, most fatwa websites are poorly designed and not user friendly. Secondly, as was apparent from our data collection, access to online fatwas is inconsistent, with some disappearing or links broken (Appendix B). Thirdly, 27 of the websites surveyed have no commentary section, leaving the reader unable to seek further clarification. Fourthly, fourteen websites of those surveyed provide fatwas are in PDF format, leaving the reader unable to make a comment. Only nine of the websites surveyed allowed the reader to make a comment. This can give the opportunity for readers to gain understanding behind the reasoning and religious significance of the fatwas.

Online fatwas are also part of the religion's digitisation. The digitalisation of Islam allows individuals and small groups to gain new power to publish and disseminate material (Sands 2010) with or without the set criteria of Islamic disciplines. It is argued that the digitalisation of "Islamic text allows Muslims to become less dependent on established source of authorities" (Possamai et al. 2016, p. 1). It offers an open market opportunity to the modern Muslim with its many options. This is called fatwa shopping (p. 1) Such practices are more in line of what they are looking for (Linjakumpu 2011). However, this study shows that the credibility of online fatwas needs to be examined before putting in practice.

7. Recommendations

- 1. Due to development medicine and technology, the fatwas regarding organ donation and transplantation must be given by a multidisciplinary fatwa committee. This is called *ijtihad jamai* collective reasoning (Caeiro 2017). The committee should consist of jurists, physicians, psychologists, and other related experts in the field. In our view, to be a qualified jurist in contemporary time, it is necessary to be equipped with related relevant secular sciences and discipline at an expert level in regard to organ donation and transplantation. Similarly, the experts of related other disciplines must have a strong understanding of the sharia on *fiqh* of donation and transplantation.
- 2. The fatwa committee must be independent and not employed by the state.

- The fatwas should provide clear criteria, detailing their methodology and the evidence used. If the online fatwa is given like a verdict, then the methodology of extracting and analysis of evidence must be provided.
- The authors, names, qualifications, and short biography including his/her School of Law of each member of fatwa committee must be given online.
- 5. Like in academia, there must be copyrights of fatwas. However, this needs further studies.
- 6. Websites should be user friendly.

8. Conclusions

The credibility of online fatwas and their legitimacy from an Islamic perspective is a complex issue in our modern time. The issue is multidimensional and relates to who has the authority to extract ruling according to the Qur'an, sunnah, and methodology of Islamic jurisprudence principles. For the credibility of fatwas, beside the skill and the freedom of jurists, methods of extracting fatwas with a body which consist of field experts form religious and non-religious field of knowledge related scholars is essential.

This study examined 50 online fatwas regarding organ donation and transplantation. We found that 18 online fatwas are just a verdict without providing and discussing the evidence. Thirty-five out of fifty do not provide an examination of the opponents' views. Of those examined, 42 fatwas are in favour of organ donation and transplantation, and 8 are against. It was difficult to identify any fatwas which openly took a stance against the prevailing position of rulers or state ideology in the Muslim majority countries.

This study found that the online fatwas by academic or semi-academic institutions in the democratic countries are more reliable than in undemocratic countries. They discuss the issue from various perspectives, including counter arguments with evidence and consults with the related expertise. They also contextualise the evidence. The reason behind these findings requires further research and relates to experiences of fatwa-making. Nevertheless, the ambiguity in many fatwa websites show that many of them do not make it clear which school they follow, which juristic methodology they have based their *ijtihad* on. In addition, some online fatwa sites are managed by individuals, and this raises the question of whether the fatwas hold as much validity and legitimacy compared to those with collective consensus. Anonymity of the scholars in for online fatwa sites complicates the issues and raises questions regarding transparency and reliability. The educational background of fatwa givers in the democratic and undemocratic countries can impact the reliability of fatwas. This requires further research.

Both camps rely on some Qur'anic verses and hadiths. Therefore, it should be noted that at the end the permissibility or impermissibility is left on the conscious of an individual to freely choose and select which ruling they follow.

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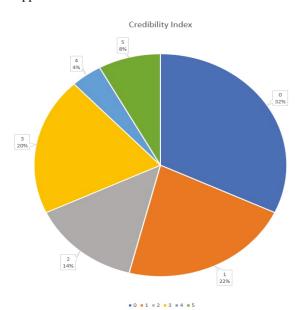
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Appendix A

-	(0)	(2)	(0)	(17)	Table 1: Credibility of Online Fatwas abo			(0)	(4.0)	(4.4)	(40)	(4.0)	40	45	14.00
(1)		(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
ID	Fatwa Website Homepage	Fatwa Link	Country of Origin	of	•	Institution or Individual	permissible		of the Cour of Origin i 2018					Freedom Index of the Country of Origin in	try Index of the
								Evidence in the Sacred Text	Referring to Intellectual Tradition	counter arguments	evidence of counter argument		s		
	eng.dar-alifta.org	https://www.dar-alifta.org/F			Dar'ul Ifta		Yes, with certain condition		1	0	0	0	2	0.40	0.31
	al-garadawi.net	https://www.al-garadawi.net			Yusuf -al-Qaradawi				0	1	1	0	3	0.38	0.32
		http://fiqhcouncil.org/on-org			Figh Council of North America	Institution	Yes with certain conditions		1	1	0	0	3	0.83	0.85
	Islamweb.net	https://www.islamweb.net/e			Unknown		Yes	1	1	0	0	0	2	0.38	0.32
		https://www.organdonation.			Mufti Mohammed Zubair Butt	Institution	Yes with certain	1	1	1	1	1	5	0.86	0.88
					Senior Ulama Commission	Institution	Yes with certain conditions		0	0	0	0	1	0.22	0.26
	e-fatwa.gov.my	https://www.moh.gov.my/m			Ministry of Health Malaysia	Institution	Yes with certain conditions		1	0	0	0	3	0.59	0.61
	muis.gov.sg	https://muisfatwa.pressboo			MUIS Fatwa Committee	Institution		1	1	1	0	0	3		0.48
	muis.gov.sg	https://muisfatwa.pressboo https://www.dar-alifta.org/vi			MUIS Fatwa Committee Ali Goma Muhammed		Yes with certain conditions		1	1	0	0	2	0.67	0.48
	dar-aifta.org darulifta-deoband.com	https://darulifta-deoband.co			Al Goma Munammed	Individual	Yes with certain conditions Yes with certain conditions		0	0	0	0	0	0.40	0.58
	irfi.org	http://www.irfi.org/articles2/			Daru ma Dr. Muzammil H. Siddini	Individual	Yes with certain conditions	1	0	0	0	0	1	0.83	0.85
	amiaonline.org	https://www.imi.org/articles2/		n.d 2006		Individual	Yes with certain conditions		0	0	0	0	0	0.83	0.85
	Divanet.gov.tr	https://www.amjaonine.org/ https://kurul.divanet.gov.tr/0		2006 n.d	Religious Affairs Supreme Consul of Turkey	Institution	Yes with certain conditions			1	0	0	3	0.83	0.85
		https://kurui.diyanet.gov.tr/c			Religious Attains Supreme Consul of Turkey Dr. Zaki Badawi	Individual	Yes with certain conditions		1		0	1	5	0.49	0.29
	organdonation.nhs.uk	https://www.organdonation.			https://www.organdonation.nhs.uk	Individual	Yes	0		0	0	1	2	0.86	0.88
	Qoura.com	https://www.organdonation.			Angle Alis		Yes with certain conditions		0	0	0	0	1	0.83	0.85
	darulifta-deoband.com	http://www.darulifta-deoban			Dar al-Ifta	Institution		1		0	0	0	2	0.54	0.58
					Mufti Mohammed Akhtar Raza Khan Azhari al-										
	taajushshariah.com	http://www.taajushshariah.c			Qaadiri	Individual	No	1	0	0	0	0	1	0.86	0.67
	islamquest.net	http://www.islamquest.net/e				Individual	Yes	0	0	0	0	0	0	0.35	0.39
	alifta.com	https://www.alifta.gov.sa/Er			Abdullah ibn Baz	Individual	No	1	0	0	0	0	1	0.22	0.26
	islamqa.info/en	https://islamga.info/en/1076			Shaykh Muhammad Saalih al-Munajid	Individual	No	0	0	0	0	0	0	0.32	0.46
	questionsonislam.com/	https://questionsonislam.co		n.d	Unknown	unknown	Yes with certain conditions		1	0	0	0	2	0.86	0.88
	donatelifevirginia.org/	https://www.donatelifevirgin			Imam Johari Abdul-Malik Sawid Muhammad Rizvi	Individual	Yes	0	0	0	0	0	0	0.83	0.85
	al-islam.org NHS	https://www.al-islam.org/pri https://www.islamawarenes		2006 n.d	Sayyid Muhammad Hizvi NHS	unknown	Yes	1	0	0	0	0	1	0.35	0.39
								0	0	0	0	0	0		
	donatelife.gov.au litihadnet.com	https://donatelife.gov.au/sit http://iiiihadnet.com/organ-l				Individual	Yes Yes	0	0	0	0	0	1	0.90	0.82
					Shaykh Yusuf Badat, Imam of the Islamic			1							
	Mathabah.org	https://www.mathabah.org/a			Foundation of Toronto	Individual	Yes with certain condition		0	0	0	0	0	0.82	0.85
	islamicvoice.com/	https://www.islamicvoice.co		1998	Islamicvoice.com	Institution		1	1	0	0	1	3	0.54	0.58
	salafitak.net	http://www.salafitalk.net/st/v			Shaykh Muhammad 'Umar Baazmool	Institution		0	0	0	0	0	0	0.22	0.26
	https://jamiat.org.za	https://jamiat.org.za/organ-			Mufti Ehzaz Ajmeri	Individual	Yes	0	0	0	0	0	0	0.91	0.86
	timesofoman.com	https://timesofoman.com/a			Sheikh Ahmed bin Hamed Al Khalili	Individual	Yes	0	0	0	0	0	0	0.52	0.37
	jamiat.org.za ummah.com	http://askimam.org/public/q			Mufti Ebrahim Desai	Individual	Yes	1	1	1	0	0		0.91	0.86
		https://www.ummah.com/fo				unknown	Yes					1	1		
	islamonline.net taaiushshariah.com	islamonline.net http://www.taaiushshariah.c	Qatar	n.d	islamonline.net Mufti Mohammad Akhtar R Khan Qadiri Azhari	Individual	Yes	0	0	0	0	0	0	0.38	0.32
	taajushshariah.com Islamga.info	http://www.taajushshariah.c https://islamga.info/en/ansv			Mufti Mohammad Akhtar R Khan Qadin Azhan Shavkh Muhammad Saalih al-Munaiid	Individual	No Yes	1	0	0	0	0	1	0.54	0.58
	ISRA.org.au	https://isiamqa.inio/en/ansv https://www.isra.org.au/site			Islamic Science and Research Academy	Institution			0	0	0	0	2	0.90	0.26
	ISRA.org.au Muslimmatters.org	https://www.isra.org.au/site https://musimmatters.org/2		n.d 2008	Islamic Science and Research Academy Muslimmatters.org	Institution	Yes with certain conditions Yes	1	0	1	0	0	2	0.90	0.82
	iamiat.org.za	https://musimmatters.org/2 https://iamiat.org.za/organ-			Jamiatul Ulama	Institution	Yes	0	0	0	0	0	0	0.83	0.85
	iiit.org	https://iiit.org/en/reaching-c				Institution			0	1	1	1	4	0.83	0.85
	imedbham webs.com/	https://iii.org/en/reaching-c			MHSN - The Muslim Healthcare Students	Institution	Yes with certain conditions		0	1		1	3	0.85	0.85
	imedbham.webs.com/ shiachat.com	https://imedbham.webs.com https://www.shiachat.com/fe		2006 n.d	https://www.shiachat.com	Institution	Yes with certain conditions Yes	0	0	1	0	0	3	0.86	0.88
	shiachat.com askimam.org				https://www.shiachat.com Dar al-lifta			1	0	0	0	0	3	0.83	0.85
	askimam.org daruliftaa.com	http://askimam.org/public/g https://www.central-mosque		2008	Dar al-Ifta Shavkh (Mufti) Muhammad ibn Adam al-Kawthari	Individual	yes Yes, with certain condition		1	1	0	0	3	0.86	0.67
	darulftaa.com iccuk.org	https://www.central-mosque https://www.central-mosque		n.d	Shaykh (Multi) Muhammad ibn Adam al-Kawthan London Central Mosque	Institution			1	1	1	1	4	0.86	0.88
									1		1	1	5		
	jbima.com/	https://jbima.com/article/thr			https://jbima.com/ Mufti zakaria Makada	Individual	Yes,	1	0	1	0	0	5	0.86	0.88
	muftionline.co.za	http://muftionline.co.za/nod							0		0	0	1		
50	organdonationinislam.com	https://organdonationinistar	Lanada	n.d	The Canadian Council of Imams	institution	Yes with certain conditions	1	0	0	U	0	1	0.82	0.85

Figure A1. Online sources of fatwas.



