

Medically Assisted Reproduction in Egypt, Iran, Saudi Arabia and the United Arab Emirates

Sunni and Shia Legal Debates

Andrea Büchler & Eveline Schneider Kayasseh*

Abstract

Since the mid-1980s, biotechnologies have been widely used to assist human conception around the world, and especially in the Middle East. In this article, our main focus is the United Arab Emirates (UAE), as well as Egypt, the Islamic Republic of Iran, and Saudi-Arabia. In these Muslim-majority countries, an ever rising demand for fertility treatments runs parallel to far-reaching demographic and social changes. While assisted reproductive technologies offer various methods to pursue the desire to have biological children, they do also underscore religious and cultural sensibilities about traditional male-female relationships and family formation.

In order to outline contemporary opinions and state laws and regulations in the countries mentioned in the outset, core notions and concepts of the Islamic family that are relevant for understanding attitudes regarding reproductive medicine and that have influence on couples seeking fertility treatment are outlined. It is also shown how ethical-juridical considerations have shaped the scholarly discourse about assisted reproduction. In this context, assisted reproductive techniques that include eggs, sperm, embryos, or wombs from third parties have been particularly contentious. In fact, there remain different views among Islamic jurists and senior clerics in Shia Islam regarding ethically controversial issues such as egg and sperm donation, as well as surrogate motherhood. While the number of IVF-clinics is on the rise in all countries discussed in this article, only in the UAE are clinics operating with rather comprehensive legislative oversight.

Keywords: medically assisted reproduction, Islam, Middle East, family formation, law.

A. Introduction

Since the mid-1980s, biotechnologies have been widely used to assist human conception in the Arabian Peninsula, Egypt and the Islamic Republic of Iran. The rising demand, which runs parallel to far-reaching demographic and social changes in these geopolitically important regions, has urged science to constantly refine

* University of Zurich, Switzerland.

the methods to overcome infertility. In fact, over the last few decades, fertility techniques have improved steadily, and today, couples with a wide range of fertility problems can be treated. But while assisted reproductive technologies offer various methods to pursue the desire to have biological children, they not only eliminate the need for a sexual union of a man and woman in order to procreate, but also underscore religious and cultural sensibilities about traditional male-female relationships. In addition, methods involving the gametes of third parties and the possibility of disrupting the biogenetic connection between children and parents challenge traditional meanings of fundamental ethical-legal concepts such as kinship relations and parentage. For a variety of reasons, third-party donation (eggs, sperm, embryos or wombs) is a particularly contested issue in countries with Muslim-majority populations.

The impact of the advent of medically assisted reproduction on inter-human and familial relationships, which are a central feature of Islamic law, has been studied by several scholars in the fields of anthropology, Islam, biomedicine and ethics. Arguably, the most comprehensive volume to date is the anthology *Islam and Assisted Reproductive Technologies – Sunni and Shia Perspectives*, edited by Marcia C. Inhorn and Soraya Tremaine, which was first published in 2012. Of great importance are also the contributions of M.C. Inhorn's *The New Arab Man* (2012) and M. Clarke's *Islam and New Kinship* (2009). Among the countries studied in this article, a special focus will be given to the United Arab Emirates (UAE). This young federation of emirates has a remarkably comprehensive set of legislation in the realm of health care in general and reproductive medicine in particular, and has become a well-known global hub for reproductive tourism in recent years.¹ For this purpose, we first outline the core notions and concepts of the Islamic family that are relevant for understanding attitudes regarding reproductive medicine and that inform infertile spouses' decisions regarding fertility treatment. Second, we examine which main ethical-juridical considerations have shaped the scholarly discourse about assisted reproduction and why Islam tends to be cautiously more permissive regarding assisted reproduction than the official teachings of the Catholic Church, a denomination that is prevalent in the expatriate communities in the Arab Gulf region as well as among the native Christian communities in other Middle Eastern countries. We explore some basic concepts that impinge on Islamic moral ethics, medicine and the law and discuss the moral status of the embryo. Third, we outline the positions of Islamic scholars regarding assisted reproduction and analyse the state legislation and guidelines pertaining to reproductive medicine in the UAE, as well as Egypt, Iran and Saudi Arabia. The fourth part of this article discusses specific techniques or aspects of reproductive medicine: artificial insemination, *in vitro* fertilisation (IVF), intracytoplasmic sperm injection (ICSI), sperm, egg and embryo donation, gestational surrogacy, preimplantation genetic diagnosis (PGD), cryopreservation and posthumous assisted reproduction.

1 See in this regard, e.g., M.C. Inhorn & P. Shrivastav, 'Globalization and Reproductive Tourism in the United Arab Emirates', *Asia-Pacific Journal of Public Health Supplement*, Vol. 22, No. 3, 2010, pp. 68S-74S.

B. Family Formation and Descent in Islamic Law

Any form of conception falls under the auspices of family law, which in Muslim-majority countries is traditionally governed by Islamic law. Historically, family law has always been the domain of Islamic scholars, the *'ulamā'*, who typically interpret rather than legislate the religious sources. Yet, while codes relating to personal status have been issued in Egypt, Iran and the UAE, these codes of law generally do not cover the issue of assisted conception. In Saudi Arabia, where the codification of any law is a sensitive issue owing to the superiority of divine law,² the Shari'a, the *'ulamā'* historically have always wielded a great influence in almost all topical areas of law. Thus, with the important exception of the UAE, in the Middle East there is often little or no comprehensive state legislation or intervention in clinical practice in the realm of reproductive medicine, and the *'ulamā'* continue to considerably influence the scope and implementation of reproductive assistance. As a result, practices of assisted conception are typically characterised by a strong and effective religious regulatory environment rather than by state legislation.³

In the Muslim faith, the preservation of the relationship of a child to her or his biological parents, *nasab* (i.e., filiation, lineage, blood relations), is a moral imperative.⁴ In Islamic jurisprudence (*fiqh*), this tie by *nasab* is given through procreation. However, *nasab* accrues only to those conceived and born within the legitimising framework of wedlock. A well-known *fiqh* principle confirms the interconnectivity of marriage, procreation and *nasab*: 'the child (belongs to) the conjugal bed' (*al-walad li-l-firāsh*).⁵

Partly to avoid the birth of an illegitimate child, marriage (*nikāh*) is mandated in the primary sources of religion for everyone who is physically and financially capable of pursuing the conjugal life.⁶ The Islamic law is marriage-friendly in the sense that it does not require any particular form or ceremony in which the contractual agreement must be made. Islamic law simply requires that the contracting parties are of sound mind, have attained puberty and have consented to the marriage. Muslim men of legal capacity typically contract their own marriages, while women must usually have a guardian in marriage, a *walī*, who contracts

2 According to the Basic Law of Governance, Royal Decree No. A/90/1412 H. (1992), the constitution of the Kingdom are the Qur'an and the Prophetic Sunna, which are superior to any man-made law (cf. Arts. 1, 7 Basic Law of Governance).

3 See M.C. Inhorn, 'Globalization and Gametes', in C.H. Browner & C.F. Sargent (Eds.), *Reproduction, Globalization, and the State*, Duke University Press, Durham, NC, 2011, pp. 126-137 at 127, 130; see also M.C. Inhorn, *The New Arab Man*, Princeton University Press, Princeton, NJ, 2012, pp. 205 *et seq.*

4 Inhorn, 2012, at 233 with further references.

5 T. Eich, 'Constructing Kinship in Sunni Islamic Legal Texts', in S. Tremayne & M.C. Inhorn (Eds.), *Islam and Assisted Reproductive Technologies*, Oxford University Press, New York, 2012, pp. 27-52 at 37; L. Welchman, *Women and Muslim Family Laws in Arab States*, Amsterdam University Press, Amsterdam, 2007, p. 142; M. Kabir & B. az-Zubair, 'Who Is a Parent? Parenthood in Islamic Ethics', *Journal of Medical Ethics*, Vol. 33, 2007, pp. 605-609 at 606; M. Clarke, *Islam and New Kinship*, Berghahn Books, New York, 2009, p. 47.

6 Cf. Qur'an sura 24, verses 32 and 33.

their marriage for them. Marriage is concluded by the offer (*ijāb*) of one contracting party and the acceptance (*qabūl*) of the other, occurring at the same time before two male witnesses.⁷

Marriage as a contract is classified by different degrees of validity: valid (*ṣaḥīḥ*), irregular (*fāsiḍ*) and void (*bāṭil*).⁸ The degree of validity has a bearing on the legitimacy of a child, which is typically dependent upon the birth during a regular or irregular (but not void) marriage⁹ or through acknowledgment by the father.^{10, 11} Children who are born legitimately acquire *nasab*, which in Sunni Islam is primarily defined through the paternal relationship.¹² *Nasab*, for its part, invokes mutual, correlative and complementary rights and duties such as custody and guardianship, maintenance and inheritance, as well as rights of citizenship and name. Conversely, the *walad az-zinā* (child of an adulterous relationship) is deprived of paternal family ties and financial, as well as emotional, support.¹³ The rights and duties of the mother towards the child, however, arise irrespective of

- 7 J.J. Nasir, *The Islamic Law of Personal Status*, Brill, Leiden, 2009, pp. 44 *et seq.*; J.L. Esposito, *Women in Muslim Family Law*, Syracuse University Press, Syracuse, NY, 2001, pp. 15 *et seq.* In Sunni Islam, the place of one man may be taken by two female witnesses: Esposito, 2001, at 16; Nasir, 'The Islamic Law', 2009, at 56.
- 8 Nasir, 'The Islamic Law', 2009, at 75 *et seq.* Unless its most basic requirements are violated, the marriage remains valid: Esposito, 2001, at 17.
- 9 To uphold or undermine the presumption of legitimacy of a child born to a married woman, Islamic jurists looked to minimum and maximum periods of gestation. In other words, if a child is born subsequent to a minimum period after the marriage contract and prior to the lapse of a maximum period after its dissolution through death or divorce, the child is deemed to be the legitimate child of her or his parents. On the basis of Qur'an sura 31, verse 14 and sura 46, verse 15, there is a consensus among Islamic jurists regarding the minimum period of gestation at six months. The maximum term of gestation was in contestation among Islamic jurists, ranging from two (Hanafi School of Law) to four (Shafi'i, Maliki and Hanbali School of Law) or even more years, thus potentially minimising illegitimacy and adultery accusations. In Shia Islam there is a consensus that one year is the maximum period of gestation even if, according to some jurists, this period might be shorter. See A.A. Khan & T.M. Khan, *Encyclopedia of Islamic Law, Vol. 5: Family Law in Islam*, Pentagon Press, New Delhi, 2009, p. 188; L. Bakhtiar, *Encyclopedia of Islamic Law*, Kazi Publications, Chicago, IL, 1996, pp. 456 *et seq.*; F. Hasso, *Consuming Desires*, American University in Cairo Press, New York, 2011, p. 39; Nasir, 'The Islamic Law', 2009, at 146. Among the codified rules of family law that have been adopted in Arab countries in the present and past centuries exist provisions pertaining to the minimum and maximum term of pregnancy. Regarding the maximum term of pregnancy, legislators have introduced a one-year rule into most Arab Personal Status Laws as a substantive rule or rule of procedure, citing medical authorities as support. Welchman, 2007, at 143; see also Nasir, 'The Islamic Law', 2009, at 146.
- 10 The father's acknowledgment, *iqrār*, is possible if certain conditions are met – among them the possibility of legitimacy – and *shar'i* evidence. See Nasir, 'The Islamic Law', 2009, at 150 *et seq.*; Khan & Khan, 2009, at 210 *et seq.*
- 11 Eich, 2012, at 37; Welchman, 2007, at 142; Kabir & az-Zubair, 2007, at 606; Clarke, 2009, at 47, 81.
- 12 Nasir, 'The Islamic Law', 2009, at 81.
- 13 Because the legal connection to the father is non-existent in such instances, this individual has neither legal nor financial responsibilities towards the child. The only legal connection of the illegitimate child is that with her or his mother and maternal family: D. Atighetchi, *Islamic Bioethics: Problems and Perspectives*, Springer, Dordrecht, 2007, p. 138; Clarke, 2009, at 96; Welchman, 2007, at 144.

whether conception and birth occur in a legitimising framework.¹⁴ Mothers share kinship ties with their offspring through gestation¹⁵ and the breastfeeding of an infant ('milk kinship').¹⁶ In the Shia legal doctrine, descent is also traced patrilineally; however, it is most likely more gender-balanced because of the symmetric biological contributions of the male and the female and the corresponding agnatic and uterine kinship relations.¹⁷ As will be discussed, the Sunni and Shia conceptions of *nasab* have a direct influence on the permissibility of third-party-assisted conception.¹⁸

In addition to regular marriage, there are non-conventional forms of marriage that typically serve limited purposes or are contracted for a limited period. In many parts of the Arab world, so-called *zawāj 'urfi* (common law marriages) are practised. *Zawāj 'urfi* are primarily undertaken to avoid the difficulties of a regular marriage and provide a sexual relationship with some degree of legitimacy. Traditionally, such marriages have been religiously condoned if the bride's and groom's parents approve of the marriage and there is a certain form of publicity.¹⁹ However, because *'urfi* marriages are often kept secret (and commonly violate statutory rules for the recognition of marriage),²⁰ problems regarding paternity arise if men later deny these marriages.²¹ Similarly, children from a *misyar* marriage (another form of unconventional marriage typically practised in the Gulf region, especially Saudi Arabia) are, in principle, legitimate if the husband 'allows them' in practice.²² However, fathers have been known to deny a child's legitimacy by denying a legal marriage, a claim that is facilitated by the strategic secrecy of such

14 Nasir, 'The Islamic Law', 2009, at 146, 154; Kabir & az-Zubair, 2007, at 606 *et seq.*

15 Cf. Qur'an sura 58, verse 2.

16 Milk kinship (*ridā'*), a relationship with special rights under Islamic law, constitutes like *nasab* a permanent marriage impediment. See Nasir, 'The Islamic Law', 2009, at 64, 146, 154; Bakhtiar, 1996, at 419; see also Art. 114 (2) UAE Personal Status Law.

