

Review

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

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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.



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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

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-maqasid al-shar'iyah* (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 fetuses 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 chal-

allenges 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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