Appendix B

Figure A2. Credibility index.

Appendix C

Fatwa links

- Darul Ifta, https://www.dar-alifta.org/Foreign/ViewFatwa.aspx?ID=3638 (accessed on 12 September 2018).
- Yusul Al-Qradawi, Can a Muslim donate his/her organ? https://www.al-qaradawi. net/node/4419 (accessed on 12 September 2018) (Al-Qaradawi n.d.).
- Fiqh Council of North America: ON ORGAN DONATION AND TRANSPLANTA-TION, http://fiqhcouncil.org/on-organ-donation-and-transplantation/ (accessed on 6 September 2018).
- Receiving organs for transplantation https://www.islamweb.net/en/fatwa/85514/ (accessed on 6 September 2018).
- Mufti Mohammed Zubair Butt, Organ Donation and Transplantation in Islam, Institute of Islamic Jurisprudence, Bedford, UK. https://www.organdonation.nhs.uk/hel ping-you-to-decide/your-faith-and-beliefs/islam/ (accessed on 18 May 2020).
- Marefa.org., https://www.marefa.org/%D8%B2%D8%B1%D8%A7%D8%B9%D8%A 9_%D8%A7%D9%84%D9%83%D8%A8%D8%AF (accessed on 9 November 2018).
- Ministry of Health Malaysia, https://www.moh.gov.my/moh/resources/auto%20 download%20images/589d7ab14fcd6.pdf (accessed on 9 November 2018).
- https://muisfatwa.pressbooks.com/chapter/organ-donation-and-transplantation/ (accessed on 20 September 2018).
- https://muisfatwa.pressbooks.com/chapter/organ-donation-and-transplantation/ (accessed on 20 September 2018).
- https://www.dar-alifta.org/viewfatwa.aspx?id=3638&Home=1&LangID=2 (accessed on 2 February 2019).
- 11. Can we donate organ, https://darulifta-deoband.com/home/en/Halal--Haram/145 702, (accessed on 10 September 2018).
- http://www.irfi.org/articles2/articles_3751_3800/fatwa%20on%20organ%20donati onhtml.htm (accessed on 17 September 2018).
- Fatwa on organ donation, https://www.amjaonline.org/fatwa/en/1881/fatwa-onorgan-donation (accessed on 4 March 2019).
- Organ bağışı caiz midir? https://kurul.diyanet.gov.tr/Cevap-Ara/993/organ-bagisicaiz-midir- (accessed on 17 November 2018).
- 15. Dr Zaki Badawi, https://muslimdonorsuk.wixsite.com/moduk/forum/published-r esearch/zaki-badawi-1995-organ-transplant (accessed on 8 September 2018).
- New fatwa to clarify Islamic position on organ donation, https://www.organdonation.nhs.uk/get-involved/news/new-fatwa-published-to-clarify-islamic-position-on-organ-donation/ (accessed on 8 September 2018).
- 17. Angle Alis, https://www.quora.com/Does-Islam-support-the-concept-of-organ-do nation-after-death (accessed on 23 March 2019).
- http://www.darulifta-deoband.com/home/en/Halal--Haram/145702 (accessed on 14 November 2018).
- 19. http://www.taajushshariah.com/Fatawa/BloodDonation.html (accessed on 11 June 2020).
- 20. http://www.islamquest.net/en/archive/question/fa3116/tmpl/component/printme /1D (accessed on 11 June 2020).
- https://www.alifta.gov.sa/En/IftaContents/IbnBaz/Pages/FatawaDetails.aspx?cu ltStr=en&View=Page&PageID=2453&PageNo=1&BookID=14 (accessed on 2 November 2018).
- 22. Sheikh Salih al-Munajjid, https://islamqa.info/en/107690 (accessed on 2 November 2018).
- Organ Transplantation, https://questionsonislam.com/article/organ-transplantation (accessed on 2 November 2018).

- Imam Juhari Abdul Malik, https://www.donatelifevirginia.org/lifeline/2016/11/im am-johari-abdul-malik-and-the-change-of-muslim-heart-towards-organ-donation/ (accessed on 21 June 2020).
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- 41. https://jamiat.org.za/organ-donation/ (accessed on 7 November 2018).
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Notes

- ¹ Ijtihad is a legal term referring to independent reasoning or a jurist's exertion to find a legal solution to a problem (Kamali 2008).
- ² Mujtahid, the one who exercises independent reasoning (ijtihad) in the interpretation of Islamic law. (Oxford Reference)
- ³ They also mention the report "Harm can not be removed by a similar harm." (meaning, in order to remove harm from another individual, it is impermissible for one to harm himself)." Ibn Nujaym, al-Ashbah, cited in https://www.central-mosque.com/i ndex.php/General-Fiqh/islam-organ-donation.html (accessed on 10 August 2018).

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A Review of the Rulings by Muslim Jurists on Assisted Reproductive Technology and Reproductive Tissue Transplantation

Zachariah Matthews

Deen Academy, Sydney 2196, Australia; matthz@optusnet.com.au

Abstract: Developments in organ donation and transplantation continue to generate controversy, especially in the field of reproductive medicine. Techniques used in assisted reproductive technology (ART), such as artificial insemination, in vitro fertilisation (IVF), gestational surrogate mothering and gender selection, continue to challenge conventional norms. The use of these techniques, as well as the transplantation of reproductive tissue such as ovaries and the testicles, for example, enables children to be conceived who may have no genetic or social relationship to one or more of their parents, biological or other. This generates religious, legal, moral and ethical dilemmas for many people, including Muslims, who tend to hold negative views about organ donation. Legal frameworks such as *ijtihad* (independent judgment) in conjunction with *al-maqaasid al-shar'iyyah* (the higher objectives of Divine decree) are assessed to review the available Sunni juristic rulings pertinent to the question, "what are the views of Muslim jurists about assisted reproductive technology and tissue transplantation given evolving implications for offspring and donors?" The review finds that a majority of Muslim jurists and juristic councils permit assisted reproductive technology and reproductive tissue transplantation with several conditions.

Keywords: reproductive; organ; donation; transplantation; Islam; ruling; surrogacy; law; legal

1. Introduction

Developments in organ donation and transplantation continue to generate controversy, especially in the area of reproductive medicine. Techniques used in assisted reproductive technology (ART) such as in vitro fertilisation (IVF), gestational surrogate mothering and gender selection continue to challenge conventional norms. Similar challenges exist with reproductive tissue transplantation of the ovaries, testicles, uterus, etc. (Blake and Shah 2012). While other organ transplants affect only the recipient, reproductive technology and tissue transplantation may "affect the offspring of the recipient, as well as the donor and donor's family because of their genetic relationship to the recipient's offspring" (Blake and Shah 2012, p. 233).

These developments present religious, legal, moral and ethical dilemmas for many people, including Muslims, who "tend to hold more negative attitudes toward organ donation than other communities" (Padela and Auda 2020, p. 1). In 2015, the world's Muslim population numbered 1.8 billion, with Sunni Muslims representing about 80–85% (Inhorn 2011; Lipka 2017). In Australia, the Census figures of 2016 found there were 604,200 Muslims representing 2.6% of the total population (Australian Bureau of Statistics 2017).

Like many countries around the world, in Australia today, fertile people including both male and female homosexual couples, single men and women, and post-menopausal women can access ART. Child–parent relationships are thus being formed that differ from the traditional nuclear family of two married parents of opposite gender with biological children. Australia is at the forefront of reproductive biological research with its first successful auto-transplantation of ovarian tissue in a woman post-chemotherapy performed in 2012 (Burmeister et al. 2013). Significantly, the allotransplantation (between two people

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Copyright: © 2021 by the author. Licensee MDPI, Basel, Switzerland. This article is an open access article distributed under the terms and conditions of the Creative Commons Attribution (CC BY) license (https:// creativecommons.org/licenses/by/ 4.0/). who are not genetically identical) of the uterus was first performed in Europe in 2014 (Daolio et al. 2020).

There is currently no federal legislation in Australia directly regulating ART. Instead, there exists a national guideline as well as a code of practice developed by the Fertility Society of Australia (FSA), with its latest revision issued in 2017. In the same year, the National Health and Medical Research Council (NHMRC) published its Guideline recommending, for example, that people should be allowed to trace their genetic parents and siblings; that the number of children born to a donor should be limited; and that careful consideration should be given before family members donate to each other.

The absence of a clear legal framework in Australia and other countries has generated concerns about the rights of the child as well as debates about what constitutes the most functional and beneficial family structure. Related bioethical challenges include that of the use, storage and destruction of excess reproductive tissue such as human embryos, and research involving embryos.

For Australian Muslims, the context for this review, questions about ART and reproductive tissue transplantation are just as pertinent as they are for Muslims in other countries. One of the main concerns for Muslims is how the use of ART and tissue transplantation impacts the family unit and offspring relationships because these procedures enable children to be conceived who may have no genetic or social relationship to one or more of their parents, biological or other.

Given that Muslims tend to hold more negative attitudes towards organ donation generally, it is expected that this also extends to technology and transplantation affecting reproduction. A comprehensive review of available scholarly rulings about reproductive technology and transplantation was therefore conducted with the aim of assisting Muslims with making informed choices. Legal processes such as *ijtihad* (independent judgment) in conjunction with *al-maqaasid al-shar'iyyah* (the higher objectives of Divine Law) were assessed to review the various Sunni juristic rulings pertinent to the question, "what are the views of Muslim jurists about assisted reproductive technology and tissue transplantation given evolving implications for offspring and donors?".

2. Assisted Reproductive Technology and Reproductive Tissue Transplantation

The development of ART was sparked by the problem of infertility with some couples unable to conceive naturally. In Australia, it is estimated that 1 in 6 couples experience some 'measure of infertility' (NHMRC 2017). Treatment of infertility initially focussed on chemical approaches to hormonal irregularities and/or surgery to correct anatomical abnormalities (Fadel 2002). The situation then changed dramatically in 1978 with the first successful 'test-tube' baby produced via IVF in a laboratory. Since then, advances continue to be made in the field of ART, which involves any technological procedure that helps an infertile woman conceive (Alaro 2012; NHMRC 2017). Current techniques mainly include intra-uterine insemination (IUI), with sperm placed in the reproductive tract of a female; gamete intra-fallopian transfer (GIFT), where eggs mixed with sperm are placed in the fallopian tube; zygote intra-fallopian transfer (ZIFT), involving a fertilised egg (zygote) implanted in the fallopian tube; in vitro fertilisation (IVF), where a fertilised egg is placed in the uterus; intracytoplasmic sperm injection (ICSI), involving sperm being injected into an egg in the lab; and surrogacy, where a woman agrees to become pregnant and deliver a baby for another woman.

Significantly in 2012, one in twenty-five births globally resulted from some form of ART (Hilder in NHMRC 2017). In 2018, it was estimated that more than half a million babies worldwide are born each year from IVF and ICSI (sperm injected into the egg) from more than 2 million treatment cycles performed (De Geyter 2018). Currently, ART may be used as an aid to infertile couples or by a 'single' woman who acquires donor sperm to conceive a child. It can also be used for gender selection of babies and to avoid certain genetic and chromosomal disorders through a process of pre-implantation diagnosis (Alaro 2012).

As a result of these advances, ethical positions about ART vary widely and are influenced by cultural, religious, ethical, scientific, professional, legal and political factors (NHMRC 2017). Some people endorse ART completely based on a belief that scientific advancement should not be hindered, while others consider it an abomination that medical technology should interfere with human nature. In between these two positions are several others based on varying considerations of the rights of parents versus the rights of the unborn child. The Australian NHMRC recommends that the wellbeing of a person who may be born as a result of ART activities must be an important consideration in all decisions made. Still others use various interpretations of religious beliefs to preference the traditional family structure, lineage and progeny in order to determine their ethical positions (NHMRC 2017). Putting aside the moral, legal and religious considerations, IVF itself is not without risk medically and can be associated with multiple pregnancies, such as twins and triplets. The rate of miscarriages and stillbirths is also higher than the general population (Davies 2013 in Chamsi-Pasha and Albar 2015).

Another specific debate involves surrogacy, a method of reproduction whereby a woman agrees, usually through a contractual arrangement, to become pregnant and give birth to a child for another woman (Alaro 2012). Where surrogacy is currently permitted it may either be compensated or not. In Australia, commercial surrogacy is currently not allowed (Fertility Society of Australia 2018) and can only be altruistic where the surrogate does not get paid, other than being reimbursed for medical and reasonable expenses. Surrogacy is usually undertaken by two main groups of people: firstly, by infertile heterosexual couples who have tried IVF without success; and secondly, by homosexual couples, who cannot find someone willing to donate sperm or eggs and another woman if required, willing to carry a child for them. Willingness is an issue especially when the surrogate is only to receive reimbursement of their out-of-pocket expenses for the risk and effort they undertake under provisions where compensated surrogacy is prohibited (Gerber 2016).