17 S. Garmaroudi Naef, 'Gestational Surrogacy in Iran: Uterine Kinship in Shia Thought and Practice', in Tremayne & Inhorn, 2012, pp. 157-193 at 158; S. Tremayne, 'The "Down Side" of Gamete Donation', in Tremayne & Inhorn, 2012, pp. 130-156 at 147.

18 See Section D.

19 See H. Rashad, M. Osman & F. Roudi-Fahimi, *Marriage in the Arab World*, Population Reference Bureau Brief, Washington, DC, 2005, pp. 1-8 at 6 *et seq.*

20 Furthermore, there is the problem that some of these marriages do not fulfil the religious conditions of legitimate matrimony either. See in detail N. Sonneveld, 'Rethinking the Difference Between Formal and Informal Marriages in Egypt', in M. Voorhoeve (Ed.), *Family Law in Islam*, I.B. Tauris, London, 2012, pp. 77-107 at 81 *et seq.*

21 It is important to distinguish between fulfilling registration requirements and fulfilling the conditions of a valid marriage. While the latter affects the validity of the marriage, the non-compliance with registration requirements does not in any case invalidate a marriage. Furthermore, it must also be noted that the legal consequences of non-compliance with registration requirements differ widely in the Muslim world. In Egypt, for example, cases of denied paternity would be heard by courts using evidence other than registration to establish the lawful marriage of a couple only if the marriage is not denied by one party. Cf. Hasso, 2011, at 42, 143; Welchman, 2007, at 56 *et seq.*, 144.

22 Welchman, 2007, at 105. See also Hasso, 2011, at 89.

unions.²³ While *urfi* and *misyar* marriages are practised in the Sunni world, followers of Shia Islam typically resort to *mut'a* marriages (called *sigheh* in Iran), a type of marriage that is typically contracted for a preset period defined in the contractual agreement.²⁴ Because children conceived during such an arrangement are awarded legitimate filiation to the husband of the woman who has given birth to the child,²⁵ *mut'a* marriages are often contracted in the context of third-party reproductive assistance to dispel possible concerns regarding reproduction outside marriage (*zinā*) and illegitimacy.²⁶ The same is presently not true for *misyar* marriages, which are still primarily contracted to reach particular ends, such as physical pleasure and monetary considerations.²⁷

Despite the myriad marital options, most modern state laws are rather generous in their presumption of a child's legitimacy in granting *nasab*; this is at least true as long as there was a claim of marriage between a particular woman and a man. Children born from a marriage of doubtful validity or children born following an 'engagement' of her or his parents may be considered legitimate.²⁸ Moreover, parentage is often considered an indication of the existence of a marriage because the principle generally holds that establishing lineage works to establish wedlock and not vice versa.²⁹ However, unconventional marriages lacking state registration may bar access to infertility treatment if proof of marriage by official documents is required.³⁰

C. Legal Ethics in Assisted Reproduction

Islam is commonly considered a comprehensive system that pertains to the spiritual and profane aspects of human life, as well as the life and afterlife in equal

23 See the critical discussion of *misyar* marriage in T.J. Al-Nasr, 'Gulf Cooperation (GCC) Women and Misyar Marriage: Evolution and Progress in the Arabian Gulf', *Journal of International Women's Studies*, Vol. 12, 2011, pp. 43-57 at 49 *et seq.*; Rashad *et al.*, 2005, at 7. See also Sonneveld, 2012, at 93 *et seq.*; Hasso, 2011, at 88 *et seq.*; *The National*, "Traditional "Temporary Marriages" Are Now a Permanent Problem", 1 February 2013, available at < www.thenational.ae/thenationalconversation/comment/traditional-temporary-marriages-are-now-a-permanent-problem>, last accessed 15 February 2014; *The Guardian*, 'A Proposal Saudis Can't Refuse', 16 August 2009, available at <www.guardian.co.uk/commentisfree/belief/2009/aug/16/saudi-arabia-marriage>, last accessed 15 February 2014.

24 See S. Tremayne, 'Law, Ethics, and Donor Technologies in Shia Iran', in D. Birenbaum-Carmeli & M.C. Inhorn, *Assisting Reproduction, Testing Genes: Global Encounters With the New Biotechnologies*, Berhahn Books, New York, 2009, pp. 144-163 at 148. Because of this explicit time restriction, the *mut'a* is generally deemed null and void by the Sunnis. Thus, in *misyar* marriages, a time limit is only implied but not stated in the marriage contract: J.J. Nasir, *The Status of Women Under Islamic Law and Modern Islamic Legislation*, Brill, Leiden, 2009, pp. 22 *et seq.*

25 Nasir, 'The Islamic Law', 2009, at 60 *et seq.*; Nasir, 'The Status of Women', 2009, at 24. See also Section D.II.

26 See Section D.II.

27 F. Mahmoud, 'Controversies in Islamic Evaluation of Assisted Reproductive Technologies', in Tremayne & Inhorn, 2012, pp. 70-97, at 80.

28 See Welchman, 2007, at 145.

29 Welchman, 2007, at 144; see also Khan & Khan, 2009, at 207.

30 See Section D.II.

measure. The rules and regulations that guide a Muslim's life have their origin in divine revelation, and were crafted by medieval jurists into an elaborate and comprehensive system of law, which is commonly known as Shari'a or Islamic law.³¹ However, while the Qur'an does acknowledge the occurrence of infertility,³² neither the primary sources of Islamic law (the Qur'an and the Sunna) nor classical juristic treatises address the issue of medically assisted reproduction, which in its main features is a scientific innovation of modern times. Because in Islam there is no central leading religious-juridical figure such as the Catholic pope that might guide the faithful, contemporary Muslim jurists typically have recourse to analogical reasoning (*qiyas*) and personal interpretation and reasoning (*ijtihad*) in order to adapt existing rules to new situations. Such juridical opinions are called *fatāwā* (sing. *fatwā*), and although they are not binding for the faithful from a juridical point of view, they offer valuable moral guidelines on whether specific actions, and in the present case especially medical treatments, are Shari'a compliant. In Sunni Islam, any religious scholar (*mufti*) may issue *fatāwā* for his followers, but 'official' muftis and other specialised *fatwā*-producing committees (appointed by the State in most predominantly Islamic states) also exist.³³ In Egypt, for example, the bodies that are vested with the authority to issue official *fatāwā* are the Grand Mufti of Egypt, the Grand Shaikh of Al-Azhar University, which has always been a pre-eminent institution of Sunni Muslim learning, and the influential Fatwa Committee of Al-Azhar University.³⁴ In Saudi Arabia, *fatāwā* from the influential Council of Senior Ulama – the country's highest religious body – carry great weight, and only its members are deemed competent to issue legal opinions on public matters.³⁵ In the UAE, official *fatāwā* can only be issued by a *fatwā* center affiliated to the General Authority of Islamic Affairs and Endowments (GAIAE).³⁶ However, it must be pointed out that while in Saudi Arabia the religious scholars have had a power-sharing arrangement with the royal family for centuries and have firmly established themselves in the state apparatus, in the UAE, Islamic jurists do neither have considerable influence on government policy nor do they control state power.³⁷ Other institutions at a supranational level

31 See, e.g., W.B. Hallaq, *The Origins and Evolution of Islamic Law*, Cambridge University Press, Cambridge, 2005, pp. 122 *et seq.*

32 See, e.g., Qur'an sura 42, verses 49-50.

33 See M.C. Inhorn, 'Fatwās and ARTs: IVF and Gamete Donation in Sunni v. Shi'a Islam', *Journal of Gender, Race & Justice*, Vol. 9, 2005-2006, pp. 291-317.

34 Atighetchi, 2007, at 8. It is important to note that Egypt has been in a phase of transition for the last few years.

35 Carnegie Endowment for International Peace, Sada – Analysis on Arab Reform, 27 October 2010: 'Saudi Fatwa Restrictions and the State-Clerical Relationship', available at <<http://carnegieendowment.org/2010/10/27/saudi-fatwa-restrictions-and-state-clerical-relationship/6b81>>, last accessed 15 February 2014. According to the royal decree delivered to the Grand Mufti of Saudi Arabia, individual *fatāwā* on personal matters are exempt from this ruling as long as they remain a matter between a private individual and a cleric.

36 See <www.awqaf.ae>.

37 See, e.g., F.E. Vogel, 'Saudi Arabia: Public, Civil and Individual Shari'a', in R.W. Hefner (Ed.), *Islamic Law and Society in the Modern World*, Indiana University Press, Bloomington, 2011, pp. 55-93 at 56 *et seq.*; B.S.B.A. Al-Muhairi, 'The Islamisation of Laws in the UAE: The Case of the Penal Code', *Arab Law Quarterly*, Vol. 11, 1996, pp. 350-371 at 352.

whose opinions on assisted reproduction may be consulted include the Fiqh Academy of Mecca, the jurisprudential body of the Muslim World League and the Islamic Fiqh Academy of the Organisation of the Islamic Conference, based in Jeddah.³⁸ In Shia Islam, which is the majority denomination of the Islamic Republic of Iran,³⁹ the opinions of highly learned scholars, the ‘authorities to be followed’ (*marja’a at-taqlid*), carry great weight for the faithful of a certain region or even worldwide.⁴⁰ Reasoning, *‘aql*, supported by the other three sources of law (Qur’an, *hadith* and *qiyās*)⁴¹ is a central feature in the process of Shia *ijtihad*, the arriving at legal decisions. This methodology has given some avenues for innovative thinking and has led to a flexible and pragmatic approach towards reproductive medicine, as well as a remarkable heterogeneity of scholarly opinions.⁴²

In the early days of reproductive medicine, assisted reproduction was regarded critically, if not negatively, by many scholars and patients.⁴³ Among the reasons for this reservation were practical considerations such as the need to reveal intimate parts of the female body to unrelated – and possibly male – third persons in the course of medical treatment.⁴⁴ There was also the concept of science interfering with God’s plan, because fertility and sterility were believed to be divine will.⁴⁵ Other issues of concern, that are still relevant, were the possibility of conceiving outside the traditional framework of marriage and the creation of equivocal kinship relations, as well as unconventional patterns of relationships.⁴⁶ Consequently, even homologous artificial insemination was initially considered a wrongful act or even a criminal offence.⁴⁷

Contemporary studies show that infertility is highly prevalent in South Asia, sub-Saharan Africa, North Africa and the Middle East – regions where much of

38 See Clarke, 2009, at 97 *et seq.* We refer to these institutions, where appropriate, in the following paragraphs.

39 Saudi Arabia also hosts a number of different Shia communities.

40 Among these authorities are, *e.g.*, the Grand Ayatollah Sayyid ‘Ali al-Sistani, based in Najaf, Iraq, and the late Grand Ayatollah Sayyid Muhammad Husayin Fadlallah of Lebanon.