3. Muslim Jurists and Islamic Law

Before an assessment can be made of the specific juristic rulings about the topic under review, an overview of the processes used by Muslim legal scholars to formulate their rulings is an important starting point. The two primary sources of law in Islam that Muslim jurists rely upon are the Quran and Sunnah. The Quran Muslims believe to be the true word of God, and the Sunnah include verified actions and statements of the Prophet Muhammad (peace be upon him). Laws covering topics that are not categorically covered by these two primary sources are determined by a legal process of juristic deduction called *ijtihad* (Fadel 2002). The rules of *ijtihad* are governed by a well-established methodology of jurisprudence called *Usul-Al-Fiqh*.

The development of Islamic Law in the Sunni branch of Muslims over the ages has included the formation of an important over-arching legal goals-oriented framework called the *Maqaasid* (higher objectives). The *Maqaasid Al-Shariyyah* refers to the goals and objectives of Islamic Law (Kamali 2008). The *"Shari'ah* (Islamic Law) is predicated on the benefits of the individual and that of the community, and its laws are designed so as to protect these benefits and facilitate improvement and perfection of the conditions of human life on earth" (Kamali 2008, p. 11). The Quran clearly expresses the primary purpose of the Prophethood of Muhammad (peace be upon him) as: *"We have not sent you but as a mercy to the worlds"* (Quran 21:107, Saheeh International 2004 trans.). The central theme of 'benefit' can also be seen in the Quran's characterisation of itself as *"a healing to the (spiritual) ailment of the hearts, guidance and mercy for the believers (and humanity at large)"* (Quran 10:57).

The field of Islamic bioethics, which deals with Islam's guidance on ethical and moral issues relating mainly to medical and health sciences, is by extension, a sub-branch of Islamic Law (*Shari'ah*). In this area of law, the Muslim scholar is both a jurist and an ethicist (Albar 1996). When Muslim jurists formulate their rulings on reproductive technology and tissue transplantation, they begin with an assessment of the status of procreation according to the two primary texts and as governed by the *Maqaasid* of the *Shariah*. The

Quran firstly references procreation when it states: "And God has made for you from yourselves mates and has made for you from your mates sons and grandchildren ... " (Quran 16:72); and then confirms that the desire to have offspring is a very strong human instinct: "Wealth and children are the adornments of the worldly life" (Quran 18:46). The Quran also includes a cherished supplication of believers: "Our Lord, grant us from among our wives and offspring comfort to our eyes ... " (Quran 25:74).

The story of Sara, the wife of Prophet Abraham, who due to her advanced age was unable to conceive despite their desire for a child is mentioned in the Quran (Quran 51:28–30). Sara's ailment was 'cured' with sincere prayer when she became pregnant with and gave birth to a son called Isaac. The Quran mentions the similar story of Prophet Zachariah and his infertile wife who gave birth to a son named John (Quran 21:89–90). In these two historic cases involving prophets of God, the cure was found in sincere supplication as far as is reported, but this does not mean that prayer is the only option for treatment according to Muslim jurists (Fadel 2002). They refer to Prophet Muhammad's (peace be upon him) statement that: *"For every disease God has created a cure except senility [meaning death]. So, progeny of Adam seek cure for your ailments, but do not use forbidden things"* (Fadel 2007, p. 80). Muslims are therefore strongly encouraged to find suitable treatments for illnesses and diseases that they may encounter from time-to-time.

The next area of consideration for Muslim jurists is the status of the family and its structure. The Quran for example emphasises the 'centrality' of the family unit (Fadel 2002) when God swears an oath of significance by "parents and their progeny (lineage)" (Quran 90:3), while outlining the duties of parents as well as the obligations of children to their parents. The laws of marriage and inheritance formulated by Muslim jurists are clearly defined and based on family relationships (Fadel 2002). These laws posit, for example, that Islam guarantees the right of a child to know the identity of his or her biological parents. The strict legal provision against fornication and adultery is also aimed at safeguarding progeny and lineage (blood relations). The child's right to legitimacy is at the core of these prohibitions, with marriage the only legally sanctioned pathway in Islam according to jurists. An additional consideration is the stigma and psychological harm associated with illegitimacy and how the innocent child may be affected (Inhorn 2011; Alaro 2012). Lastly, Muslim jurists are united in their determination that any violation of these rules of marriage may undermine the integrity and fabric of society (Fadel 2002).

Under the governance of the *Maqaasid*, jurists agree that Islam's strict laws on prohibiting intimate relations outside of wedlock is "designed to protect paternity (i.e., family) which is designated one of the five" higher objectives (*maqaasid*) of Islamic Law—the other four protections being life, mind, property and religion (Moosa 1998 in Inhorn 2011, p. 94). The Quran is explicit about the importance of lineage: "*And it is He (God) who has created from water a human being and made him [a relative by] lineage and marriage*" (Quran 25:54). "*And God has made for you from yourselves spouses and has made for you from your spouses children and grandchildren and has provided for you from the good things* ..." (Quran 16:72).

4. Muslim Jurists and Organ Transplantation

Once Muslim jurists have set the framework and principles upon which to judge the broader issue at hand, they then begin to formulate specific rulings that are required. After reviewing the available rulings on the question of organ transplantation more generally, there are three main legal positions by Muslim jurists: impermissibility; impermissibility with contingent exceptions; and permissibility with conditions (Albar 2012; Athar 2015; Padela and Auda 2020). The first position of impermissibility is primarily based on the view that organ donation violates human dignity (*hurma*). Meanwhile, the second contingent exception position is based on the legal maxim in *Usul-Al-Fiqh* that dire necessity (*darura*) warrants exception. The third position of permissibility with conditions centres on the view that organ donation is of legitimate human public interest (*maslaha*). Each of these three legal positions has been formulated by jurists with reference to sound legal processes and scriptural proofs.

The reason for the diversity of legal positions is because organ donation and transplantation are not categorically addressed in the Quran and Sunnah. Jurists have therefore derived law using legal methodologies that could result in a diversity of outcomes. This process of deductive legal derivation, *ijtihad*, is by necessity subjective and open to scholarly dispute. It is also a contextualised process which further subjects it to challenge or future revision (Padela and Auda 2020).

In the case where a particular Muslim state adopts one of these legal positions and related rulings, then it becomes binding on its citizenry. However, when a state is silent on a matter or a Muslim resides in a non-Muslim state, such as Australia, then he/she is free to choose any of the valid rulings available (Padela and Auda 2020), albeit under the recommended guidance of local scholarship.

Muslim jurists uniformly agree that transplantation is warranted where it is needed to treat organ failure. The majority of scholars consider this type of transplantation to be morally obligatory if it will save a life where no alternative treatment is available (Padela and Auda 2020). The Fiqh Council of North America for example, which has endorsed the permissibility position, stated that when an organ or tissue is donated with good intention, then the act itself may be regarded as a charity to be rewarded (Padela and Auda 2020).

A related issue in the context of infertility is the question of foster care versus adoption. Muslim jurists recommend that foster care be considered a viable option rather than adoption, commonly defined in the West as: "The legal creation of a parent–child relationship, with all the responsibilities and privileges thereof, between the child and adults who are not his or her biological parents; with the concomitant permanent severing of all connections and relationships with the biological parents" (Kutty 2014, p. 4). In 1980, the University of Al-Azhar in Egypt restated Muslim jurists' prohibition of adoption because it obscured parentage and lineage (Inhorn 2011). This prohibition is based on the Quranic statement: "(*their*) mothers are only those who have given birth to them" (Quran 58:2) and "God did not make those whom you call your sons your sons [in reality]. That is no more than an expression from your mouths and God speaks the truth and He guides to the [correct] way. Attribute them to their fathers: That is more just in the eyes of God ... " (Quran 33:4–5).

5. Muslim Jurists on ART and Reproductive Tissue Transplantation

According to Prophet Muhammad's (peace be upon him) claim that there is a cure for every disease except death, infertility could therefore be cured (Albar 2012). However, given Islam's strict requirements of marriage and protection of lineage, ART is only permitted by Muslim jurists if there is a medical reason, it involves a married couple as the donors, and their marriage is still current and valid (Fadel 2007). Based on these three stipulations, the following *Shari'ah* (legal) bodies permitted the use of ART: Egypt's Dar el-Iftaa (1980), Islamic Organisation for Medical Sciences in Kuwait (1983), Islamic Fiqh Council in Mecca, Saudi Arabia (1984), Islamic Fiqh Academy of the OIC (1986) (Chamsi-Pasha and Albar 2015), and the Fiqh Council of North America (2018) (Padela and Auda 2020; Inhorn 2011). Interestingly, some Muslim jurists have ruled that ART may be available to women whose husbands are incarcerated for long periods of time and where conjugal visits are not permitted (Chamsi-Pasha and Albar 2015).

ART may also include third- or fourth-party involvement where a person or persons other than the married couple gets involved by donating either sperm, ovum, embryo or uterus. The use of donor sperm, eggs or embryo will result in a child who has a biological father and/or mother who is different to his 'married' parents. Since 1980, Muslim jurists have prohibited this practice as it invades a legitimate marital relationship (Chamsi-Pasha and Albar 2015; Fadel 2002). The practice of anonymous donation also presents the possibility of future incest between half-siblings, who may marry without knowing that they share biological parents (Inhorn 2011).

In 1997, at the 9th Islamic Law and Medicine Conference held by the Islamic Organisation for Medical Sciences in Casablanca, Morocco, the ban on third-party involvement was restated in a landmark declaration (Chamsi-Pasha and Albar 2015). The Fiqh Council of North America in 2018 also prohibited the donation of reproductive tissue such as sperm, ova and the uterus (Padela and Auda 2020). Since ovarian tubes and testicles contain gametes that could create 'genetic links between the donor and offspring', Muslim jurists have ruled that donation of these tissues violates Islam's strict higher objective of protecting lineage and/or progeny.

With regard to artificial insemination, the ART process by which sperm is introduced into the female genital tract with or without hormonal stimulation (Fertility Society of Australia 2018), Muslim jurists unanimously agree that if the husband's sperm is used to impregnate the wife, i.e., intrauterine insemination, then this is permissible on condition that the marriage is still intact contractually (Fadel 2002). The husband's frozen sperm cannot be used after divorce or after his death. Muslim jurists agree that both death of a spouse or divorce terminates a marriage contract (Alaro 2012).

Related to artificial insemination is the technique of in vitro fertilisation (IVF), where a woman is hormonally stimulated to produce multiple ova (eggs) which are aspirated and fertilised in the lab with sperm (Fadel 2002). The fertilised egg is then implanted in the woman's uterus (Fadel 2002). IVF includes various modifications such as GIFT (gamete intra-fallopian transfer), ICSI (intracytoplasmic sperm injection), and others (Fadel 2002). The majority of Muslim jurists permit the use of IVF with similar conditions outlined previously, namely, that the couple are married, and the gametes used are only from the couple, with the additional condition that the medical team must be competent in the process and qualified to prevent harm. Some jurists also add that the medical team must be trustworthy to ensure that only the couple's gametes are used (Fadel 2002).

The trustworthiness of the team is important to prevent mistakes from occurring or fraudulent use of the service resulting in corruption of lineage. The current trend in DNA testing in the US in particular has revealed cases which have been labelled "fertility-fraud", where in one case, for example, a physician who treated a woman for infertility used his sperm to impregnate her, without her knowledge (Dunn 2020).

The freezing of excess fertilised ova is permitted by most jurists on the condition that they are only to be used in subsequent cycles by the same couple whose marriage is still legally intact. The same ruling applies to frozen sperm, ova and pre-embryos (Chamsi-Pasha and Albar 2015). In the case of women needing cancer treatment, Muslim jurists have ruled that gametes (reproductive cells) can be frozen prior to chemotherapy and radiotherapy if needed. The same ruling applies for any other medical reason if deemed safe (Chamsi-Pasha and Albar 2015).

A related question revolves around the issue of masturbation and its legal standing in producing sperm. Muslim jurists prohibit masturbation generally with the exception of IVF and averting fornication (Ebrahim 1990; Alaro 2012). They base their prohibition on the Prophetic directive that if someone is not able to marry, then they should control their desire with fasting (Bukhari in Alaro 2012). The recommended options in IVF for a husband are firstly to use a spermicide-free condom during intercourse with his wife or alternatively allowing his wife to perform the act of masturbation in order to collect the sperm (Alaro 2012). There is unanimous agreement by jurists that this type of masturbation is legally permitted.

In the rare situation where donation of gamete-containing tissue occurs despite the prohibition, most Muslim jurists consider the husband to be the child's legal father and not the sperm donor who is the biological father (Fadel 2002). Additionally, in the case of donated eggs, the birth woman is regarded as the child's mother and not the donor biological mother.

6. Muslim Jurists and Embryonic Research

There are three main views universally about the status of the human embryo: firstly, that it is a living human entity deserving of full protection; secondly, it is a potential life that deserves protection once it becomes more human-like; and lastly, it is merely a group of cells like any other organ or body part (NHMRC 2017; Fadel 2007). A fourth, perhaps more obscure view is that the status of the human embryo should be determined by the individual or couple for whom it was created. The Australian Research Involving Human Embryo Act 2002 and the Prohibition of Human Cloning for Reproduction Act 2002 give the human embryo special status by regulating "the creation and use of human embryos outside of the human body, providing sanctions for those who misuse embryos" (NHMRC 2017, p. 22).

Muslim scholars consider human life to commence with ensoulment, i.e., when the metaphysical soul enters the physical body. There is disagreement among these scholars about whether ensoulment occurs after forty days or one hundred and twenty days (Albar 2012; Fadel 2007; Demirel 2011). Both groups rely on Prophetic statements but interpret them differently. One group understands the three stages of 40-day development of the embryo to be sequential, while the other interprets the three stages to occur simultaneously within the first forty days. The relevant statement of Prophet Muhammad (peace be upon him) is that:

"In any one of you, all components of his creation are collected together in his mother's womb by 40 days, and in that it is an *'alaqah* (a clinging object) like that, then in that it is a *mudghah* (a lump looking it has been chewed) like that; then God sends an angel and orders him with four instructions—he is told to record his livelihood (his sustenance), his age, his deeds, whether he will be miserable or happy; and then the spirit is breathed into him (the soul is acquired) ... ". (Bukhari in Demirel 2011, p. 233)

Muslim jurists therefore agree that it is not murder to let a frozen embryo be discarded. It is also not considered abortion since the definition of abortion is to expel contents from the uterus (Chamsi-Pasha and Albar 2015). The Islamic Jurisprudence Council of the Islamic World League in Mecca, Saudi Arabia, in 2003 ruled that it is permissible to use excess gametes or embryos for medical research such as stem cell research as long as the couple both consented to the use for these purposes. Stem cells are the "simple" or "original" cells from which all cells that make up the human body are developed. These cells are found in the developing embryo as well as in adult tissues and organs in small quantities (Fadel 2007). Stem cells are also important for limited self-renewal and for the replacement of lost or damaged cells. The potential benefit of stem cell research is immense, ranging from treating leukaemia and other blood disorders with bone marrow transplantation or umbilical cord blood, to regenerative medicine by growing tailor-made tissues or organs to replace lost or damaged ones (Fadel 2007). Fadel (2007) summarises the contemporary Muslim juristic position on stem cell research as follows: it is acceptable as a means to therapeutic benefit, the fertilised egg before implantation is not considered human, the use of excess embryos is acceptable and that creating embryos solely for the purpose of research is prohibited.

Related to stem cell research is the technique of cloning whereby ART is used to produce a genetically identical copy of an animal or human. This process gained prominence in 1997 with the genetic cloning of Dolly the sheep. That same year, at the 9th Islamic Law and Medicine Conference held by the Islamic Organisation for Medical Sciences in Casablanca, Morocco, a five-point declaration was issued which included the prohibition of human cloning (Chamsi-Pasha and Albar 2015). The prohibition of human cloning by Muslim jurists is based on the principle that cloning violates God's natural selection process of procreation where each birth is genetically unique and never identical to another (Fadel 2002). Humans that are genetically unique will therefore be different physically, intellectually and spiritually. Furthermore, the question arises about whether the clone has the same legal status as the original? What about its relationship status—will the clone be a twin or copy? These questions are difficult if not impossible to answer and lead to legal complexities that may be insurmountable. Therapeutic cloning on the other hand may be of benefit (Fadel 2002). This is where cloning techniques are used to produce human tissues or organs that could be used to replace diseased or dysfunctional organs. The majority of Muslim jurists support therapeutic cloning (Al-Aqeel 2009; Fadel 2012).

7. Muslim Jurists and Tissue Not Containing Gametes

Even though they do not contain gametes, most Muslim jurists prohibit the donation of reproductive tissue/organs such as the penis, vagina and uterus, on the basis that they are 'intimately' involved in reproduction. A minority of scholars however permit the donation of the penis and vagina (IIFA-OIC) (Butt 2020; Ghaly 2012) and the uterus (IFA-MWL), arguing that no transferrable genetic material is involved and therefore lineage is not affected (Padela and Auda 2020). Several jurists counter this by arguing that because of the metaphysical nature of the womb, the uterus cannot be donated either in surrogacy or in transplantation. They reference the Quranic warning to "*respect the womb that bore them for it is through the womb that humans become related to one another*" (Quran 4:1; Padela and Auda 2020).

8. Muslim Jurists and Surrogacy

Surrogacy, as referenced previously, is another form of ART with third-party involvement and is of two main types: the third party, a woman, may contribute either the uterus alone or both the uterus and ovum. Where only the uterus is provided, the couple will undergo IVF and the fertilised ovum will be implanted in the donor woman's uterus. In the second case, the husband's sperm will be artificially inseminated into the donor woman's uterus. After birth, the surrogate woman is then expected to hand the child over to the couple (Chamsi-Pasha and Albar 2015; Fadel 2002). The resulting child will then have a biological rearing father, a biological rearing mother, and a surrogate birth mother in the first case, and a biological rearing father, rearing mother, and a biological surrogate birth mother in the second.

A third possibility with two sub-categories may occur where the sperm is donated by a fourth donor, resulting in a child with a rearing father, a rearing biological mother, surrogate birth mother, plus a donor biological father in one case, and a rearing father, a rearing mother, surrogate biological and birth mother, plus a donor biological father in the second. In both these cases, four different adults are involved in the creation of the child.

Muslim jurists unanimously prohibit surrogacy (Hathout 1989 in Chamsi-Pasha and Albar 2015) based on the complexity of lineage that it produces. They base their prohibition on the Quranic statement: "*None can be their mothers except those who gave them birth*" (Quran 58:2). There is one possible exception to this blanket prohibition and that is in the case of a polygynous marriage where a co-wife agrees to be the surrogate and forgoes conjugal relations with the husband while the conception is in progress to ensure that lineage is preserved. This exemption is endorsed by some Muslim jurists (Al-Ashqar 2001 in Alaro 2012). The Muslim World League's Islamic Fiqh Council, however, retracted its earlier position of permitting surrogacy among co-wives of the same husband (Al-Mubarak 2014). Al-Mubarak argues that "the claims that surrogacy can be considered permissible on the analogy of wet-nursing" should be dismissed because wet-nursing establishes a special relationship among breastfed children and the lactating mother and her family according to the *Shariah* (Al-Mubarak 2014, p. 277). He adds that Prophet Muhammad (peace be upon him) prohibited marriage between the milk-relatives of the same wet-nurse (Bukhari in Al-Mubarak 2014).

The right of the child to a biological mother and father is also compounded by the introduction of a surrogate birth mother and possible donor biological father or mother. The surrogate and donor(s) may lay claim to the child, potentially causing him/her emotional and psychological trauma where legal custody disputes ensue, and surrogacy contracts are challenged (Alaro 2012). Cases exist where surrogate birth mothers refuse to hand over the

child after birth due mainly to the emotional attachment formed with the child over the period of the pregnancy (Fadel 2002). The question also occurs about whether a husband of the surrogate birth mother, if one exists, could legally claim custody of the child (Alaro 2012)? This could introduce another level of complexity and angst for everyone involved.

Where surrogacy occurs despite the prohibition, Muslim jurists agree that the surrogate birth mother is the "real" mother (Chamsi-Pasha and Albar 2015; Fadel 2002; Alaro 2012). This is based on the Quranic verse referred to previously (Quran 58:2). Many jurists give legal preference to the uterine (pregnancy and birth) mother over the egg (biological) mother (Alaro 2012). When considered with other Quranic verses, this position by Muslim jurists seems to be more tenable. "And We have enjoined upon man, to his parents, good treatment. His mother carried him with hardship and gave birth to him with hardship, and his gestation and weaning [period] is thirty months" (Quran 46:15) and "... when you were foetuses in the wombs of your mothers ... " (Quran 53:32). However, Alaro (2012) argues that the issue of legal preference when surrogacy occurs despite the prohibition is not settled and requires further scholarly review by Muslim jurists.

9. Muslim Jurists and Gender Selection

About fifty percent of couples express a desire to know the gender of a future child during pregnancy (Larsson et al. 2017). In cultures where sons are preferred over daughters, gender-selective abortions have been widely practised (Chamsi-Pasha and Albar 2015). These cultural preferences are based on several factors, such as a legislated single-child policy, gender bias involving dowry payments, family name legacy, earning potential, etc. This unfortunately causes a gender imbalance with a significant female deficit in some countries. Gender discrimination is another serious consequence of this approach. It is for this reason that most countries prohibit gender selection for social reasons.

Based on the Quranic verse which states that it is God's prerogative to select the gender of offspring, "... *He creates what He wills; He gives to whom He wills female [children], and He gives to whom He wills males*", (Quran 42:49). Muslim jurists consider gender selection for social reasons as a disruption of the divine demographic order. Prior to Islam in Arabia 1400 years ago, abortion and infanticide were practiced to preference boys over girls. The main reason was the perceived need for military strength gained by having more sons who were better able to defend the tribe. The Quran came to condemn this practise and reform the society: "*And when the girl [who was] buried alive is asked; For what sin she was killed*"? (Quran 81:8–9).

However, in vitro embryonal gender selection may be useful to exclude genetic disorders such as cystic fibrosis, muscular dystrophy, etc. Muslim jurists have therefore permitted this practice for valid medical reasons based on the Prophetic statement which recommends to "choose for your offspring a suitable wife since hereditary plays a role" (Chamsi-Pasha and Albar 2015). In 2007, the Islamic World League in Saudi Arabia issued a ruling (*fatwa*) banning gender selection for social reasons and exempted embryonal gender selection for medical reasons (Chamsi-Pasha and Albar 2015). A minority of jurists permit it for social reasons in select cases where, for example, a couple already has several children of one gender and desires to have a child of the other gender (Chamsi-Pasha and Albar 2015).

10. Conclusions

Medical advances in organ and tissue donation and transplantation have generated controversy, especially in the area of reproductive medicine. The use of assisted reproductive technology (ART) and tissue transplantation may impact the foundational unit of society, the family. It enables children to be conceived who have no genetic or social relationship to one or more of their parents, biological or other. Child–parent relationships are thus being formed that differ from the traditional nuclear family. This has generated concerns for many people, including Muslims, about the rights of the child and what constitutes the most functional and beneficial family structure. Related bioethical challenges include that of the use, storage and destruction of excess human embryos, research involving embryos, and transplantation of tissue such as ovaries, uterus, testicles, etc.

The religious, legal, moral and ethical dilemmas encountered with ART and tissue transplantation have been reviewed from an Islamic Sunni jurisprudential perspective in this paper, addressing the question, "what are the views of Muslim jurists about assisted reproductive technology and tissue transplantation given evolving implications for offspring and donors?"

This review found that a majority of contemporary Muslim jurists and juristic councils, utilising an established methodology of jurisprudence and the legal process of *ijtihad* (independent judgment) governed by the higher objectives of the *Shariah* to formulate a ruling on these new developments, by-and-large permit assisted reproductive technology and tissue transplantation (Albar 2012; Ministry of Health 2011). The permissibility, however, is conditioned mainly on two things: that reproduction only occurs within an existing, legally sanctioned Islamic marriage and that procreation or lineage only stem from the husband and wife of that marriage. Seeking a cure for infertility is encouraged in Islam only if the couple's gametes are used and implanted in the wife while their marriage is still valid. No third- or fourth-party involvement, such as surrogacy or donor sperm or egg, is permitted due to Islam's strict regulations on procreation occurring only through a legal marriage and that lineage is known and preserved. A child's right to legitimacy is at the centre of these regulations by Muslim jurists.

Excess embryos produced in the process of IVF may be used for medical research only with the consent of the married couple or destroyed without sanction. Some Muslim jurists also permit gender selection for medically necessitated reasons, such as excluding genetic disorders. A minority of jurists allow gender selection for select social reasons, where, for example, a couple already have several children of one gender. Some jurists also consider stem cell research and therapeutic cloning to be of benefit.