41 The sayings ascribed to the Prophet Muhammad and analogical reasoning, respectively.

42 See M. Momen, *An Introduction to Shi’i Islam*, Yale University Press, New Haven, CT, 1985, pp. 185 *et seq.*; Clarke, 2009, at 65 *et seq.*; M.J. Abbasi-Shavazi *et al.*, ‘The “Iranian Revolution”: Infertility, Assisted Reproductive Technology, and Third-Party Donation in the Islamic Republic of Iran’, *Journal of Middle East Women’s Studies*, Vol. 4, 2008, pp. 1-28 at 5.

43 Atighetchi, 2007, at 135 *et seq.*; see also G.I. Serour, ‘Medical and Socio-Cultural Aspects of Infertility in the Middle East’, *ESHRE Monographs*, No. 1, 2008, pp. 34-41 at 38.

44 See, *e.g.*, the concerns raised in S.A. Khamenei’i, *Islamic Rulings: Medical Issues*, Lulu, Raleigh, 2007, pp. 23 *et seq.*

45 Cf. Qur’an sura 42, verses 49-50; Atighetchi, 2007, at 135; A. Sachedina, *Islamic Biomedical Ethics*, Oxford University Press, New York, 2009, p. 107.

46 See, *e.g.*, Inhorn, 2012, at 232 *et seq.*

47 The latter was the case in Libya, where the late Mu’ammār Qadhafi embarked on a process of Islamisation of laws in the early 1970s. However, in the mid-1980s a law concerning medical responsibility was passed, which allowed homologous artificial insemination and IVF in cases of necessity. See Atighetchi, 2007, at 157; Welchman, 2007, at 146.

the world's Muslim population currently lives.⁴⁸ In many of these regions, and especially in the Middle East, far-reaching economic, social and legal transformation processes have been underway in the last few decades. While marriage and fertility rates among women have declined in many parts of the Middle East, the age of first marriage and the percentage of unmarried women have risen.⁴⁹ Especially in the UAE, which is a very wealthy nation mainly in view of its vast oil and gas reserves, people's living conditions have been transformed beyond recognition within a very short period. In parallel, personal values and desires have changed, and traditional perceptions of family life and organisation are increasingly called into question. Young women partake in higher education, which is free for UAE nationals, and pursue their own careers, while marriage and family formation are postponed to a later point in life.⁵⁰ These life goals have the potential to conflict with the expectations of a society that is pronatalistic and where culture and tradition, especially tribal culture, but also the agenda of the government, desire procreation,⁵¹ while voluntary childlessness is not considered a viable option.⁵² Besides the sociocultural background, this view can be attributed, in part at least, to the primary sources of Islamic law, the Qur'an and the Sunna, which emphasise the importance of the family unit, authenticity of lineage, marriage and procreation.⁵³ Thus, despite the fact that becoming parents may be but one of several aspirations in life, awareness of these fundamental religious-juridical guiding principles and cultural precepts of human social organisation have induced many young Middle Eastern couples to make use of reproductive medicine if they face infertility.⁵⁴ Regardless of whether the fertility problem originated with the husband or wife, the effects of involuntary childlessness are still par-

48 See, e.g., M.N. Mascarenhas *et al.*, 'National, Regional, and Global Trends in Infertility Prevalence Since 1990: A Systematic Analysis', *PLOS Medicine*, Vol. 9, 2012, pp. 1-12, available at <www.plosmedicine.org/article/info%3Adoi%2F10.1371%2Fjournal.pmed.1001356>, last accessed 15 February 2014; Serour, 'Medical and Socio-Cultural Aspects', 2008, at 35.

49 See, e.g., United Nations, Development of Economic and Social Affairs, Population Division, *World Marriage Data 2008*, 2009, available at <www.un.org/esa/population/publications/WMD2008/Main.html>, last accessed 15 February 2014; United Nations, Development of Economic and Social Affairs, Population Division, *World Fertility Report 2009*, 2011, available at <www.un.org/esa/population/publications/WFR2009_Web/Data/ComparativeTables.html>, last accessed 15 February 2014.

50 See Hasso, 2011, at 62 *et seq.*; Rashad *et al.*, 2005, at 2 *et seq.*

51 Cf. S. Karsan, 'The Influence of Islam in the Use of Assisted Reproductive Technologies (ART) in the United Arab Emirates (UAE) and How It Shapes the Decision-Making Processes of Emirati Families Using Modern Technologies', in B. Arda & V. Rispler-Chaim (Eds.), *Islam and Bioethics*, Ankara University, Ankara, 2012, pp. 193-201 at 193. See also Art. 19 of the UAE Federal Law No. 28 of 2005 on Personal Status, according to which the purpose of the marriage is the strengthening and raising of a stable family. See also the comments further below in this paragraph.

52 Cf. Inhorn, 2012, at 98.

53 Cf. Sachedina, 2009, at 106 *et seq.*; G.I. Serour, 'Islamic Perspectives in Human Reproduction', *Reproductive BioMedicine Online*, Vol. 17, 2008, pp. 34-38 at 35.

54 See, e.g., Inhorn, 2012, at 199 *et seq.*, in particular regarding the growing supply of IVF clinics in the Middle East.

ticularly harsh for females.⁵⁵ However, infertility also affects the community standing of men, who are expected to continue a hierarchical male lineage that can be traced back through many generations and that is the basis for the still relevant tribal affiliations, as well as social prestige, especially in Saudi Arabia and the UAE.⁵⁶

Traditionally, the solutions to involuntary infertility were few. If the wife was infertile (or at least presumed to be infertile), the fertile husband was expected to resort to a polygamous marriage or repudiate his infertile wife and marry another woman, a custom that has long been practised in the UAE and is accepted by law.⁵⁷ While under current legislations in many Muslim-majority countries women neither have the right to divorce their husbands unilaterally nor to marry polygamously, they have other options to end childless marriages. In certain jurisdictions, wives may insert a stipulation in the marriage contract that male sterility entitles her to apply for a divorce; also, a childless marriage may be ended by *khul'*, a divorce by mutual consent whereby the wife may have to compensate the husband in return for the divorce, and by judicial divorce.⁵⁸ The UAE Personal Status Law expressly allows divorce by the court on the ground of infertility of either spouse. A husband or wife younger than 40 and without biological children may seek dissolution of the marriage provided that the marriage has lasted more than five years and that the other spouse has received a diagnosis of infertility and has already undergone treatment for this condition.⁵⁹

For married couples, there are few alternatives to the traditional form of family formation through procreation. Adoption (*tabanni*), the taking in of an unrelated child and the legal creation of a parent-child relationship, is prohibited in most Muslim-majority societies.⁶⁰ Fostering (*takafful*), however, in the sense of bringing up a foundling or orphan until the age of maturity, is viewed favourably or even encouraged in Islamic teaching, because fostering does not create any fictive kinship ties (unlike adoption) or reduce the shares of legally entitled heirs. Furthermore, if a foster mother nurses a small child, kinship ties with limited

55 D. Atighetchi, 'Islamic Tradition and Medically Assisted Reproduction', *Molecular and Cellular Endocrinology*, Vol. 169, 2000, pp. 137-141 at 138; Serour, 'Islamic Perspectives', 2008, at 35; M.C. Inhorn & P. Patrizio, 'ART Practice and Tourism', in J.G. Schenker (Ed.), *Ethical Dilemmas in Assisted Reproductive Technologies*, De Gruyter, Berlin, 2011, pp. 257-268 at 261.

56 Cf. on the stigmatisation potential of male infertility: Inhorn, 2012, at 68, 235; Tremayne, 2009, at 153. See also Sachedina, 2009, at 107.

57 In general: Atighetchi, 2007, at 135, 156; Karsan, 2012, at 197. According to the UAE Personal Status Law No. 28 of 2005, husbands can have up to four wives at the same time.

58 Regarding stipulations in marriage contracts and divorce, see Welchman, 2007, at 99 *et seq.*, 107 *et seq.*; see also Atighetchi, 2007, at 137; Sachedina, 2009, at 108.

59 See Art. 114 (2) UAE Personal Status Law.

60 Since the advent of Islam, Muslim legal scholars have virtually unanimously agreed that based on the Qur'an, which emphasises the importance of knowing one's own parentage, plain adoption is forbidden. Cf. the so-called 'Zaid incident' of Qur'an sura 33, verses 4-5; J. Bargach, 'Orphans of Islam: Family, Abandonment, and Secret Adoption', *ISIM Newsletter*, November 2002, p. 18 at 18; Nasir, 'The Islamic Law', 2009, at 153 *et seq.* – In the UAE, expatriates have the possibility to adopt from abroad while nationals may not.

effects will be created.⁶¹ Moreover, historically, legal devices such as ‘acknowledgment’ (*iqrār*) may have been used to create a filiation between parents and a child by claiming that a child of unknown parentage is one’s own legitimate child, provided there was no evidence to the contrary.⁶² Yet, while these practices may be a solution to involuntary childlessness, most of them do not create *nasab*, which is generally reserved for offspring that carries the genetic materials of the parents.

In considering the ethical-juridical aspects of the novel issue of reproductive assistance that could provide aspiring parents with biological children, Islamic jurists turned to the concept of *maṣlaḥa* – the public interest, or common good of society.⁶³ Legal scholars acknowledged that by preserving *nasab* (the biogenetic ties between parents and children), personal and social immorality that adversely affects *maṣlaḥa* might be prevented.⁶⁴ In addition, the jurists also recognised that because offspring are an essential element of human existence, and one of the five principles that underlie the law,⁶⁵ the need for a child is, in principle, a justified aim; if involuntary childlessness creates ‘unbearable difficulty for a couple’, then medical intervention in the procreation process is permitted.⁶⁶ This outcome is in harmony with Islamic teaching, which encourages the seeking of treatment for illnesses in the face of adversity within certain moral limits.⁶⁷ Conversely, in Catholicism, a life that is created by medical practitioners (rather than the natural procreative act) elevates technology to a place of dominance over the origin and destiny of the human being, threatening the unity of marriage through the intrusion of a ‘third party’ (namely, a physician) into the marital functions of sex and procreation. The conjugal union of the parents is also offended by third-party donation (which is furthermore associated with infidelity), an argument

61 Foster mother and father will become milk parents of the child who will be regarded as the milk sibling of the wet nurse’s biological children. This sort of kinship tie does not confer inheritance rights on the child, who is for her or his part barred from marrying any of her or his mother’s biological children. In Islamic tradition, the major institutional structure for the care of children without family is *kafālah* (guardianship, tutelage). See on the situation in the UAE: *The National*, ‘Making a Child Your Own’, 9 May 2009, available at <www.thenational.ae/news/making-a-child-your-own>, last accessed 15 February 2014.

62 Clarke, 2009, at 80 *et seq.* – On *iqrār*, see Khan & Khan, 2009, at 210; Nasir, ‘*The Islamic Law*’, 2009, at 150 *et seq.*

63 S. Houot, ‘Islamic Jurisprudence (*Fiqh*) and Assisted Reproduction: Establishing Limits to Avoid Social Disorder’, in Tremayne & Inhorn, 2012, pp. 53-69 at 56 *et seq.* See also the detailed general discussion in Sachedina, 2009, at 47 *et seq.*

64 Cf. Inhorn, 2012, at 233.

65 The others are protection of life, mind, religion and private property. See Hallaq, 2005, at 145.

66 See Houot, 2012, at 55 with further references; Grand Ayatollah Ali as-Sistani of Iraq, Questions & Answers, ‘Artificial Insemination’, available at <www.sistani.org/index.php?p=616687&id=1128>, last accessed 15 February 2014.