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A Gift of Generosity—An Explanation of Organ and Tissue Donation and Transplantation for Muslim Audiences

Mohammad Abdus Sayek Khan

Blacktown Mount Druitt Hospital, Blacktown, NSW 2148, Australia; sayek.khan@health.nsw.gov.au

Abstract: Diseased Organ and tissue donation and transplantation entails removing organ and tissues from someone (the donor) and transplanting them into another person (the recipient). Transplanting organs and tissues from one person hold the capacity to save or significantly improve the quality of life of multiple recipients. This is a rare opportunity for one to become an organ donor. In 2018, Australia had a population of 24.99 million. A total of 160,909 lives were lost that year; almost half of this death occurred in hospitals. However, a person may only be able to become a donor if their death occurs in a particular way and fulfils a defined set of special criteria-for example, while on the life support machine in an intensive care unit. Because of this, only 1211 people out of the large number of lives lost in 2018 were eligible to be potential organ donors. This is one of reasons we encourage everybody to consider the virtues of organ and tissue donation in any end-of-life discussion. Diseased organ donation occurs only when the clinician is certain that the person has died. The death is diagnosed by neurological criteria or by circulatory criteria which are discussed in detail in the article. This is an unconditional altruistic and non-commercial act. A large number of people are waiting on transplant list in Australia who are suffering from end stage organ failure; some of them will die waiting unless one receives an organ transplantation. Australians are known to be highly generous people. That is why 98% of Australian say 'Yes' to become an organ donor when they die. But in reality, only about 64% of families consent for organ donation on an average. There are widespread misconceptions and myths about this subject, mostly due to lack of information and knowledge. I have attempted to explain the steps of diseased organ donation in this article which, hopefully will be able to break some of those misconceptions. I have avoided to discuss living donation which is entirely a different subject. I have only touched on Islamic perspective of organ donation here as multiple Islamic scholars are going to shed lights here. We encourage everybody to 'Discover' the facts about organ and tissue donation, to make an informed 'Decision' and 'Discuss' this with the family. If the family knows the wishes of the loved one, it makes their decision-making process much easier during such a devastating and stressful time.

Keywords: organ donation; transplantation; death; brain death; circulatory death; misconceptions on organ donation and transplantation

'My dad passed away in early 2014. Today, and for all the years to come, we will live with the consequences of him being gone and while the pain is not the raw shock and denial it was one year ago, that feeling of loss will always be there. Yet I will consider myself lucky as I have the comfort of knowing my dad was an organ donor and something of a hero to many, myself included. The fear that you will never hear or see your loved one again can be overwhelming. My dad spent his last night playing cricket on the beach, laughing with his daughters over homemade shortbread ice cream, and watching 'The Hobbit' with his son and wife. It was the perfect end to a brilliant life, almost as though he had designed his last night with us himself. But within hours we are faced with the question of whether or not we would donate his organs. Phrased like this it seemed harsh, but for those who need that second chance at life it really comes down to yes or no ...

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Copyright: © 2021 by the author. Licensee MDPI, Basel, Switzerland. This article is an open access article distributed under the terms and conditions of the Creative Commons Attribution (CC BY) license (https:// creativecommons.org/licenses/by/ 4.0/). Today we live with the relief that we made this decision. It offers hope against the finality of death and out of our loss came the ability to prevent another family from suffering the heartache that we have.

For those who have received an organ and those who make it possible, I want to say how grateful I am. You hold a very special place in my heart for letting my dad live on'. (Donatelife NSW 2020a, vol. 18, p. 11)

An account written by Charlotte in 'The Book of Life', when her father passed away and became an organ donor.

The following is an extract written by Kate, who became an organ recipient at the age of 37:

'I write this on the 12th anniversary of my kidney transplant. A day of thanks, a day when my thoughts return to my donor and donor's family and a day when I reflect how my life has changed since I first heard the words 'you have renal failure' [kidney failure]. I was 37, fit, well and happily married with two young children when I felt as if I was coming down with the flu. Within days I had renal failure. My immune system had mistaken my kidneys for the virus and shut them down.

With the help of my family, I managed haemodialysis at home for five and half year. During those years, a transplant seemed like the 'light at the end of the tunnel'.

I expected to be excited when I first received the call that a transplant was available but, as my husband and I travelled to the hospital, I was filled with sadness for my donor's family. Today I am pleased to say my kidney and I are going well. I have a happy life, and my family and I enjoy the freedom that my transplant offers. I am very grateful to my donor and donor's family for the opportunity they have given me'. (Donatelife NSW 2020b, vol. 1, p. 33)

These accounts, and many more heartfelt memoirs from real donors and recipients, are written in 'The Book of Life' by Donatelife Australia (www.donatelife.gov.au, accessed on 20 May 2020, go to 'Donation stories', then open 'Donatelife Book of Life').

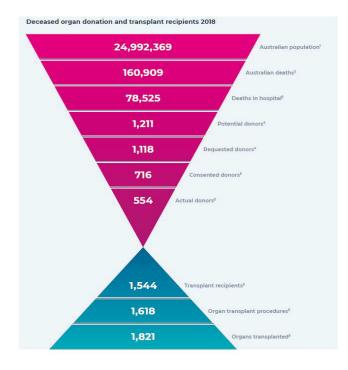
1. Introduction

Deceased organ and tissue donation involves removing organs and tissues from someone who has died (the donor), and transplanting them into someone who, in many cases, is very ill or dying (the recipient). Transplanting organs or tissues hold the capacity to save or significantly improve the quality of life of the recipient. In this chapter, my primary focus rests upon a discussion of the process of organ and tissue donation and transplantation occurring after death. As such, this chapter will not discuss living organ donation, wherein a living donor donates an organ (such as a kidney, part of a liver or other tissue) to a recipient who needs transplantation, after which the living donor continues to live a normal life.

Organ donation in Islam is a complex subject and is still being debated as a controversial issue. Being a medical expert, and with large experience of working 'on field', I feel that people need to understand each step involved in simple terms. In this way, it would be easier to decide in times of immense distress. People need to know rulings from both schools about permissibility before making an informed choice, which are discussed in other parts of the publication.

Organ and tissue donation after death is a rare opportunity to save or improve the quality of many lives. In 2018, Australia had a population of 24.99 million. A total of 160, 909 lives were lost that year; almost half of these deaths occurred in hospitals. However, a person may only be eligible to become a donor if their death occurs in a particular way and fulfils a defined set of special criteria—for example, while on the life support machine in an intensive care unit. Because of this, only 1211 people out of the almost 161,000 lives lost

in 2018 were eligible to be potential organ donors (Donatelife NSW 2018). The image is just an example from 2018, which is similar each year. We recognise that countless more people could potentially be tissue donors and encourage everybody to consider the virtues of organ and tissue donation in any end-of-life discussion (see Figure 1).



Source

1 Estimated Resident Population 30 June 2018, ABS 3101.0 Australian Demographic Statistics, (released 20 December 2018)

2 ABS 3302.0 Deaths, Australia, 2017 (released 26 September 2018)

- 3 AIHW Australian Hospital Statistics 2015–17 (released 24 May 2018)
- 4 Estimated using DonateLife Audit Data (February 2019)

5 Deceased Organ Donation in Australia, Australia and New Zealand Organ Donation Registry, January 2019

Figure 1. Funnel diagram obtained from Donatelife, NSW website www.donatelife.gov.au (accessed on 15 June 2020).

Islam is a major religion in the world today, followed by countless people across all cultures and regions. About 24% of the global population (that is, approximately 1.9 billion people) are Muslims (World Population Review 2021). In Australia, an estimated 2.6% of the national population (more than 600,000 people) are Muslims, with the largest percentage of Muslims residing in Sydney (Census Australia 2016, Australian Bureau of Statistics). In a recent survey conducted on a subset of the Muslim population, results indicated that there is widespread public support for organ and tissue donation in the Muslim community, with many voicing their support in the pursuit of helping others. However, despite many Muslims' philosophical advocacy for organ donation, results for this survey also indicated the concerning misconceptions that continue to pervade Islamic conceptions about organ and tissue donation (Donatelife NSW 2020c; Multicultural Eid Festival and Fair 2013). Hence, proper education and the dissemination of information are crucial to building an informed foundation for understanding organ and tissue donation and transplantation among the Muslim population.

2. Islam and Altruism—Are Organ and Tissue Donation Allowed in Islam?

For many Muslims, altruism inviolably lies at the core of living a pious life, for the act of saving a life is regarded very highly in the Quran.

Islamic legal and moral codes are derived directly from the primary sources of the Qur'an and Sunnah, as well as the secondary sources of Ijma, Qiyas, ijtihad, Istishab, Maslaha, Istihsan and Urf (Rady and Verhejde 2014). The Holy Qur'an and Sunnah do not offer any clear verdict on the issue of organ and tissue donation and transplantation, arguably because there was no such issue to speak of during those times. However, they do offer general principles to shed light on unknown issues that may emerge with the passage of time. Muslim scholars around the world have discussed the issue over the last few decades, using principles from the aforementioned primary and secondary sources to clarify the status of comparable practices, and reach a verdict on the ambiguity regarding organ and tissue donation using analogy.

Of the evidence cited by scholars in support of organ and tissue donation, the following Qur'anic verses contained in *Surah Al-Ma'idah* and *Surah Al Baqarah* are given particular significance:

'And whosoever bringeth life to one it shall be as though he had brought life to all mankind'. (AL Qur'an 5:32)

'He (Allah) has only forbidden you dead meat, and blood, and flesh of swine ... but if one is forced by necessity, without wilful disobedience, nor transgressing due limits, then he is guiltless ...'. (AL Qur'an 2:173)

The principle of Fiqh, based on the above Qur'anic guidelines, states:

'Necessity makes prohibition lawful' (Khadija 2016 'Umdat al-Najir 'ala al-Ashbah w'al-Naza' ir). Therefore, in cases of need and necessity, impure unlawful and otherwise Haram things become permissible. When a person's life is in danger and he is in dire need for transplantation, he is necessarily cast into such a situation—thus, it can be understood that in such circumstances, the transplantation of organs will be permissible.

The Islamic Fiqh Council, which convened its fourth conference in Jeddah, Saudi Arabia in 1988, determined '... It is permissible to transplant an organ from the body of one person to another ... it is permissible to transplant an organ from a dead person to a living person whose life or basic essential functions depend on that organ, subject to the condition that permission be given by the deceased before his death, or by his heirs after his death, or by the authorities in charge of the Muslims if the identity of the deceased is unknown or he has no heirs ... ' (Resolutions of Islamic Fiqh Council of the Organization of the Islamic Conference 1988).

Organ donation is thus not permissible in Islam if:

- Life depends upon that organ (e.g., the heart), or if any harm has been done to the donor (in the case of living donation);
- ii. The organ is sold or traded;
- iii. There is no consent.

The vast majority of Muslim organizations and leaders agree as above and consequently approve organ and tissue donation as a good deed.

There have been multiple conferences with Islamic scholars on the definition of death, particularly the understanding of brain death. In 1986, the Council of Islamic Jurisprudence held its third meeting in Amman, Jordan, and decided to 'accept brain death equivalent to legal death according to Islamic religion' (Resolution of the Council of Islamic Jurisprudence on Resuscitation Apparatus 1986). In fact, all Abrahamic religious traditions (that is, those of Judaism Christianity and Islam) have expressed support for this definition of death, assuming its evidentiary support in science (The Lancet 2011, Editorial).

It is to be noted that a sector of the Islamic scholarly community has expressed their opposition to organ donation and transplantation. Citing from the Prophet Muhammad

(PBUH), 'Breaking the bone of a dead person is similar (in sin) to breaking the bone of a living person' (Yaser 2008). It is a well-established principle of Shariah that all organs of the human body, whether one is a Muslim or non-Muslim, are sacred, and must not be tampered with. This school of scholars is convinced that the sanctity of the cadaveric body is broken by the organ donation surgery.

All views are respected when it comes to organ and tissue donation. That is why the opportunity must be discussed in detail, with all questions answered and informed consent ensured before every step is taken—whatever one's decision may be.

I will abstain from delving further into the ethical debate surrounding Islam and organ donation and transplantation, as this discussion is well-investigated by countless Islamic scholars who have shed significant light on the subject here. In the remainder of the chapter, I will write on the medical aspects of organ donation and transplantation, explaining each step in simple terms. In doing so, I will also address a few of the common questions and myths that circle around this process.

3. The 'Death Question'-Understanding What 'Death' Really Means

'Death, as we conceptually understand, is the state when a soul has left the body. Death has immense cultural, spiritual, religious as well as biological importance, with contesting meanings emerging from each respective viewpoint. Biologically, dying is a process, and the determination of death is an event in that process. In biological terms, 'dying' describes the process when cellular and organ functions progressively cease. The determination and certification of death signifies that an irrevocable point in the dying process has been reached. We recognise death when we observe absence of life in a body, including immobility, absence of breathing and subsequent cooling of the body and decay' (ANZICS Statement on Death and Organ and Tissue Donation 2018, p. 13).

There has been much debate in medical communities on how to define death in the last few centuries. William Harvey notably prompted a discussion of death in the 17th Century, describing the circulation of blood and the function of heart as a pump, stating that '... The heart is the principle of life ... from which heat and life are dispersed to all parts'. (Harvey 1628). Within this concept, death occurs when the heart and circulation has stopped.