67 See, e.g., Bukhari, Sahih, Vol. 7, Book 71, *hadith* 582; Sachedina, 2009, at 167; Inhorn, 2012, at 199; Inhorn, 2011, at 126; S. Aksoy, ‘Making Regulations and Drawing Up Legislation in Islamic Countries Under Conditions of Uncertainty, With Special Reference to Embryonic Stem Cell Research’, *Journal of Medical Ethics*, Vol. 31, 2005, pp. 399-403 at 401.

that is, as will be discussed further below, similar to those moral considerations that underlie the Sunni ban on this practice.⁶⁸

In the UAE, where nationals comprise only about one-fifth of the population and overpopulation is not currently an issue, 'public interest' comprises another factor: the conserving and fostering of the national family by adding to nuclear families consisting of (native) parents and children. According to Article 15 of the UAE Constitution, the family is the foundation of society, and the law shall guarantee its existence. In the light of this constitutional stipulation, the state actively and openly encourages and supports its members to found a family with co-nationals in order to maintain the ethnically exclusive political demographic through instruments like the 'Marriage Fund' (*sandūq al-zawāj*), which sponsors group weddings and provides grants and housing support for Emirati men marrying Emirati women, as well as free infertility treatments for citizens.⁶⁹

In the context of parental 'necessity' to reproduce and have biological children, the rights of the unborn child, the foetus or embryo, have to be considered.⁷⁰ It is a given that various forms of embryonic and foetal demise do occur in medically assisted reproduction and that assisted reproduction involves the handling and screening of potential human life. The official Catholic Church holds the view that human life is sacrosanct in all its forms and that the destruction of *any* embryo is inherently wrong. Therefore, its doctrine objects to assisted conception *per se*.⁷¹ A greater variety of opinion exists in 'official' Islamic discourse.⁷² The starting point in classical Islamic *fiqh* is the scholarly discourse on abortion, which stresses the sanctity of life and usually gives the rights of the unborn child precedence over the rights and interests of her or his parents.⁷³ At the same time, however, classical Islamic jurisprudence generally assumes a gradualist view of the development of the embryo and the 'value' of this biological entity in different stages. From Qur'anic passages and *hadith* suggesting a gradual process towards the physical and spiritual attributes of humanity (and specifying the time elapsed in each successive stage), Muslim scholars developed the concept

68 For further information, see J. Richards, 'A Roman Catholic Perspective on Fertility Issues', in E. Blyth & R. Landau, *Faith and Fertility: Attitudes Towards Reproductive Practices in Different Religions From Ancient to Modern Times*, Jessica Kingsley, London, 2009, pp. 35-56 at 46 *et seq.*

69 See Hasso, 2011, at 63, 73, 79 *et seq.*; Karsan, 2012, at 197; Federal Law No. 47 of 1992 re the Marriage Fund. While *Thiqa* health insurance covers up to three IVF treatments for UAE citizens residing in Abu Dhabi, a government initiative called *Amal* offers free infertility treatments for Emiratis from Dubai. See, e.g., *The National*, 'Free Infertility Treatments for Emiratis', 16 January 2013, available at < www.thenational.ae/news/uae-news/health/free-infertility-treatment-for-emiratis >, last accessed 15 February 2014. See Atighetchi, 2007, at 72 *et seq.* regarding the general significance of an increasing population in a Muslim religion-state system.

70 Cf. Houot, 2012, at 58 *et seq.*

71 See Inhorn, 2012, at 285 *et seq.*; Richards, 2009, at 43 *et seq.*, 47 *et seq.* Moreover, prenatal screening is permitted only as long as it is done to safeguard the health of the child in utero: Richards, 2009, at 49.

72 However, as M. Inhorn, *Local Babies, Global Science*, Routledge, New York, 2003, p. 94, points out, the convergence between religious dogma and everyday practice is generally much stronger in Muslim countries than in Christian-majority countries, where the official church teachings usually have considerably less influence on both doctors and patients.

73 Houot, 2012, at 59.

that an embryo undergoes three major stages of development, each lasting 40 days, in which the embryo increasingly shows the distinct human features: the *nutfā*, *'alaqa* and *mudgha* stages. It is commonly believed that after this process, the soul is breathed into the embryo, which then attains human status.⁷⁴ In another view held by a minority of legal scholars, ensoulment occurs not after 120 days of gestation but rather 40, 42 or 45 days after conception.⁷⁵

Traditional notions of 'Islamic embryology' have been challenged by the ever-increasing sophistication of techniques and the potentialities of modern medicine, as well as moral-legal issues surrounding human embryos created through IVF, such as their storage, embryo research and multifoetal pregnancy reduction. In particular, it has been debated whether the findings of classical *fiqh* regarding the embryo can be applied to extracorporeal human embryos.⁷⁶ However, despite these issues, the gradual approach to human life, which does not accord the embryo absolute protection from the moment of conception, and the fundamental acceptance of advancements in medical science have resulted in both Sunni and Shia religious-juridical authorities being cautiously permissive regarding potential remedies for infertility, including procedures that involve manipulation, screening, removal and disposal of the embryo and foetus.⁷⁷ The boundaries of these procedures have been carefully reiterated in legal opinions and scholarly writings.

D. Debate, Contemporary Opinions and State Laws

I. *The Early Discourse*

The opinions of certain Muslim scholars who initially took a stand against any type of assisted procreation have been supplemented by dicta from jurists who have recalled several acceptable ethico-religious dogmas and applied them to the field of reproductive medicine in order to legitimise certain techniques. As a result, techniques of reproductive medicine have been introduced into predomi-

74 The most foundational of these passages that also provides the basic terminology for the classical legal discourse of the subject are Qur'an sura 23, verses 12-14, Qur'an sura 32, verses 6-9 (confirmed, e.g., by Qur'an sura 38, verses 71-72). For the prophetic traditions, see M. Holmes Katz, 'The Problem of Abortion in Classical Sunni *fiqh*', in J.E. Brockopp (Ed.), *Islamic Ethics of Life: Abortion, War, and Euthanasia*, University of South Carolina Press, Columbia, 2003, pp. 25-50 at 30 *et seq.*; N. Fischer, *Islamische Positionen zum Pränatalen Leben*, Alber, Freiburg im Breisgau, 2012, pp. 30, 33, 42 *et seq.*; T. Eich, 'Decision-Making Processes Among Contemporary "ulama": Islamic Embryology and the Discussion of Frozen Embryos', in J.E. Brockopp & T. Eich (Eds.), *Muslim Medical Ethics: From Theory to Practice*, University of South Carolina Press, Columbia, 2008, pp. 61-77 at 65 *et seq.*; M. William, *Mensch von Anfang an?*, Academic Press Fribourg, Freiburg, 2007, pp. 50 *et seq.*; M. Zahraa & S. Shafie, 'An Islamic Perspective on IVF and PGD, With Particular Reference to Zain Hashmi, and Other Similar Cases', *Arab Law Quarterly*, Vol. 20, 2006, pp. 152-180, pp. 166 *et seq.*; Aksoy, 2005, at 400 *et seq.*; Atighetchi, 2007, at 92 *et seq.*

75 Atighetchi, 2007, at 93 *et seq.* with further references; Aksoy, 2005, at 401; Sachedina, 2009, at 131; Serour, 'Islamic Perspectives', 2008, at 37; William, 2007, at 58 *et seq.*

76 See Eich, 2008, at 66 *et seq.*

77 See Inhorn, 2012, at 285 *et seq.*

nantly Muslim countries since the second half of the 1980s.⁷⁸ At the same time, however, religion still represents the most fundamental arena of constraint on the practice and use of reproductive technologies. Since the birth of the world's first test-tube baby in 1978 in England, Sunni and Shia authorities have participated in lively debates on the impact and ramifications of reproductive medicine on the legal and ethical aspects of kinship, family, society and the individual, which are, as previously noted, all firmly anchored in Islam.

Arguably the first and, regarding its key points, still authoritative *fatwā* on the issue of medically assisted reproduction was issued in March 1980 by the former Grand Shaykh of Egypt's famous al-Azhar University, Gad El Hak Ali Gad El Hak. According to his *fatwā*, which has since radiated throughout the Muslim world, all techniques of medically assisted reproduction are permitted (*ḥalāl*) as long as the genetic and gestational links of a child to her or his parents remain intact and the child is conceived during a valid marriage.⁷⁹ If these preconditions are met, children thus conceived will be regarded the legitimate offspring of their parents. On the contrary, the involvement of third parties, be they sperm or egg donors or gestational carriers (surrogate mothers), is strictly forbidden (*ḥarām*) and as such tantamount, or at least as akin, to *zinā*. A child born as a result of an illegitimate form of assisted reproduction is considered to be an illegitimate child, a *walad az-zinā*, who is only attributed to her or his birth mother. As stated by the former Grand Shaykh of Egypt, the husband who allows any such prohibited treatments to be administered to his wife loses his dignity.⁸⁰ The prohibitive attitude towards 'donor children' is obviously clearly linked to the Islamic prohibition against adoption – an attitude that is mirrored in this *fatwā* that addresses both acts in a negative sense.⁸¹

The primary features of this document have been since confirmed by *fatāwā* from various scholarly authorities and position papers with juridical value from various conferences in the Muslim world.⁸² These bodies and individuals stressed the fact that procreation, including assisted reproduction, is only desirable as long as it occurs within the family union. The scholarly world is also in agreement that the fundamental feature of the al-Azhar *fatwā*, that is, the distinction between homologous and heterologous reproductive techniques, and the ban on the latter, still forms the basis of the ongoing ethical-juridical discourse.⁸³

78 Cf. Atighetchi, 2007, at 135; Inhorn, 2003, at 1 *et seq.*

79 Inhorn, 2012, at 202 *et seq.*; M.C. Inhorn, 'Making Muslim Babies: IVF and Gamete Donation in Sunni versus Shi'a Islam', *Culture, Medicine and Psychiatry*, Vol. 30, 2006, pp. 427-450 at 432 *et seq.*; Inhorn, 2003, at 96 and Inhorn, 2005-2006, at 295 *et seq.* for an English translation of the *fatwā*.

80 Inhorn, 2005-2006, at 298, 300 *et seq.*; Atighetchi, 2007, at 141; *see also* Clarke, 2009, at 103 *et seq.*

81 Cf. Inhorn, 2011, at 132.

82 Cf. Clarke, 2009, at 97 *et seq.*; Inhorn, 2003, at 96; Serour, 'Islamic Perspectives', 2008, at 35.

83 Atighetchi, 2000, at 139; Inhorn, 2011, at 129.

II. Contemporary Opinions and Legislation

Many Shia authorities initially supported the Sunni ban on third-party reproductive assistance. In 1999, the leader of the Islamic Republic of Iran, Ayatollah Ali Hussein Khamene'i, issued a *fatwā* effectively permitting the use of donated sperm or eggs irrespective of the underlying technique.⁸⁴ Since then there has been a diversity of opinion regarding the use of donor gametes among Shia authorities. While some scholars concur with the existing Sunni ban on donor practices, others hold different, namely more liberal views.

There are several aspects of third-party donation that are of particular ethical, legal and moral concern. The most important justifications for the scholarly opposition to donor techniques are legitimate descent (*nasab*), adultery (*zinā*), relations with an unmarriageable kin (*mahram*) and comportment in family life.⁸⁵ These concerns, which are discussed in the following paragraphs, are reflected in the opinions of Islamic legal authorities and in state laws and guidelines on reproductive medicine, which, at the same time, reflect the respective Sunni and Shia positions. Sunni-majority countries are generally opposed to sperm and egg donation, embryo donation and surrogacy arrangements⁸⁶ but consider reproductive assistance involving one couple generally unproblematic.⁸⁷ Thus, in Sunni-majority countries such as Egypt, Saudi Arabia and the UAE, prohibitions against third-party donation are deeply embedded in society and reduce the number of viable techniques for their infertile citizens. Among Shia religious specialists, one finds opinions regarding reproductive medicine and family formation that are in some respects remarkably more modern.

Although the practice of IVF dates back to the mid-1980s, when the first clinics opened in a handful of Middle Eastern countries,⁸⁸ among the countries studied in this article only Iran and the UAE have developed state laws aimed at assisted reproduction. In fact, in view of its status as a reproductive hub and its ongoing nation-building process, which began in the early 1970s,⁸⁹ the UAE legislature has been very active in the field of health and medicine. While Iran's laws only cover certain aspects of reproductive medicine, the UAE currently has the most comprehensive set of reproductive technology laws. Therefore, special emphasis will be given to these laws in the following paragraphs.

Within the last two decades, government hospitals and private clinics in the UAE have begun to offer assisted reproduction treatments to the population of the Emirates; because of the high demand for treatments, the offering has been

84 Clarke, 2009, at 117 *et seq.*; Inhorn, 2012, at 207.

85 Cf. Inhorn, 2012, at 233 *et seq.*

86 See Inhorn & Patrizio, 2011, at 262.

87 The ban on third-party reproductive assistance was confirmed in 1997 in a five-point bioethical declaration of the ninth Islamic law and medicine conference, held under the auspices of the Kuwait-based Islamic Organization of Medical Sciences in Casablanca, Morocco. See Inhorn, 2012, at 205.

88 Inhorn, 2006, at 432.

89 The UAE were founded in 1971. Their constitution became permanent in 1996.

steadily expanded.⁹⁰ The Federal Constitution gives the state the right to create legislation in the realm of public health and medical services.⁹¹ In the last decades, the UAE legislature has established general laws pertaining to medical practice,⁹² as well as laws aimed at various aspects of medically assisted reproduction in the UAE: (a) Federal Law No. 10 of 2008, concerning Medical Liability (Medical Liability Law), (b) Federal Law No. 11 of 2008, concerning Licencing Fertility Centres in the State (Fertility Centres Law), (c) Cabinet Decision No. 33/2009, promulgating the by-law of the Medical Liability law and (d) Cabinet Decision No. 36/2009, promulgating the by-law of the Fertility Centres law (Fertility Centres by-law). Centres offering assisted reproductive technologies require a licence from the responsible health authorities.⁹³ At the federal level, the Fertilisation Centres Oversight and Control Committee is in charge of the supervision and control of the fertility centres.⁹⁴ In addition to the Health Ministry's director general, this body consists of a number of doctors with qualifications in relevant fields from the public and private health sector, as well as a Sharia advisor from the General Authority of Islamic Affairs and Endowments and a legal advisor selected by the Minister of Health.⁹⁵ Besides its other responsibilities, this committee is tasked with studying innovations in the field of assisted reproduction and making recommendations regarding the applicability of new techniques in the UAE.⁹⁶ Because of the presence of a Sharia advisor on this committee, it is expected that recommendations will be guided by the current consensus of Sunni Islamic scholars.

In the UAE, any intervention with assisted reproductive techniques is permissible only for couples who have not been able to conceive naturally within one year. The law waives this 'waiting period' if infertility has been pre-diagnosed.⁹⁷ Prior to treatment, the husband must prove the existence of a marriage by presenting an official marriage certificate.⁹⁸ Consequently, infertility treatments are accessible only for couples that are party to a conventional marriage. Furthermore, a qualified physician must confirm that the proposed reproductive treatment would neither damage the health of the mother nor endanger her life. After

90 See, e.g., ArabianBusiness.com, 'More IVF Clinics Planned in Gulf to Meet Rising Demand', 6 September 2011, available at <www.arabianbusiness.com/more-ivf-clinics-planned-in-gulf-meet-rising-demand-419219.html>, last accessed 15 February 2014. See also Inhorn & Shrivastav, 2010, at 70S.

91 Cf. Art. 120 (12) UAE Constitution of 1996.

92 Federal Law No. 7 of 1975 concerning the Practice of Human Medicine, as amended; Federal Law No. 5 of 1984, concerning the Practice of some Medical Professions by Persons other than Physicians and Pharmacists; Federal Law No. 2 of 1996 concerning Private Medical Facilities, as amended.

93 See, e.g., Health Regulation Department of the Dubai Health Authority, *Hospital Regulation 2012*, available at <www.dha.gov.ae/EN/SectorsDirectorates/Directorates/HealthRegulation/MedicalComplaint/Documents/Hospital%20Regulation.pdf>, last accessed 15 February 2014.

94 Arts. 3 *et seq.* UAE Fertility Centres Law; Arts. 3 *et seq.* UAE Fertility Centres by-law.

95 Art. 3 UAE Fertility Centres Law; Art. 3 UAE Fertility Centres by-law.

96 Arts. 4 (2), 8 (4) UAE Fertility Centres Law; Art. 4 (3) UAE Fertility Centres by-law.

97 Art. 9 (1) UAE Fertility Centres Law.

98 Art. 9 (3) UAE Fertility Centres Law.

having acquired the written consent of both husband and wife, a qualified specialist may then perform the treatment in the presence of the husband.⁹⁹ In line with moral concerns regarding *nasab*, the law stresses that the utmost care must be exercised in the handling of gametes and embryos to avoid ‘mixing up’ or ‘confusing’ the relations and to thus ensure that filiation will follow the proper genetic lines.¹⁰⁰ In addition, the fertility centres have substantial reporting duties to the Ministry of Health.¹⁰¹ Violations of the law result in penalties, including monetary fines and prison sentences.¹⁰² Moreover, the ministry may cancel the fertility centre’s licence and order the provisional suspension or cancellation of its operation.¹⁰³

In 1986, IVF was introduced to Egypt, which currently has a flourishing IVF sector with over 50 mostly private clinics.¹⁰⁴ While no specific laws presently regulate reproductive medicine, a licence from the Ministry of Health must be obtained to operate a fertility centre. The granting of this licence depends upon compliance with guidelines set forth by the Egyptian Medical Syndicate. The guidelines concerning premises, personnel, equipment and so forth are based on the early Al-Azhar *fatwā* on medically assisted reproduction, as well as subsequent recommendations of the 1991, 1997 and 2000 conferences on assisted reproduction that were organised by Al-Azhar’s International Islamic Centre for Population Studies and Research and approved by Al-Azhar’s clergy.¹⁰⁵ Assisted reproduction is further addressed in the Professional Ethics Regulations of the Egyptian Medical Syndicate. These regulations, which amended previous regulations from 1974, have been issued by Decree No. 238/2003 of the Ministry of Health and Population (Ministry of Health Decree 238/2003) pursuant to the resolutions of the Egyptian Medical Syndicate Council and the General Assembly of Egyptian Physicians. The third chapter of this decree concerns medical interventions of a ‘special nature’, such as assisted reproduction. In addition to describing the allowed procedures, the regulations state that the permitted techniques are subject to the ethical guidelines and regulations of responsible authorities that aim at treating infertility while preserving the ‘purity of lineage’.¹⁰⁶ These guidelines further state that fertility centres must obtain a licence prior to commencing their operations. The centres are required to keep all data associated with each individual case for ten years, including the treatment contract and the cou-

99 Art. 9 (2), (4) (5) and (6) UAE Fertility Centres Law; Arts. 9 *et seq.* UAE Fertility Centres by-law.

100 Art. 19 UAE Fertility Centres Law; Art. 14 UAE Fertility Centres by-law.

101 Arts. 22 *et seq.* UAE Fertility Centres Law; *see also* Arts. 16 *et seq.* UAE Fertility Centres by-law.

102 *Cf.* Arts. 29 *et seq.* UAE Fertility Centres Law.

103 Arts. 21, 28 UAE Fertility Centres Law; Arts. 21 *et seq.* UAE Fertility Centres by-law.

104 Inhorn, 2011, at 130; Inhorn, 2012, at 25.

105 *See* Inhorn, 2011, at 130 *et seq.* with further references; *see also* M. Aboulgar, ‘Ethical Aspects and Regulation of Assisted Reproduction in the Arab-speaking World’, *Reproductive BioMedicine Online*, Vol. 2, 2007, pp. 143-146 at 145.

106 Art. 44 Egyptian Ministry of Health Decree No. 238/2003.

ple's consent form.¹⁰⁷ Along with these guidelines, opinions from various (mainly religious) sources are being applied in parts of the private medical sector where there are no specific rules on certain techniques.¹⁰⁸

In Saudi Arabia, medically assisted reproduction has been practised since 1986, and there are well over twenty fertility centres in the Kingdom today.¹⁰⁹ The Saudi legal system is firmly based on the Sharia, which is the country's constitution and primary source of law. Regulations typically supplement the religious law in matters that are not explicitly covered by the Sharia, such as reproductive medicine. Consequently, in the Saudi system, medically assisted reproduction is regulated by *fatāwā* and decree law. In-Vitro Fertilisation Regulation No. 2870/1/12 provides the framework for the licensing and supervision of fertility clinics and the penalties for the breach of its provisions. According to this decree law, fertility clinics, which need authorisation from the government for their operation,¹¹⁰ are required to adhere to the relevant *fatāwā*. Through these learned legal opinions, reproductive medicine in the Kingdom is indirectly regulated.¹¹¹

Iran has had a thriving reproductive medicine sector for over twenty years, and the demand for infertility treatments is growing steadily¹¹²; there are currently approximately fifty fertility centres in the Shia-majority country.¹¹³ Because Iran is a theocracy, the *fatāwā* of clerics have been instrumental in allowing and shaping the practice of medically assisted reproduction and remain the ultimate guidelines for those seeking treatment as well as for medical practitioners.¹¹⁴ Yet, views among Islamic jurists and senior clerics differ regarding the limits of their application and the interpretation of their use.¹¹⁵ In the case of embryo donations, a law in 2003 that legalises the donation of embryos from one married couple to another was ratified by the parliament and approved by the Guardian Council. An executive by-law to this Act was passed by the Council of Ministers in 2005.¹¹⁶ In the same year, the parliament ratified the Act of Therapeutic Abortion.¹¹⁷ This act legalises abortions during the first four months of

107 Art. 48 Egyptian Ministry of Health Decree No. 238/2003; United Nations Educational, Scientific and Cultural Organization (UNESCO) Cairo Office, *Ethics and Law in Biomedicine and Genetics: An Overview of National Regulations in the Arab States*, Cairo, 2011, at 53 (UNESCO Cairo Office).

108 UNESCO Cairo Office, 2011, at 53.

109 H.S. Abduljabbar & R. Amin, 'Assisted Reproductive Technology in Saudi Arabia', *Saudi Medical Journal*, Vol. 30, 2009, pp. 461-464 at 461.

110 See Atighetchi, 2007, at 157.

111 Cf. UNESCO Cairo Office, 2011, at 55; N. Fischer, 'Embryo Research in the Middle East', *Journal of International Biotechnology Law*, Vol. 6, 2009, pp. 235-241 at 237.

112 Tremayne, 2012, at 130.

113 Abbasi-Shavazi *et al.*, 2008, at 3; Tremayne, 2009, at 145.

114 See B. Larijani & F. Zahedi, 'Ethical and Religious Aspects of Gamete and Embryo Donation and Legislation in Iran', *Journal of Religious Health*, Vol. 46, 2007, pp. 399-408 at 404.

115 Tremayne, 2009, at 145 *et seq.*

116 The Embryo Donation to Infertile Spouses Act, 5 August 2003, Ref. No. 33704, and the Executive by-law to the Embryo Donation to Infertile Spouses Act, available at < <http://vrhrc.tums.ac.ir/Default.aspx?tabid=176>>, last accessed 15 February 2014.

117 The Therapeutic Abortion Act, 21 June 2005, Ref. No. 2/85876.

pregnancy under limited circumstances, including medical conditions related to foetal and maternal health.¹¹⁸ Also in 2005, ethical guidelines for biomedical research were compiled by a task force of experts from governmental authorities and relevant scientific disciplines, such as medicine, ethics, law and religion. These *Specific National Ethical Guidelines for Biomedical Research* consist of several guidelines, of which the sections on genetic research and on gamete and embryo research may have relevance to the field of reproductive medicine.¹¹⁹ In particular, the section on gamete and embryo research outlines the general principle that research on reproductive material and embryos, which is contingent upon the consent of the persons involved, and the practice of assisted reproductive technologies should be conducted with the utmost respect for the dignity of all participants, thus ensuring compliance with essential ethical principles.¹²⁰

1. *Artificial Insemination and In Vitro Fertilisation*

In Islamic scholarly tradition, a precedent for a pregnancy that did not result from sexual intercourse, that is penetration, but from artificial means of conception may be identified. Namely, some jurists accepted that a woman could inject sperm, which she considered to be her husband's, into her vagina on her own.¹²¹ In current times, the scholarly consensus is that all techniques of homologous insemination are permitted, if medically required.¹²² Thus, the husband's sperm may be used for intrauterine insemination (IUI), and IVF of an egg from the wife with the sperm of her husband is permitted. The same applies to ICSI, where a single sperm is directly injected into an egg from the wife under a high-powered microscope.¹²³ However, these treatment options are further contingent upon their compliance with other Islamic regulations, such as the observance of due caution when the private parts of others, especially women, are revealed in the course of treatment. Moreover, due care should be taken to ensure that the gametes of the couple are not confused with the gametes of other couples that

118 F. Zahedi & B. Larijani, 'National Bioethical Legislation and Guidelines for Biomedical Research in the Islamic Republic of Iran', *Bulletin of the World Health Organization*, Vol. 86, 2008, pp. 630-634 at 631; K.M. Hedayat, P. Shooshtarizadeh & M. Raza, 'Therapeutic Abortion in Islam: Contemporary Views of Muslim Shiite Scholars and Effect of Recent Iranian Legislation', *Journal of Medical Ethics*, Vol. 32, 2006, pp. 652-657 at 654 *et seq.*

119 B. Larijani & F. Zahedi, 'Contemporary Medical Ethics: An Overview From Iran, Developing World Bioethics', Vol. 8, 2008, pp. 192-196 at 196; Zahedi & Larijani, 2008, at 632. An English translation of the sections on genetic research as well as gamete and embryo research can be found in B. Larijani & F. Zahedi, 'Biotechnology, Bioethics and National Ethical Guidelines in Biomedical Research in Iran', *Asian Biotechnology and Development Review*, Vol. 9, 2007, pp. 41-54, Anns. 1 & 2.