The success of mechanical ventilation and intensive care units have irrevocably changed the natural process of death. There have been reports of conditions in the late 19th century, where increased intracranial pressure (high pressure in head/skull) suddenly caused breathing to stop, whereas the heart continued to beat for a period, particularly if the artificial respiration was continued (Cushing 1902). If a patient has been put on a mechanical ventilator ('life support machine'), a state will arise after a catastrophic brain injury (such as bleeding, or something similar), when artificial ventilation continues to push oxygen into the body. The state of high intracranial pressure could continue to worsen to such a state that blood flow to the brain will altogether stop. The brain, without any blood supply, on top of the initial injury, will die. However, the oxygen pushed by the ventilator into the lungs will keep the heart beating, keeping the blood circulation going and the body warm. The catastrophic loss of all functions of the brain, including the brainstem, is permanent and irreversible. The brain stem is responsible for maintaining basic human functions including consciousness, breathing, and others. If the patient was not on a ventilator, breathing would have altogether stopped, followed by the heart. In a report conducted on 23 patients, Mollaret and Goulon demonstrated that in the absence of any electrical activity in the brain, the body falls into a deep coma, with no breathing, no muscle activity, high urine output and low blood pressure-this phenomenon was called the 'el coma despasse' ('beyond coma') (Mollaret and Goulon 1959). Since then, a single operational definition of death has been proposed in Montreal, defining 'death' as 'the permanent loss of capacity for consciousness and all brainstem functions, as a consequence of permanent cessation of circulation or catastrophic brain injury' (Shemie et al. 2014).

Within the Australian context, the Australian Law Reform Commission recommended in 1977 that death be defined as: the irreversible cessation of all functions of the brain of the person (brain death) or
 the irreversible cessation of circulation of blood in the person (circulatory death).

All Australian state and territory laws concerning the definition of death are now closely based on this recommendation.

This is a vital subject when discussing organ donation in Islam. Death must be confirmed by medical and Islamic jurisprudence to consider deceased organ donation. As mentioned, the definition of death by medical communities is mostly accepted by Islamic scholars all around the world (Resolution of the Council of Islamic Jurisprudence on Resuscitation Apparatus 1986), though a significant section opposes it.

Islamic scholars in Australia also agree with the above definition. As the Grand Mufti from Australian National Imam Council (ANIC) stated in February 2013, 'Organ and tissue donation transforms the lives of people in need of a transplant. It is a generous act that each of us has the potential for and any of us one day benefit from. In this way organ and tissue donation respects the sanctity of life and enables people to give the ultimate gift of life to others'. Similar endorsements have been given by most Islamic scholars and leaders in Australia, including Islamic council of Victoria, Arab council of Australia, Turkish Diyanet, Erskine Mosque, and Redfern Islamic Council, to name a few (Donatelife NSW 2020c).

4. Determination of Death

Every state and territory in Australia has stringent criteria when it comes to determining death. These conditions are outlined as follows:

- Circulatory determination of death ('circulatory Death', 'Determination of Death by Circulatory Criteria')
 - This is the 'death' that we traditionally know—the person is unresponsive, not breathing, is not moving and has no pulse (the heart has stopped) for at least five minutes;
 - b. A doctor certifies death after examination.
- Neurological determination of death ('Brain Death' 'Determination of Death by Brain Death Criteria') (ANZICS Statement on Death and Organ and Tissue Donation 2018).

'Death in Islam is the termination of worldly life and the beginning of the afterlife. Death is seen as the separation of soul from the body and its transfer from this world to the afterlife' (Butrovic 2016). This is easily 'seen' in the case of circulatory determination of death. However, 'Brain Death' is a little more challenging for general population to understand, sometimes leading to considerable confusion. This is a fact for not just Muslims but the wider community. The confusion arises from the fact that even when a person is declared dead by neurological criteria as described, the person still feels warm, the monitor shows heart activity, and the chest is moving (due to the ventilator). However, as described elsewhere, most of the Islamic scholars around the world endorse that this is equivalent to the death accepted in Islam (Resolution of the Council of Islamic Jurisprudence on Resuscitation Apparatus 1986).

A short summary of its history has been depicted above with some explanation. I will attempt to elaborate furthermore on this here, though it may sound somewhat repetitive by virtue of its complexity.

Neurological determination requires proving 'irreversible cessation of all functions of the brain' (Australian Law Reform Commission 1977). 'For neurological determination of death to be conducted, there must be definite clinical or neuroimaging [imaging of brain] evidence of acute brain pathology consistent with deterioration to permanent loss of all neurological functions. In case of hypoxic-ischemic encephalopathy [brain pathology due to low blood /oxygen supply, as may occur after a cardiac arrest], clinical history alone may provide sufficient explanation of the acute brain pathology and not require neuroimaging prior to neurological determination of death by clinical examination' (ANZICS Statement on Death and Organ and Tissue Donation 2018).

Acute brain pathology may also occur due to severe brain injury by trauma, catastrophic bleeding in the brain or a large 'brain stroke' (ANZICS Statement on Death and Organ and Tissue Donation 2018).

- a. If such a catastrophe occurs, the brain cells become injured. The brain, like any other part of our body, then swells up due to the injury. The brain is situated inside our skull, which is almost like a closed box. Because the skull cannot expand in adults, the pressure inside the skull starts to rise—this is referred to as 'high intracranial pressure';
- b. This further exerts pressure on the brain, causing further brain injury. The doctors, at this stage, are working on the patient with various treatment methods. If these treatments fail, the brain may get so damaged that at some stage, all functions of the brain will be lost. Once a brain cell dies it is permanently lost; the body cannot regenerate brain cells. The high pressure inside the skull will stop all blood flow into the skull; this can be diagnosed by an angiogram (Figure 2) or a special brain scan (Figure 3).

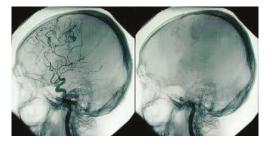


Figure 2. Cerebral Angiogram showing normal blood supply on the left and no blood supply on the right. Photo Source: Australian Donor Awareness Programme and Training (ADAPT).

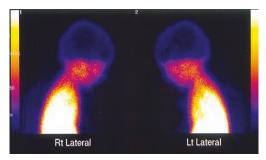


Figure 3. TC⁹⁹ scan of the brain of a brain-dead person showing nil evidence of brain activities. Photo Source: Australian Donor Awareness Programme and Training (ADAPT).

- c. A 'Formal Brain Death' testing is performed by two senior clinicians with sufficient experience and expertise, as defined in every state and territory.
- d. Preconditions: There are specific preconditions that must be met before performing a formal clinical brain death testing. These includes various conditions that can affect the test result. These may include: the amount of sedation medication given to the patient which needs to be metabolised/washed off the body system, if there are severe electrolyte disturbances which may need to be corrected, and low blood pressure that may require further treatment. Sometimes, ensuring preconditions are satisfied may delay the brain death testing.

- e. Clinical testing cannot be done immediately after a brain injury—there is specific criteria for the observation period to ensure sufficient time has been given, influenced by the above preconditions.
- f. Two clinicians, as described above, then perform 'formal brain death testing' separately this is done to detect the presence, or absence, of specific brain functions. This includes testing for various brainstem reflexes, such as:
 - 1. Response to pain—measured amount of stimulation is given to the head/neck area to see response;
 - The eye's pupillary responses to light—light is shone into each eye to see the pupil's response;
 - 3. The eye's corneal responses to touch—eye surface is touched with a soft cotton or similar;
 - The cough reflex (by stimulating the trachea)—the tube which is already inside the trachea is gently moved to see if the patient coughs;
 - The gag reflex (by stimulating the back of the throat)—back of the throat is touched to see if patient gags;
 - Response to cold stimulation of the ear drum—a specific test to elicit a response on the eyes.

These may be followed by an 'Apnoea test'—a test to see if the patient has any ability to breathe without any support from a ventilator (during this test, the ventilator is disconnected, and the patient is closely observed for spontaneous breathing activity). This is a crucial part of the test, as nobody can live without breathing by themselves. Sometimes, patients do not tolerate this step, wherein oxygen levels may descend to dangerously low levels, or blood pressure may become too unstable. If it is within their wishes, these tests can often be conducted in the presence of a family member. The clinical brain death testing is a rigorous process which takes one to two hours and is frequently assisted by a few nursing staff.

- g. The clinicians then complete a 'Brain Death Certification' form, signed by each member only when they are completely satisfied. The time of death is declared when the second examiner completes the test.
- h. Often clinicians can declare death after clinical testing. Sometimes, when clinical testing cannot be performed or clinicians are not satisfied during the process of testing (e.g., if the patient could not complete an Apnoea test), clinicians may request a radiological investigation to confirm the 'absence of blood flow to the brain', as mentioned previously—this process involves transporting the patient to the radiology department and undertaking an angiogram or a Technesium brain scan (neuroimaging). These investigations are then reported by appropriately trained radiologists, upon which the clinicians then decide whether to determine brain death.

As the above steps indicate, a rigorous process is followed before a person is declared brain dead, requiring supervision from various legal proceedings and guidelines.

This is important to understand when a loved one attends the person on bedside who has just been declared brain dead. It often proves confusing for family members, as the patient is still warm to touch—their chest is still moving (because of the mechanical ventilator) and heart is still beating, as seen on the monitor (because of the continuous oxygen supply by the ventilator). For this reason, we often spend a long time with family members to explain the complexity behind brain death.

All organs of a brain-dead person may function normally if supported with all the intensive care supports. However, as all functions of the brain are permanently and irreversibly lost, the heart will eventually stop. This person will never wake up.

By following the above criteria, one of the basic principles of Islam is ensured—no harm must be done to the donor. If there are any signs of life present during the above examinations, organ donation must not proceed. The confirmed diagnosis of death also ensures the resolutions of Islamic Fiqh council that organ donation must not harm the donor among other points. (Resolutions of Islamic Fiqh Council of the Organization of the Islamic Conference 1988). As mentioned earlier, neurological determination of death may be a difficult concept for a Muslim. Hence, there has been a lot of community education and a great number of meetings to bring the Muslim leaders up to the level of understanding. Many Imams and Islamic leaders in the community are now able to answer a lot of questions about death in such a devastating situation. One can request an Islamic leader to attend the hospital to help them understand death from an Islamic perspective.

5. Organ and Tissue Donation after Death

Organ and tissue donation can only happen once death has been confirmed by either circulatory or neurological criteria (Truog and Robinson 2003). This is an unconditional, altruistic and non-commercial act.

It is a rare opportunity to become an organ donor, as death must occur in very specific circumstances and specific ways for a person to become an organ donor.

A loved one must be on a life support machine in an intensive care unit or in an emergency department when the discussion of organ donation takes place. In such circumstances, the medical team will first determine death (brain death) or 'futility of treatment'. Only in these circumstances will doctors then determine whether the patient is medically suitable to become an organ donor. Sometimes, an early decision can be made regarding whether the patient is 'Not Medically Suitable'; for example, if the patient suffers from metastatic cancer (a cancer that has spread to other parts of the body). Moreover, a person might have made a clear decision, when alive, after proper research, that he/she would not want to be an organ donor after death and have conveyed that message to the family. Organ donation cannot proceed. Note that a Muslim might consider organ donation based on his or her understanding of Islamic teachings and rulings, however, also to note, theologically there is debate on the permissibility and impermissibility of organ donation in Islam (Padela and Auda 2020).

The donation process can occur through either of the following two pathways:

1. Donation after Brain Death (i.e., following neurological determination of death) (ANZICS Statement on Death and Organ and Tissue Donation 2018)

This is the more common pathway by which organ donation takes place. The discussion starts once the 'Formal Brain Death Testing' is complete as explained above. This is a rigorous process with stringent criteria set by ANZICS (Australia and New Zealand Intensive Care Society) and other health authorities. Many scholars from different parts of the world, including those from many Muslim countries, endorse 'brain death', however, the concept remains somewhat controversial in Islam.

- a. The patient is then kept on the ventilator with all support continued, including intravenous fluids, other medications, position changing, and daily routine care of the patient that may even include regular suctioning to clear secretions from lungs.
- b. The consenting process with the family continues alongside several investigations conducted to ensure the patient's medical suitability.
- c. Amongst others, a select number of specific investigations are conducted to find the best match for the patient to minimise the chances of transplant rejection (the body may reject a transplanted organ for various reasons) in the recipient.

The above investigations may take 4–8 h to complete.

- d. Once consent is provided by the family, a large team is then engaged for the procedure, including the operating theatre, anaesthetists, numerous surgical teams (including the cardiothoracic surgeon, liver surgeon and abdominal surgeon), organ donation team, appropriate organ allocation team and the transplant team preparing at the transplant hospitals.
- e. After about 12–18 h of intensive work by the team, the patient is then transferred to the theatre. It is at this point that the family says goodbye to the loved one.

- f. The organ retrieval surgery takes place, maintaining full dignity respect and aseptic precautions, like any other surgery.
- g. During this time of preparation, family members are allowed to stay with the loved one. Family may organise to recite the Quran continuously at the bedside. An Imam may attend to bless the soul.
- h. Donation after Circulatory Death (Death determined by Circulatory Criteria) (ANZ-ICS Statement on Death and Organ and Tissue Donation 2018).
- i. Typically, the patient has been admitted in the intensive care unit for a period for critical illness. The clinical team has tried all aggressive therapy appropriate for the patient. At some stage, it becomes clear to the treating team that all interventions have failed and there is no chance of recovery. At this point, death is certain and inevitable.
- j. This is an incredibly difficult decision, taking days, sometimes even weeks, to arrive at this stage. This period entails the involvement and consultation of multiple teams, often requiring other colleagues to provide second, or even third, opinions to ensure that the decision is right.
- k. Only once this decision has been made can the discussion regarding organ donation commence (this stage is called 'decoupling', to separate the decision to palliate from organ donation).
- 1. The medical suitability is checked as mentioned above. The consenting process with the family then starts.
- m. The same investigations (as described in the brain death section) then commence.
- n. Again, after 12–18 h of intensive work by the team, the patient is transferred to the theatre.
- o. The patient is usually taken to a room close to the operating theatre. The end-of-life process is then started by withdrawing all life-sustaining therapies, including taking out the ETT (endotracheal tube), stopping other medications and sometimes starting a small dose of comfort medications so that the patient does not suffer, ensuring that nothing is given to hasten death.
- p. The family is usually allowed to stay with the patient until the loved one dies. A doctor then examines the patient and declares death if all the criteria are fulfilled.
- q. The patient is then taken to the theatre where the surgeons are already scrubbed and gowned, so that no time is wasted.
- r. The organ retrieval surgery takes place (as outlined above).
- s. Again, most families would request an imam to bless the patient, and they themselves would continue to pray and recite Quran at the bedside. Every effort is taken by the hospital team to respect these family wishes.

There are a few special points that need to be mentioned here in relation to donation after circulatory death:

- i. The 'Decoupling' process is very important. Extreme effort is taken so that organ donation does not influence the decision for palliation. The process is open, transparent, and consultative. This ensures another principle of organ donation in Islam, which is 'the donor must not be harmed by organ donation' (Resolutions of Islamic Fiqh Council of the Organization of the Islamic Conference 1988).
- ii. The patient dies in front of the family if the family wishes them to. The family witness death as it is accepted by the society—that is, when the patient's heart stops, and they become unresponsive, immobile, and cold. This is a more 'understandable death' by the family, in comparison to brain death. The family is then required to say their last goodbyes and let the team take the patient to the operating room. If this cannot happen within a specified time (maximum few minutes), organ donation cannot take place.
- iii. If the patient does not die within the specified period (maximum 90 min in Australia after taking the endotracheal tube (ETT) out), organ donation does not take place. In this case, the patient is usually taken back to the ICU to continue end-of-life care.

These strict time limits are stringently followed to ensure the viability of the organs to be transplanted. After this specified period, organs start to suffer from a lack of enough blood and oxygen supply, causing significant injury and increasing the chances for transplant failure.

Which Organs can be Donated and Transplanted?

Multiple organs can be donated through the above two pathways. However, a lot more people can still be eligible to be tissue donors if they are not suitable for multi-organ donors (Donatelife NSW 2020c).

1. Heart

The heart is vital for living, often called the 'principle of life'. This is more commonly donated through the brain death pathway. With the emergence of new technologies, heart donation can now be considered via circulatory death pathways as well. During the procedure, the heart must be transplanted as a whole.

2. Lungs

The lungs are essential to oxygenating our body. We have one lung on each side of our chest (right and left). Both lungs can be transplanted to one recipient or be divided and transplanted to two recipients. In certain clinical situations, patients would almost certainly die without a transplantation.

3. Liver

The liver is essential to allowing the 'cleaning' of our blood. It also produces bile, which is required for our digestion. There are conditions when, if a liver fails, patients may enter an extremely critical state and die within a short period without a transplant. The liver can be transplanted whole or be split and transplanted into two recipients.

4. Kidneys

Kidneys clean the blood of waste products and fluids. If the kidneys fail, a patient cannot survive for long without undergoing dialysis. However, patients can live on dialysis for years, though with a much shorter life expectancy. Usually, two kidneys are transplanted to two recipients. Depending on the clinical condition of the donor, sometimes both kidneys are required to go to one recipient.

5. Pancreas and Islet cells

The pancreas and Islet cells produce insulin, which is vital to controlling blood sugar levels in the body. A lack of insulin in the body gives rise to the condition known as diabetes. Often, young people suffer devastating complications from type 1 diabetes. The pancreas is often transplanted with the kidneys, as both diseases often coexist. Islet cells are specialized cells in the pancreas responsible for producing insulin, unlike the other cells of pancreas which produce digestive hormones and can be extracted from the pancreas and transplanted accordingly.

6. Tissues

Whilst tissues can also be donated by multi-organ donors, many patients may also qualify as tissue-only donors. As tissues can be donated up to 24 h after death, comparatively, many more people are eligible to donate tissues than organs.

a. Eyes

The eye bank is led by a dedicated team. The team contacts the family if the loved one dies in hospital or a suitable facility. Once consent has been provided, the team then retrieves the eyes—the whole eyes are retrieved and then processed in the eye bank, after which the corneas are transplanted, and other parts are used for research (with the consent of the family). The eye sockets of the donor are transplanted with artificial eyeballs, so that eye contour is maintained for the funeral.

b. Bones

Bones can be donated from multiple sites, such as long bones from the thighs, legs, arms, etc. These bones are processed appropriately to be used by the orthopaedic surgeons during bone surgeries. When a bone is retrieved, the space is filled with artificial structures to maintain the body's shape for the funeral.

c. Heart valves

There are many diseases that affect the valves of the heart. The heart fails without properly functioning heart valves, and patients may die out of arising complications. Whilst artificial valves are an option for many, human tissue valves remain the most advantageous. If the retrieved heart is not suitable for transplantation, the heart valves can be dissected and prepared for transplantation. The rest of the heart may be used for research if the family consents, or alternatively, returned to the body to be buried or cremated.

6. Medical Suitability

Whether a patient is medically suitable to become an organ donor or not is usually a clinical decision. In other words, there are a few medical conditions that can exclude somebody becoming an organ donor. However, families are often surprised to discover that the 'contraindications' are so few and far between.

Anybody can be an organ donor. Though age places some limitations, even very young and very old people (even those over 80 years of age) may be eligible to still be a donor. Smoking and drinking alcohol can influence the decision process, but do not present absolute contraindications. Similarly, there are many medical conditions which people often think would make them unsuitable, however, more often than not, it is to their surprise that they do not.

When the discussion for organ donation starts, the team collates a wide breadth of information from various sources, including family, long-term doctors of the patient and previous notes.

Additionally, multiple investigations during the donation process assist the team in making an informed decision. Often, patients may be permitted to donate one organ and not another; for example, a patient may be able to donate their kidneys but not their liver.

7. Consenting

'Australia and New Zealand have an 'opt in' model of organ donation (Donatelife NSW 2020c). In contrast, an 'opt out', 'presumed consent' or 'deemed consent' model is commonly proposed as a legislative change to increase organ donation rates. In an opt-out model, it is assumed that each member of the community would be prepared to donate unless they register a decision to the contrary ...'. (Donatelife NSW 2020c)

In Australia, organ donation depends entirely upon the consent of the family. The consent is given by the 'Senior Available Next Of Kin' (SANOK), which is clearly defined in each jurisdiction of the country.

Organ donation in certain countries like Australia can proceed with family or guardian consent. This consent can be given by the patient when he/she was alive or by the family, which conforms to the SANOK definition. In case of a situation where none of the above is available, Islamic leaders and scholars can be involved in such decision making. The consenting comes to the situation when the patient or family accepts the permissibility according to their belief and understandings of Islamic rules. The medical team fully respects the decision of the family.

The consenting process is fair, transparent, and informed. The family, including the SANOK, is given detailed information about every stage of the process, and allowed

time to process and ask any questions regarding the procedure. An Islamic leader or a scholar can be invited to hospital at this stage to help the family understand from an Islamic perspective. The family may decide to consult scholars from both views including 'endorsing; and 'not endorsing' organ donation in Islam to help explore all rulings. After answering all questions, the families are then given the opportunity to make their decision. Whatever decision the family makes is respected, maintaining full impartiality. Ultimately, the 'Yes' or 'No' decision does not influence or impact the patient's care in any way.

Often, families find it easier to come to their ultimate decision at this stage if they are aware of the final intentions of their loved ones. As such, discussions about organ donation within the family are incredibly important. Again, a potential patient may conduct extensive research into the subject and ultimately decide that they do not wish to become an organ donor, and this decision is treated with complete respect. On the other hand, another potential donor may express interest in the procedure and wish to become a donor after they have died. This decision should always be discussed with the family.

The following extract explains the importance of registering oneself into the organ donor register and taking the step to openly discuss such decisions with one's family:

'Organ donation is an altruistic act and a gift of life. As we have seen a single organ donor can save many lives. This is a big incentive for many to help others. That is why 98% of Australians say 'Yes' to become an organ donor when they die. But in reality, we see only 64% of families consent for organ donation on an average. Lack of information and family discussion of the decision partly contribute to this low consent rate.

A recent analysis showed that about 93% families agreed to donation when their family member was registered on the Australian Organ Donor Register (AODR) compared to 73% when they knew their family member wanted to be a donor and 52% when the family member was not on the AODR and there was no family discussion on the subject. Most donor families (92%) find comfort in the donation of their loved one's organs; 50% finding a great deal of comfort and 42% finding some comfort. For these family members, Donation has helped them in their grief (64%) and provided meaning to them (63%).

8. Organ Retrieval Surgery

On 17 June 1950, Dr Richard Lawler performed the world's first successful kidney transplant on a 44-year-old lady (Life Source. Organ Eye and Tissue Donation 2021). Since then, medicine has evolved and progressed at an incredible rate, with the development of modern technology and new drugs allowing organ transplantation to become an essential part of modern medicine. Through the emergence of new medical technologies and methods, the success rate of organ transplantation today is high (Donatelife NSW 2020c).

The organ retrieval surgery is a highly specialized operation performed by specially trained teams. Multiple teams are involved in organ retrieval, depending upon which organs are to be retrieved. In this example, a generous donor may be suitable to donate only their kidneys. After all preparations are complete, a large team ensures that the patient is treated with principles of dignity and respect maintained. The operation is performed like any other surgery, maintaining full aseptic precautions in the operating theatre. A team leader overseas the whole process. The kidneys are retrieved and then prepared for transport to the transplantation hospital. Working within the limited time at hand, the kidneys go through specific preparation processes for them to be viable in the recipient. By this stage, a vigorous organ allocation process has already taken place prior to the surgery, to adhere to the strict time limitations after the retrieval itself. At the end of the surgery, the patient's abdomen is sutured carefully and closed. With clothes on, there is no indication of a major surgery or physical disfigurement of the body that can be seen during the funeral.

A donor may have the opportunity to donate multiple organs. In this case, a cardiothoracic team works on the chest area to retrieve the heart and lungs, whilst separate kidney and liver retrieval teams work on the abdomen area. The organs are then prepared to be transported to the transplantation hospital. Again, there remains a limited time by which each organ should be transplanted. Sometimes, machines are utilised to assist in increasing the viability of organs.

The violation of the sanctity of a dead body is forbidden in Islam, as mentioned in the Hadith, 'Breaking the bone of a dead person is similar (in sin) to breaking the bone of a living person' (Yaser 2008). As explained above, the retrieval surgery is undertaken by a highly specialised team maintaining full respect and dignity in an operating theatre. Each member of the team ensures that sanctity is never violated. Once the surgery is completed, the body is prepared for family viewing and religious rituals. The body is then handed over to the funeral director, who then washes and prepares the body according to Islamic law for the burial.

9. The Process of Organ Donation as a Snapshot

In explaining a few of the steps of organ donation thus far, it is clear that this is a rigorous process involving many teams (ANZICS Statement on Death and Organ and Tissue Donation 2018).

The process begins with identifying a potential organ donor who has unfortunately become brain dead, or where an end-of-life care discussion has been started. After a preliminary look at the patient's medical suitability, the specialised organ donation team is involved. This specialised team then requests information from the Australian Organ Donor Registry (AODR), which allows privileged access to information and is released only after the appropriate procedure has been followed.

The AODR information, which may indicate if the patient registered their wishes regarding whether they intended to become an organ donor after death or not (in which case, there will be no registration from the patient), is then conveyed to the family. Whilst all efforts are taken to uphold the patient's wishes, the final decision regarding the process ultimately rests upon the family. If the family consents to proceed, then the patient's blood samples are sent for special investigations, as well as ordering several other tests. At this point, a detailed consenting process with the family commences, after which surgical teams are contacted and theatres are organised. All the teams involved undertake multiple meetings to specify plans. As mentioned earlier, this process may take up to 12–18 h. Often, it is difficult for families to wait through this period when they know that their loved one has died or is dying. However, the thought of the gift of life to save more lives always gives them the solace to keep going and follow the process.

Once all the processing has taken place, with all the investigations at hand and teams satisfied with the plans, the patient is then transferred to the theatre, and organ retrieval surgery is done by the surgeons in theatre.