120 Art. 1 Iranian Ethical Guidelines for Gamete and Embryo Research; *see also* Zahedi & Larijani, 2008, at 632.

121 Atighetchi, 2007, at 140; Sachedina, 2009, at 110.

122 *Cf., e.g.*, Inhorn, 2005-2006, at 300; Clarke, 2009, at 100 *et seq.*

123 *See* Clarke, 2009, at 151, n. 54; Inhorn, 2012, at 201; Atighetchi, 2007, at 140 *et seq.*; H.E. Fadel, 'The Islamic Viewpoint on New Assisted Reproductive Technologies', *Fordham Urban Law Journal*, Vol. 30, 2002, pp. 147-157 at 151 *et seq.*

are treated at the clinic to guarantee the proper filiation of the child thus conceived.¹²⁴

An issue that has a bearing on these treatment options, as well as male infertility diagnosis, is that of semen collection. The two most common methods for collecting sperm are masturbation and testicular surgery. Of these two methods, masturbation is generally the first choice because it is non-invasive.¹²⁵ However, Islamic attitudes towards masturbation in general and semen in particular are ambiguous, even though the topic has been discussed openly, albeit controversially, by medieval and contemporary Islamic jurists. The Sharia does not generally explicitly allow masturbation.¹²⁶ According to Islamic tradition, the prophet Muhammad advised those who were not able to marry to control their sexual urges through fasting. In an unverified *hadīth*, the practice is disapproved of in strong terms: “the [masturbator] will not be seen on the day of resurrection.”¹²⁷ In line with this unfavourable view, many Islamic jurists viewed the practice with distaste and repugnance.¹²⁸ In the Shafi’i School of Law, masturbation was generally considered religiously illicit (*ḥarām*) and thus prohibited altogether unless a man is masturbated by his wife or concubine (owned slave women).¹²⁹ By contrast, Ahmad Ibn Hanbal, the founder of the Hanbali school of thought, compared sperm to other corporal secretions and considered the act lawful, particularly for prisoners, travellers, soldiers and individuals without a lawful sex partner.¹³⁰ Along with the absence of a legitimate sexual partner, Hanbali jurists generally consider masturbation acceptable if the act is performed to avoid more serious transgressions, such as adultery or fornication.¹³¹ Imam Malik, the founder of the Maliki School of Law, considered masturbation prohibited except in cases of necessity, as it served to release potentially health-damaging excess sperm from the male body.¹³² To release sexual tension, contemporary Islamic jurists often recommend resorting to religious duties, work, sports, social activities and so forth rather than masturbation.¹³³ Still another aspect is the spilling of sperm upon the male body. While it has been acknowledged in Islamic discourse that sperm is ideologically a highly important and indispensable element of the procreation process, it is at the same time classified as a pollutant that requires ablution before prayer or the performance of other religious rituals according to Islamic mores.¹³⁴ However, this ritual impurity occurs not only when semen is released by masturbation but also when semen is ejaculated into the vagina, out-

124 Clarke, 2009, at 101; Atighetchi, 2007, at 142, both with further references.

125 See Inhorn, 2012, at 183.

126 B.F. Musallam, *Sex and Society in Islam*, Cambridge University Press, Cambridge, 1983, p. 34.

127 F.I. Khuri, *The Body in Islamic Culture*, Saqi Books, London, 2001, p. 83. See also Inhorn, 2012, at 168.

128 Musallam, 1983, at 33.

129 See *Id.*, at 34; see also Khuri, 2001, at 83.

130 Atighetchi, 2007, at 143; Musallam, 1983, at 33.

131 Atighetchi, 2007, at 143.

132 See the *fatāwā* ‘Abd Al-Ḥalīm Maḥmūd in V. Rispler-Chaim, *Islamic Medical Ethics in the Twentieth Century*, E.J. Brill, Leiden, 1993, p. 132.

133 See Atighetchi, 2007, at 143.

134 Khuri, 2001, at 84 *et seq.*; Inhorn, 2012, at 168.

side the vagina (*coitus interruptus*) or while sleeping.¹³⁵ All forms of lovemaking are thus inherently impure and require purification by washing the body after orgasm. These factors, namely the ambivalence of semen as a simultaneous source of life and impurity and the conservative attitude of Islamic jurists towards masturbation, are the likely source of the ambivalent feelings that some Muslim men express *vis-à-vis* semen collection through masturbation in the process of fertility treatments.¹³⁶

In Egypt, legally married couples whose marriage has been consummated may resort to medically assisted reproduction (both *in vivo* and *in vitro*, including IVF and ICSI) provided that their gametes are used.¹³⁷ The centres are required to keep all data regarding the particular cases, including the contract governing medical treatment and the couple's written consent.¹³⁸ In the UAE, the law allows for IUI, IVF and ICSI with the husband's sperm and the wife's egg while their marriage contract is valid.¹³⁹ In Iran, there is no law that addresses these practices of assisted reproduction. However, IVF, ICSI and insemination treatments that do not involve a third party have the full approval of the ruling religious leaders and are administered in clinical practice.¹⁴⁰ In Saudi Arabia, legal marriage, which theoretically could also be a *misyar* marriage, is a prerequisite for fertility treatments. The permitted practices are restricted to those that involve the gametes of the married couple.¹⁴¹

2. Sperm Donation

IUI or IVF using donor sperm are techniques that create incidental relationships between persons of the opposite sex that are often neither emotionally nor legally bonded. Because reproduction in Islam is tied to heterosexual marital relations and reproduction outside marriage is considered *zinā*, donor techniques are a highly sensitive issue. In fact, the legal consequences for a child conceived in an adulterous relationship and the child generated through heterologous artificial insemination are quite similar: he or she is often considered *walad az-zinā* (a child of *zinā*).¹⁴² Other scholars find this notion to be without basis, and even those who consider the procedure illicit do not normally suggest that the impregnation of a female with donor sperm is an actual instance of *zinā*, which would entail the penalties for adultery or fornication envisioned by the Sharia. The crucial point is the lack of bodily contact between donor and recipient.¹⁴³ There are numerous

135 Inhorn, 2012, at 168.

136 See *Id.*, at 166 *et seq.*, 168 *et seq.* for a detailed discussion of the issue.

137 Arts. 44 and 45 Egyptian Ministry of Health Decree No. 238/2003.

138 Arts. 44, 45 and 48 Egyptian Ministry of Health Decree No. 238/2003.

139 Art. 8 (1) and (2) UAE Fertility Centres Law; Art. 12 UAE Medical Liability Law. Furthermore, gamete intra-fallopian transfer and zygote intra-fallopian transfer are also permissible according to Art. 8 (3) of the UAE Fertility Centres Law.

140 See Tremayne, 2012, at 131. See furthermore, e.g., M.A. Khalili *et al.*, 'The Predictive Value of Pronuclear Morphology Screening on Embryo Development and Pregnancy Outcome in ART Cycles', *Middle East Fertility Society Journal*, Vol. 13, 2008, pp. 44-51.

141 Abduljabbar & Amin, 2009, at 462.

142 Cf. Inhorn, 2012, at 204 *et seq.*; Inhorn, 2005-2006, at 300; Mahmoud, 2012, at 80 *et seq.*

143 See Atighetchi, 2007, at 138; Clarke, 2009, at 104.

moral concerns, however, with the corruption of traditional family and kinship relations and the potential of accidental incest between donor and donor child at the forefront.¹⁴⁴ Because of these concerns, many Sunni Muslim couples shy away from donor techniques. This rather conservative attitude actually strengthens traditional notions of *nasab* and conjugal connectivity.¹⁴⁵

Shia authorities, for the most part, share the Sunni view that donor insemination is not permissible.¹⁴⁶ Scholars such as the Iraqi Ayatollah Ali as-Sistani either completely prohibit the technique or, like his fellow countryman Ayatollah Muhammad Sa'id al-Hakim, at least advise caution against third-party donation practices.¹⁴⁷ However, selected Shia juridical-religious authorities hold another view. Some consider donor insemination to be acceptable, while others only permit IVF, where the fertilisation of the egg with donated sperm takes place outside the woman's body.¹⁴⁸ The most liberal position is most likely held by the Iranian Ayatollah Ali Hussein Khamene'i. Generally speaking, Khamene'i does not regard donor practices as *zinā* as long as no physical contact, that is, touching, gazing or sexual intercourse, takes place between donor and recipient.¹⁴⁹ According to Khamene'i, it is religiously permissible to resort to donor insemination as long as the husband gives his permission.¹⁵⁰ The child then takes the name of the infertile father.¹⁵¹ But irrespective of whether the legal authorities allow donor procedures, the legitimacy of the resulting child is usually assumed.¹⁵² Regarding kinship relations, Khamene'i and other authorities hold the opinion that relatedness is congruent with genetic relation, meaning that the sperm donor and not the husband of the treated woman would be considered the legal father of the offspring and the child would be the donor's heir.¹⁵³ For example, although the late Lebanese Shi'ite Ayatollah Muhammad Husayin Fadlallah did not consider donor insemination or IVF using donor sperm to be permissible, he considered the resulting child to be the donor's and considered its birth legitimate since he did not equate these medical procedures to actual *zinā*.¹⁵⁴ Grand Ayatollah Ali as-Sistani, who also does not consider donor insemination permissible, discusses the scenario of an accidental insemination with donor sperm and concludes that a child thus conceived will likely be considered the sperm donor's child. Yet, if a woman were deliberately as the offspring of the sperm owner and have the rights of legitimate birth. As-Sistani underscores that even if the procedure itself would

144 See Clarke, 2009, at 104 with further references; Inhorn, 2012, at 234.

145 Inhorn, 2012, at 226.

146 Inhorn, 2005-2006, at 303; Garmaroudi Naef, 2012, at 164; Mahmoud, 2012, at 80.

147 Clarke, 2009, at 135 *et seq.*; Inhorn, 2006, at 439.

148 See Garmaroudi Naef, 2012, at 164 *et seq.* for further references.

149 Khamene'i, 2007, at 39, 41 *et seq.*; Clarke, 2009, at 120; Tremayne, 2009, at 148.

150 See Clarke, 2009, at 117 *et seq.*, 120. See also M. Clarke, 'Shiite Perspectives on Kinship and New Reproductive Technologies', *ISIM Review*, Vol. 17, 2006, pp. 26-27 at 26.

151 Tremayne, 2009, at 149.

152 See Clarke, 2009, at 120; Garmaroudi Naef, 2012, at 164.

153 Clarke, 2009, at 120 *et seq.*; Clarke, 2006, at 27; Garmaroudi Naef, 2012, at 164; Tremayne, 2009, at 149.

154 See Clarke, 2009, at 126 *et seq.*; see also, Clarke, 2006, at 26.

be considered *ḥarām*, it would not amount to an adulterous relationship that in turn would preclude the child from *nasab* and inheritance.¹⁵⁵

A further issue affecting both scholarly debates and patient's concerns is the comportment of parents, siblings and, especially, female donor children in daily life.¹⁵⁶ Because the donor child is not *mahram*, or someone forbidden for marriage to the infertile parent, comportment in the intimate conditions of daily family life must be carefully regulated to prevent erotic feelings of a parent towards the donor child.¹⁵⁷ In order to attenuate such concerns, the female child is typically assimilated into the family as a stepdaughter (*rabibah*) whom the social father may not marry according to Qur'anic rules if the marriage with her mother has been consummated.¹⁵⁸ Ayatollah Khamene'i raised this controversial issue in his late 1990s *fatwā* declaration by pointing to the 'exceptions' necessary in the realm of parenting, namely bodily concealment of female family members.¹⁵⁹

In addition, the question is sometimes raised whether the wife of an infertile Shia husband could enact a *mut'a* marriage with a sperm donor to avoid implications of *zinā*. According to the rules of Islam, however, it is not considered acceptable for a woman to be married to more than one husband at the same time. Yet, at least in theory, a woman could divorce her infertile husband, contract a *mut'a* marriage with a sperm donor and then remarry her infertile husband. However, most Shia authorities do not find this solution acceptable.¹⁶⁰

Sperm donation is not permitted in Egypt.¹⁶¹ The UAE Medical Liability Law bans third-party assistance in general. The UAE Fertility Centres Law and its by-law are more specific in this regard, banning sperm donation in all its forms.¹⁶² Fertilisation with donor sperm is also strictly prohibited in Saudi Arabia.¹⁶³ In Iran, sperm donation is currently illegal in principle¹⁶⁴; however, primarily because of a relaxed regulatory environment and a pro-donation *fatāwā*, sperm donation is still discreetly practised in some private clinics in the country.¹⁶⁵

155 See Clarke, 2009, at 134 *et seq.*; Clarke, 2006, at 27; Grand Ayatollah Ali as-Sistani, Questions & Answers, 'Artificial Insemination', available at <www.sistani.org/index.php?p=616687&id=1128>, last accessed 15 February 2014.

156 Cf. Clarke, 2009, at 121.

157 Inhorn, 2012, at 234.

158 Clarke, 2009, at 121; Clarke, 2006, at 27. Regarding the marriage impediment see Qur'an sura 4, verse 23; Nasir, 'The Islamic Law', 2009, at 63; Nasir, 'The Status of Women', 2009, at 45.

159 See Inhorn, 2005-2006, at 306; Clarke, 2009, at 121 *et seq.*

160 Inhorn, 2012, at 210 *et seq.*; Abbasi-Shavazi *et al.*, 2008, at 6.

161 Art. 45 Egyptian Ministry of Health Decree No. 238/2003 *argumentum e contrario*.

162 Art. 12 UAE Medical Liability Law; Art. 10 (2) UAE Fertility Centres Law; Art. 9 (vi) Fertility Centres by-law.

163 Abduljabbar & Amin, 2009, at 462.

164 Inhorn, 2005-2006, at 307. The Iranian Act on Embryo Donation to Infertile Spouses is silent on the issue: Larijani & Zahedi, 'Ethical and Religious Aspects', 2007, at 407.

165 Tremayne, 2012, at 132. Prior to undertaking sperm donation, some women divorce their infertile husbands and then remarry them after the waiting period, the '*iddat*'. Abbasi-Shavazi *et al.*, 2008, at 8 *et seq.*

3. *Egg and Embryo Donation*

In Sunni Islam, egg or embryo donation is not considered acceptable, even if the egg or embryo donor is another wife of the (polygamous) husband. Again, the main reason for this view is the argument regarding definite filiation of the child.¹⁶⁶ However, in the event that an egg or embryo of a co-wife in a polygamous relationship could be used to assist the conception of the other wife, one would have to address the question of legal motherhood. Is motherhood established by genetics or earned through carrying and birthing a child, or even the breastfeeding of the infant? In other words, is the egg or embryo provider (the genetic mother), the gestational carrier or the milk mother the legal mother of the newborn? On the basis of Qur'anic evidence, the majority of Sunni authorities ascribe motherhood to the birth mother.¹⁶⁷ Others disagree and ascribe maternity to the egg donor, or even to both mothers.¹⁶⁸

In Shia jurisprudence, Ayatollah Khamene'i does not explicitly stipulate marriage of any form as a prerequisite for egg donation. Therefore, it is possible for one sister to donate eggs to the other.¹⁶⁹ If relation follows genetics, the exact relationship to the woman who gives birth to the child is not clear, but in any case, *nasab* would be established.¹⁷⁰ However, as previously stated, many Shia authorities either disagree with Khamene'i's donor-friendly position on principle or at least require marriage, either permanent or temporary (*mut'a*), between the husband and the egg donor to avoid concerns regarding propriety and the implications of *zinā*. Because polygamy is permitted in Islam, the marriage of the husband of the infertile woman to the egg donor is unproblematic from a juridical-religious point of view and, in some instances, even encouraged.¹⁷¹ In practice, for example, the husband of an infertile wife who follows the opinion of a scholar in Iran who considers marriage advisable for egg donation will marry the egg donor for one day without sexual contact occurring between the husband and the *mut'a*-wife.¹⁷² Yet, again, the question of relatedness arises. Is the child related to the egg donor or to the gestational carrier? According to the majority of Shia authorities, and contrary to the Sunni-majority consensus, the egg donor should be considered the legal mother because ovum and sperm are equally important in the conception of a child and establish maternity and paternity at this stage. This 'duogenetic' position accords the male and female seed a balanced role in the con-

166 See Clarke, 2009, at 105.

167 Qur'an sura 58, verse 2 "None can be their mothers except those who gave them birth"; Qur'an sura 46, verse 15: "In pain did his mother bear him, and in pain did she give him birth"; Clarke, 2009, at 106 with further references.

168 See Clarke, 2009, at 106, n. 43.

169 See Tremayne, 2009, at 151 *et seq.*

170 Clarke, 2009, at 119 *et seq.* According to the rules of Islam, a man cannot be married to two sisters simultaneously.

171 Abbasi-Shavazi *et al.*, 2008, at 5 *et seq.*; Atighetchi, 2007, at 150 *et seq.*; see also Mahmoud, 2012, at 79 *et seq.*

172 Tremayne, 2009, at 148. See M. Clarke, 'Islam, Kinship and New Reproductive Technology', *Anthropology Today*, Vol. 22, 2006, pp. 17-20 at 19 on the situation of Shias in Lebanon.

stitution of *nasab*.¹⁷³ However, not all scholars share this opinion. The Iraqi Grand Ayatollah Ali as-Sistani, for example, initially relates the child to the egg donor but states that motherhood could also be attributed to the gestational carrier.¹⁷⁴ Still others assign motherhood to both the contributor of the egg and the gestational carrier at the same time.¹⁷⁵

The question of who is the mother is crucial in the context of legal and social matters related to the family sphere. The lack of maternal filiation deprives the child of mutual inheritance rights and raises questions regarding bodily concealment of the woman bringing up a boy who is the biological child of the donor(s). These problems can be attenuated by breastfeeding the child, who in consequence is recognised as a *mahram* to the wet nurse. This type of relationship generally allows for a more intimate domestic life.¹⁷⁶

Egg and embryo donation is not permitted in Egypt.¹⁷⁷ Similarly, egg and embryo donation is illegal in the UAE.¹⁷⁸ The use of donor eggs or an embryo is also prohibited in Saudi Arabia.¹⁷⁹ The Iranian Embryo Donation to Infertile Spouses Act of 2003, however, legalises the donation of embryos of married couples, with their consent in writing, to other married couples that are involuntarily infertile. The law specifies that the recipient couple must obtain a medical certificate of their infertility (excepting the wife's ability to gestate an embryo) and apply for permission from a family court that assesses whether they are eligible for treatment. They must be ethically and legally competent, have no incurable diseases or addictions and possess Iranian nationality.¹⁸⁰ Furthermore, only couples of the same religion can donate to each other.¹⁸¹ The position of the child seems to be similar to an own or an adopted child of the recipient couple, albeit in principle without legal inheritance rights.¹⁸² It is noteworthy that the law precludes the fertile wife of an infertile husband from contributing her own egg, and thus passing on her genes, because naturally the embryos donated from other married couples involve both an egg and sperm. Therefore, the wife's position is

173 Among those who follow the Sunni-majority consensus is, e.g., the late Iranian Grand Ayatollah Khu'i. See Garmaroudi Naef, 2012, at 166 *et seq.* for more information; see also Clarke, 2009, at 129 *et seq.*

174 Grand Ayatollah Ali as-Sistani, Questions & Answers, 'Artificial Insemination', available at <www.sistani.org/index.php?p=616687&id=1128>, last accessed 15 February 2014.

175 Garmaroudi Naef, 2012, at 168; Mahmoud, 2012, at 83.

176 See Clarke, 2009, at 121; regarding milk-kinship: Garmaroudi Naef, 2012, at 162 with further references; see also Inhorn, 2012, at 207.

177 Art. 44 Egyptian Ministry of Health Decree No. 238/2003 *argumentum e contrario*; Art. 45 (2) Egyptian Ministry of Health Decree No. 238/2003.

178 See Art. 10 (1) and (4) of the UAE Fertility Centres Law; Art. 9 (vi) of its by-law as well as Art. 12 of the Medical Liability Law.

179 Abduljabbar & Amin, 2009, at 462.

180 See Arts. 1-2 and 4 Iranian Embryo Donation to Infertile Spouses Act; Art. 2 Executive by-law to the Embryo Donation to Infertile Spouses Act.

181 Art. 6 Executive by-law to the Embryo Donation to Infertile Spouses Act; Larijani & Zahedi, 'Ethical and Religious Aspects', 2007, at 406; Tremayne, 2009, at 157.

182 Art. 3 Embryo Donation to Infertile Spouses Act; cf. Inhorn, 2012, at 213. However, as Inhorn, 2012, points out, the child is in practice likely to inherit from the infertile parents because donors usually remain anonymous.

akin to a gestational surrogate.¹⁸³ In general, the continuity of the lineage through the use of gametes donated by relatives is given preference over donations from strangers.¹⁸⁴ Egg donation, on the other hand, is not addressed by the law, despite religious approval. In practice, egg donation is often carried out within the framework of a *mut'a* marriage.¹⁸⁵ However, in the frequent case of egg donation between kin groups, especially between two sisters, temporary marriage is not an accessible measure because in Islamic law, a man is forbidden from being simultaneously married to two sisters.¹⁸⁶

4. Gestational Surrogacy

In gestational surrogacy, one woman (surrogate mother) carries a child for a commissioning couple on the basis of a contractual agreement before conception to surrender the baby following birth. In cases of gestational surrogacy, a woman is not genetically related to her child but carries the embryo of another couple to term. This embryo can either be composed of the commissioning couple's gametes, or partly or wholly be composed of donor gametes (third-party egg and/or semen).¹⁸⁷

According to the current Sunni consensus position, gestational surrogacy is not permitted in any case.¹⁸⁸ In the mid-1980s, a *fatwā* from the juridical organ of the Muslim World League, the al-Majma'a al-Fiqhi al-Islami, approved gestational surrogacy in a polygamous relationship. In that particular case, an embryo formed by the union of the husband's sperm with the egg of one of the co-wives in a polygamous relationship who did not have a uterus was placed into the uterus of another wife of the same husband. This procedure was considered legitimate because the procreation took place within the same family unit. However, only a year later, the Fiqh Academy reverted to its earlier decision and declared surrogacy within a polygamous relationship illicit. It was argued that such a procedure had the potential to confound lineage because it was not possible to determine whether the resulting pregnancy was the issue of the transferred embryo or the union of the sperm of the husband and the own egg of the gestational carrier. The ruling underscored that filiation with respect to the mother should be definite and that the precepts of Islamic law object to any uncertainty with respect to legitimate filiation.¹⁸⁹

Most Shia authorities consider the practice of gestational surrogacy (as distinguished from traditional surrogacy, where sperm would be placed directly into the uterus of the surrogate) to be a permitted form of reproductive assistance. In

183 Inhorn, 2011, at 134; Inhorn, 2006, at 437 *et seq.*

184 Larijani & Zahedi, 'Ethical and Religious Aspects', 2007, at 406; Tremayne, 2009, at 151.

185 Clarke, 2006, at 19; Tremayne, 2009, at 148.

186 Tremayne, 2009, at 151 *et seq.*

187 See, e.g., H. Ragoné, 'The Gift of Life: Surrogate Motherhood, Gamete Donation and Constructions of Altruism', in R. Cook & S. Day Sclater, *Surrogate Motherhood: International Perspectives*, Hart Publishing, Oxford, 2003, pp. 209-226 at 211.