A large team is involved in allocating the organs to appropriate recipients, who are then selected and transported to the transplant hospitals at short notice. The retrieved organs are then transported by the specialised team to the transplant hospital, at which point the recipients have been properly prepared for the procedure. The transplantation then takes place; again, as aforementioned, there is only a limited specified time for each organ to be transplanted.

10. Organ Allocation

The donated organs are allocated to the most suitable recipients on the transplant waiting list. Several globally recognised doctrines address the ethical considerations surrounding organ and tissue donation and serve to provide the foundational principles upon which the procedure is conducted accordingly. The World Health Organization (WHO) guiding principles state that 'the allocations of organs, cells and tissues processes should be guided by clinical criteria and ethical norms, not financial or other considerations. Allocation rules, defined by appropriately constituted committees, should be equitable, externally justified and transparent' (Sixty-Third World Health Assembly, and World Health Organization 2010).

The Declaration of Istanbul emphasises that organ trafficking, and transplant tourism should be prohibited (International Summit on Transplant Tourism and Organ Trafficking 2008). The Australian and New Zealand Human Tissue Acts governing organ and tissue donation prohibits trading in human organs and tissues. In its 2016 *Ethical Guidelines for Organ Transplantation from Deceased Donors*, the Australian NHMRC (National Health and Medical Research Council) states, as a general principle, that the 'donation of organs is an act of altruism, solidarity and community reciprocity that provides significant benefits to those in medical need (National Health and Medical Research Council (NHMRC) 2016). The above constitutes the guidelines forming the ethical basis for organ allocation to appropriate recipients.

In relation to the procedure itself, numerous transplant waiting lists are maintained for each organ. The appropriate specialist refers a patient to the relevant transplant team. For example, a lung specialist may accordingly refer a patient requiring a lung transplant. The lung transplant team then reviews the patient, takes detailed notes regarding their medical history, and performs a full clinical examination with relevant investigations; upon the completion of these steps, a decision is then made as to whether the patient can be a viable transplant candidate. If any contraindications are found, such as if the patient is still smoking, then they are taken off the transplant waiting list.

Patients are monitored diligently so that the most suitable person receives the organ. For example, if somebody continues to drink alcohol, then they may not be suitable for a liver transplant. Factors such as the mental health of the patient are also considered to ensure that they will be able to adequately look after themselves after the transplant. Additionally, current clinical condition and genetic matching are also considered during the process of organ allocation.

Families can be assured that a large team is involved in maintaining the transplant waiting list and organ allocation, with well-monitored systems in place in Australia ensuring that allocation is always equitable externally justified and transparent.

Those scholars who endorse organ transplantation prohibit the sale of, or trading of, organs. This is ensured in the organ allocation process, which is open and transparent. No incentive is allowed in whatsoever manner to receive advantage in organ allocation in Australia.

11. Organ Donation Campaign—How to Become an Organ Donor

In 2008, the Federal Government of Australia launched a campaign to raise awareness about organ and tissue donation in Australia, after which the National Organ and Tissue Authority with Donatelife agencies from each of the states and territories were established. Many doctors, nurses and other staff were employed to improve organ and tissue donation (Donatelife NSW 2020c). Over the year, these agencies have expanded considerably, so that now, almost all major hospitals have dedicated full-time or part-time staff working on the issue. There has been an extensive amount of education, targeting not only clinical staff, both in and out of the hospital, but the general national population in raising awareness about organ donation. The campaign also includes radio, TV advertisements, and local programs at district and local levels. These activities have revolutionised conceptions of organ donation in Australia, leading it to now become an essential part of any end-of-life discussion.

The Donatelife website (www.donatelife.gov.au, accessed on 20 June 2020) contains a wealth of information which is constantly updated, where every question has an answer to help one discover more about the organ and tissue donation process.

Since the campaign commenced, organ donation rates in Australia have increased from 13.8 PMM (per million population) to more than 22 PPM in 2018 (see Figure 4).



Figure 4. Deceased organ donation and transplantation rates in 2009, 2017 and 2018. Dpmp donation per million population, trpmp—transplantation per million population. Source: Australian Donation and Transplantation Report 2018.

We need to make an informed 'Decision' and 'Discuss' this decision with our family, all alongside registering officially.

Australia maintains the Australian Organ Donor Register (AODR). Joining is simple a form is available on the Donatelife website, which can be completed online. Printed forms are also available in hospitals/Medicare offices and other health sites. It is essential that we all complete the form and register our decision on the AODR to help them decide during the devastating and stressful time.

12. What's Real and What's Not-Debunking the Myths

There are myths and conceptions about organ and tissue donation in society. Most of those are based on fear and lack of information. Some of those myths are discussed here.

'Are you sure my loved one will never wake up after they diagnose brain death?'

Amongst many other authorities on the matter, the Australian and New Zealand Intensive Care Society (ANZICS) prescribes a set of strict criteria that must be met before diagnosing a patient as 'brain dead'. Families must not confuse brain death with coma—the two are completely different from each other (ANZICS Statement on Death and Organ and Tissue Donation 2018). Once brain cells die, they cannot regenerate, unlike many other organs of our body. A patient in a 'coma' is unconscious because their brain is injured in some way, however not all functions of the brain are lost. In this case, some brain functions may recover, to an extent, once acute injury and swelling are resolved. When one becomes brain dead, all brain functions are permanently lost. Many clinical and radiological tests are employed to clearly distinguish brain death from coma (ANZICS Statement on Death and Organ and Tissue Donation 2018)

'If I am registered as an organ and tissue donor, doctors may not work as hard to save my life'

Doctors and nurses work according to the ethics of 'Beneficence', which involves actions that promote the wellbeing and healing of their patients, and 'Primum non nocere', which translates to 'first, do no harm' (Basic Principles of Medical Ethics 2008). Organ and tissue donation never influences any decision-making while a patient is being actively treated, and the procedures are only considered after all efforts have failed. Every effort is taken to 'decouple' active treatment and organ donation. Additionally, medical staff cannot access the Australian Organ Donor Register (AODR) without involving a special team. Clinical staff can request that information only after a discussion of a potential organ donation has taken place. The authorised team then decides whether to access the information contained in the AODR.

'Will they respect my body and maintain dignity when removing organs?'

Organ donation surgeries are no different from any other surgical operations and are performed by highly skilled doctors. The procedure is undertaken in an operating theatre under full aseptic precaution (Royal Australasian College of Surgeon 2021). Throughout the duration of the procedure, the donor is always treated with full dignity and respect, wherein incisions are kept to a minimum to ensure that donation surgeries do not alter the appearance of the body. The donor's family are then able to view the body after surgery, even retaining the option of holding an open casket funeral if they desire.

'How much will it cost me'

Organ donation does not cost the donor's family any money. All expenses involved are paid for by the hospital/government (Donatelife NSW 2020c).

'I am concerned that organ donation may not be supported by my religion'

The relationship between organ donation and religion has been extensively discussed by religious scholars and relevant scriptures consulted for all major religions of the world. The procedure is generally supported by all major religions as an ultimate act of generosity. The Donatelife website (www.donatelife.gov.au, accessed on 18 June 2020, resources) provides extensive information about this. It is important to know that every effort is made by the hospital staff to accommodate any religious and cultural end-of-life rituals for potential organ donors and their families. The staff can also organise for religious leaders to come to the hospital to support end-of-life care and clarify any questions.

'Why do I still need to tell my family if I have already registered with AODR?'

Family discussion is important, as donation will not proceed without family consent. If the family knows the wishes of the loved one, it makes their decision-making process much easier during such a devastating and stressful time. One of the main reasons why families decline donation is that they simply do not know the wishes of their loved ones. Therefore, we encourage discussing an informed decision with the family, even if you have registered with the AODR.

'Can my decision be overridden by my family?'

Studies have shown that families most often follow the decision of the loved one if it is known to them (Donatelife NSW 2020c). However, in rare circumstances, this decision may be overridden by the family, for which there are usually specific reasons for doing so. Ultimately, every effort is made to uphold the wishes of the patient.

'I do not want my organs to go to a person with bad habits such as an alcoholic or a heavy smoker'

People on the transplant waiting list are closely monitored and followed up on. However, directed donation after death is not allowed in Australia. There are extensive criteria to define the list of patients who need transplantation, and patients may be excluded from the list if these criteria are not followed. For example, a patient will be removed from the liver transplantation list if the person continues to, or re-starts, drinking alcohol. Ultimately, organ and tissue donation signify an altruistic gift to save or significantly improve the quality of life for others (Transplant Society of Australia and New Zealand (TSANZ) (2010)).

'Could my organs and tissues be sold for profit?'

Treating a human being as a commodity for organ trade is illegal and will remain illegal in Australia. Australian laws are consistent with ethical principles set by the international transplant community, the World Health Organization, and the World Health Assembly. Organ and tissue donation are a generous gift and not for sale, and there are numerous

international efforts to stop organ trafficking around the globe (International Summit on Transplant Tourism and Organ Trafficking 2008).

'I want to ensure the recipient is looking after my loved one's organ. I want to meet them'.

This is not possible in Australia. By law, health professionals involved in donation and transplantation must keep the identity of donors and recipients anonymous. It is anticipated that introducing these two families to each other may create more problems than solutions. However, the two families can write to each other anonymously through Donatelife agencies (Donatelife NSW 2020c).

'The organ will be given to a non-Muslim person which is not allowed in Islam'

Despite there being some confusion about this, the overwhelming evidentiary support confirms that organ donation to non-Muslim recipients is, in fact, allowed in Islam. When a funeral procession passed by the Prophet Muhammad (PBUH), and he stood up for it, in response to his paying respects, the companions remarked 'O Messenger of Allah! It is the funeral of a Jews'. However, the Prophet (PBUH) replied by stating that he was aware of this fact and affirmed that 'When you see a funeral (Muslim or non-Muslims) then stand for it' (Sahih Al Bukhari 2021).

These are just some of the numerous accounts from Islamic scripture which demonstrate the importance of the principles of altruism and tolerance in Islam, ultimately adding to a support for organ donation and transplantation.

'Will my funerals be delayed by the organ donation process?'

'Necessity overrides prohibition'-Al-Darurat Tubih Al-Mahzurat.

The above is an Islamic principle recognised by all Muslim scholars. Despite the provisions allowed by Islam, organ donation generally does not delay the funeral. Funeral directors usually require some time to organise everything; by the time that most funeral directors are ready, the donation process is usually complete.

'How do I register my decision?'

Please 'Discover' the facts about organ and tissue donation on the Donatelife website (www.donatelife.gov.au, accessed on 17 May 2021, resources), where a wealth of information is available regarding the details and commonly asked questions for the procedure. Once an informed 'Decision' has been made, potential donors can complete an online form on the Donatelife website, or alternatively, visit any state or territory health site to complete a form to register the decision on AODR. Potential donors can also specify which organs that they want to donate. Please do not forget to 'Discuss' the decision with your family.

People from all walks of life need life-changing transplant surgery. Australia has demonstrated some of the best outcomes of organ transplant surgery in the world, yet Australia's organ donation rates remain comparatively a lot lower than many other developed nations. Therefore, we encourage everyone to work towards raising awareness of, and committing to, delivering the gift of generosity in our communities.

13. Conclusions

One organ and tissue donor can save up to ten lives and improve the quality of lives of many more. It is imperative to understand what it means and what is involved in the whole process. Deceased organ donation requires a good understanding of death, whether death is defined by circulatory criteria or by neurological criteria. The neurological determination of death can be a little difficult to comprehend, as the loved one feels warm, chest is moving due to the ventilator and the monitor is showing heart activities. Medical communities and the majority of Islamic leaders around the world have gone through extensive research and discussed to arrive at the conclusion that the medical definition of death consists with death, as defined in Islamic jurisprudence and endorsed organ donation as a good deed. However, another school of Islamic scholars differs on the definition of death and the permissibility of organ donation in Islam. To maintain the sanctity of the dead, they do not endorse organ donation. This difference in opinion is the centre point of controversy. Every Muslim has the right to explore both sides of the view by exploring the rulings and then make the decision. Any decision taken by the family, either 'Yes' or 'No', is respected. A family member, or even an Islamic leader, if the family wishes so, can witness the rigorous process and examinations to determine death. It is imperative to know that organ donation takes place only once death is confirmed, to ensure that no harm is done to the donor, as per Islamic law. Many teams then get involved to uphold the wishes of the patient with fully informed consent. All Islamic rituals and practices are allowed to take place, including the recital of the Quran and prayers by Imams and family. The loved one is cared for by a dedicated team, and retrieval surgery is done with full dignity and respect. The sanctity of the body is never broken by any team. The organ allocation system in Australia is highly transparent, open, and scientifically based. Organ trading is illegal in Australia, like many other countries, as it is in Islam. There are misconceptions about organ donation and transplantation in the Muslim community that we have attempted to explain and answer. Family is the final decision maker. Whatever the family decides after detailed information is fully respected. The care of the loved one is not affected by the decision. May Allah help us all understand the facts and help us decide the right decision at the right moment.

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