188 See, e.g., Clarke, 2009, at 105; Serour, 'Islamic Perspectives', 2008, at 35.

189 Atighetchi, 2007, at 143 *et seq.*; Atighetchi, 2000, at 139; Clarke, 2009, at 107; Inhorn, 2003, at 98; Serour, 'Islamic Perspectives', 2008, at 35.

fact, there is clear religious permissibility regarding the act of implanting an embryo consisting of the sperm and egg of a married couple into the uterus of a woman who carries the baby to term, as the embryo comes from a legal marriage between man and woman.¹⁹⁰ Moreover, the child's biological parents are known.¹⁹¹ Yet, to avoid possible suspicion that one is doing something that is forbidden, Shia scholars such as the Iraqi Ayatollah Hakim advise their followers to consider marriage (*mut'a* or polygamous) in surrogacy arrangements.¹⁹² Some authorities even consider surrogacy arrangements among kin groups, for instance, among siblings, to be permitted.¹⁹³ In this regard, it is interesting to note that the Iranian Law on Embryo Donation to Infertile Spouses does not prohibit embryo donation among relatives.¹⁹⁴

In the context of surrogacy arrangements, the issue of legal motherhood again arises. As in the case of egg or embryo donation, the majority of Shia authorities assign maternity to the owner of the egg. Others maintain that the gestational carrier who carried the baby to term and gave birth to her or him should be designated as the mother. A third opinion establishes motherhood by a biological and a gestational principle, and as a consequence, the child has two mothers: the egg donor and the surrogate.¹⁹⁵

In Egypt, gestational surrogacy is illegal.¹⁹⁶ Likewise, gestational surrogacy is not allowed in the UAE or in Saudi Arabia.¹⁹⁷ In addition, UAE law explicitly addresses the two-wives scenario: the external fertilisation of the ovum of one wife with the sperm of the husband and the implantation of the fertilised ovum into the uterus of a co-wife is deemed illegal.¹⁹⁸ Gestational surrogacy is approved by most Iranian Shia authorities and is practised in some well-known medical institutions in the country.¹⁹⁹ However, no law endorsing or prohibiting the practice has been decreed.²⁰⁰ In the absence of codified law, the provisions of the Iranian Constitution direct those seeking advice to authentic *fatāwā* and legitimate Islamic resources,²⁰¹ as well as the law on Embryo Donation and other general laws. Furthermore, most Iranian clinics have their own internal policies that

190 See Garmaroudi Naef, 2012, at 165, 169; see also Clarke, 2009, at 138 with reference to Ayatollah Hakim's view; K. Aramesh, 'Iran's Experience With Surrogate Motherhood: An Islamic View and Ethical Concerns', *Journal of Medical Ethics*, Vol. 35, 2009, pp. 320-322 at 321; see also Khomeini, 2007, at 41.

191 Tremayne, 2009, at 159.

192 Mahmoud, 2012, at 79 *et seq.*, 82 *et seq.*

193 Garmaroudi Naef, 2012, at 169 *et seq.*; Mahmoud, 2012, at 82.

194 Cf. Garmaroudi Naef, 2012, at 169.

195 See Sachedina, 2009, at 117; Mahmoud, 2012, at 83; Garmaroudi Naef, 2012, at 168 *et seq.* Khomeini, 2007, at 43 confers motherhood on the egg-owner.

196 Art. 45 (2) Egyptian Ministry of Health Decree No. 238/2003.

197 Art. 10 (3) UAE Fertility Centres Law; Abduljabbar & Amin, 2009, at 462.

198 Art. 10 (5) UAE Fertility Centres Law.

199 See Aramesh, 2009, at 320; A. Rahmani *et al.*, 'Gestational Surrogacy: Viewpoint of Iranian Infertile Women', *Journal of Human Reproductive Sciences*, Vol. 4, 2011, pp. 138-142.

200 Tremayne, 2009, at 158.

201 Art. 167 Constitution of the Islamic Republic of Iran.

require mutual consent between the infertile couple and the surrogate as a prerequisite for treatment.²⁰²

5. *Multifoetal Pregnancy Reduction*

The use of assisted reproduction techniques has increased the incidence of multiple pregnancies, including high-order multiple pregnancies (HOMP; triplets and higher-order pregnancies), which are associated with major maternal and foetal risks, as well as foetal and neonatal morbidity.²⁰³ While it is desirable to prevent HOMP in the course of infertility treatments at all,²⁰⁴ once HOMP occur, multifoetal pregnancy reduction – the selective abortion of some foetuses – may be performed to reduce the risks associated with HOMP.²⁰⁵

Neither the Qur'an nor the Sunna directly addresses the issue of intentional abortion. Although various verses interdict the killing of one's offspring in the strongest terms, classical Islamic jurists typically interpreted this Qur'anic prohibition to refer to already born children, not unborn children.²⁰⁶ They turned to the verses describing the successive stages of embryonic development with the act of ensoulment as a turning point in the unborn's development, linking abortion to the embryo's potential to develop into a full human being.²⁰⁷ According to the dominant opinion among the four Sunni schools of law and the Shia schools of thought, the voluntary termination of pregnancy is traditionally prohibited after the foetus has received its soul (120 days after fecundation or another previous date) because it has then become a human person, unless the abortion is performed to save the mother's life.²⁰⁸ Before the act of ensoulment has occurred, different views among the schools exist. The most liberal of the schools of law is the Hanafi School, in which many adherents hold the view that abortion is permissible at any time before ensoulment. The majority of the Malikites hold the strictest view, prohibiting abortion even in the first 40 days.²⁰⁹ However, most scholars do not object to therapeutic abortion, that is, abortion for pregnancies

202 Garmaroudi Naef, 2012, at 187, n. 10.

203 Cf. Practice Committee of the American Society for Reproductive Medicine, 'Multiple Gestation Associated With Infertility Therapy: An American Society for Reproductive Medicine Practice Committee Opinion', *Fertility and Sterility*, Vol. 97, 2012, pp. 825-834 at 826 *et seq.*; H.W. Jones Jr. *et al.*, *IFFS Surveillance 2010*, p. 89, available at < www.iffs-reproduction.org/documents/IFFS_Surveillance_2010.pdf >, last accessed 15 February 2015.

204 In order to reduce the incidence of HOMP, there has been a trend towards transfer of fewer embryos in IVF. According to the current ART factsheet of the European Society of Human Reproduction and Embryology, the overall average number of embryos transferred is 2.14: < www.eshre.eu/ESHRE/English/Guidelines-Legal/ART-fact-sheet/page.aspx/1061 >, last accessed 15 February 2015.

205 See Practice Committee of the American Society for Reproductive Medicine, 2012, at 827 *et seq.*, 830; see also Serour, 'Medical and Socio-Cultural Aspects', 2008, at 36.

206 Holmes Katz, 2003, at 25 *et seq.* For the issue of female infanticide see Section D.II.6.

207 Cf. Eich, 2008, at 68; Atighetchi, 2007, at 93.

208 See Holmes Katz, 2003, at 30 *et seq.*; Atighetchi, 2007, at 94, 98 *et seq.*; Hedayat *et al.*, 2006, at 653; Mahmoud, 2012, at 77.

209 Others allow it until the end of the *nutfa* stage. See Holmes Katz, 2003, at 31; see also Fischer, 2012, at 52 *et seq.*

that threaten the life of the mother, whose life would usually be held to take precedence over the potential life of the foetus.²¹⁰

In contemporary Islamic discourse, multifoetal pregnancy reduction is generally allowed if the prospect of carrying multiple pregnancies to term is very low. Furthermore, multifoetal pregnancy reduction is allowed to eliminate health- or life-threatening conditions in the mother.²¹¹ This form of selective abortion is justified on the grounds that the intention is not to induce abortion but to enhance the survival of the remaining foetuses and minimise complications for the expectant mother.²¹²

Legal, religious and social regulations bar Egyptian women from legally terminating pregnancies in most cases. Although the legal framework is somewhat vague, abortions may generally be conducted for medical reasons if the mother's life or health is in danger.²¹³ In Egypt, multifoetal pregnancy reduction is not regulated. However, fertility centres usually follow the dominant opinion of the Sunni school, which is principally permissive regarding this practice, as well as relevant *fatāwā* and guidelines.²¹⁴ In the UAE, a Maliki-majority country, abortion is permitted only for two reasons: if the continuation of the pregnancy would endanger the mother's life and if the foetus suffers from severe and untreatable congenital malformations. In the latter case, abortion is permissible only within 120 days of pregnancy. In both cases, strict procedural rules apply.²¹⁵ Thus, foetal reduction *per se* is not permitted in the UAE.²¹⁶ In this context, it is noteworthy that according to the applicable law, the number of embryos transferred is limited to three (women aged 35 years or below) or four (in older women).²¹⁷ In Saudi Arabia, abortion is permitted only within very narrow limits.²¹⁸ In any case, abortion is conditioned upon *shar'i* (lawful under Islam) reasons, and, depending upon the stage of pregnancy, stricter conditions may apply. In addition, after four

210 See Holmes Katz, 2003, at 31; Atighetchi, 2007, at 95 *et seq.*; Fischer, 2012, at 51 *et seq.*

211 See Inhorn, 2012, at 203; Serour, 'Islamic Perspectives', 2008, at 36; Atighetchi, 2007, at 154; Mahmoud, 2012, at 77. See also G.I. Serour, 'Islamic Perspectives of Ethical Issues in ART', *Middle East Fertility Society Journal*, Vol. 10, 2005, pp. 185-190 at 187; Khamenei'i, 2007, at 42.

212 Inhorn, 2012, at 203; Serour, 'Islamic Perspectives', 2008, at 36.

213 See Arts. 260 *et seq.* Egyptian Penal Code No. 58 of 1937. According to Arts. 60-61 of the same law, those who perform an act in good faith, in the exercise of a right recognised by Muslim law, do not come under the application of the penal law, and those who commit a crime on grounds of necessity are exempted from punishment. Furthermore, Art. 29 of the Egyptian Ministry of Health Decree No. 238/2003 stipulates that an abortion may be carried out for medical reasons that threaten the health of the mother. See also UNESCO Cairo Office, 2011, at 72; Atighetchi, 2007, at 126 *et seq.*; *Daily News Egypt*, 'Abortion in Egypt: Whose choice?', 24 April 2013, available at <www.dailynewsegypt.com/2013/04/24/abortion-in-egypt-whose-choice/>, last accessed 15 February 2014.

214 See UNESCO Cairo Office, 2011, at 53; see Serour, 'Islamic Perspectives', 2008, at 36 for the Sunni opinion.

215 Cf. Art. 13(II) UAE Medical Responsibility Law. The issue of abortion is also addressed in Art. 22 of the Federal Law No. 7 of 1975 concerning the Practice of Human Medicine. According to this provision, therapeutic abortion is permitted only if the mother's life is in danger.

216 See Inhorn & Patrizio, 2011, at 262.

217 Art. 13 (1) UAE Fertility Centres Law; Art. 9 (vii) UAE Fertility Centres by-law.

218 Decree of the Council of Senior Ulama No. 140 (1407 H./1987).

months of pregnancy, an abortion is lawful only if a group of specialists in the field confirm that the continuation of the pregnancy will result in the mother's death.²¹⁹ In Iran, foetal reduction is practised.²²⁰ Under the Act of Therapeutic Abortion of 2005, abortion is legal within the first four months (120 days) of pregnancy upon the request and consent of the mother if the foetus is mentally or physically handicapped or if the mother's life is in danger.²²¹ To detect such anomalies, prenatal diagnostic testing may be conducted.²²² In any case, the law permits therapeutic abortion only after a definite diagnosis by three experts and a confirmation by the Legal Medicine Organisation.²²³

6. *Preimplantation Genetic Diagnosis*

PGD is a technique that is used in the context of IVF treatments. It is performed either on oocytes prior to fertilisation or on embryos prior to implantation to identify particular genetic characteristics such as genetic abnormalities that can cause serious disease or miscarriage.²²⁴ If a PGD is performed on an embryo, its ethical-juristic status in Islam must be considered. As previously noted, Islamic jurists adopt a gradualist view of the development of the embryo that includes the important turning point of the infusion of the spirit or soul into the growing human being. Because this position does not require the embryo to receive absolute protection, the screening of embryos and the decision not to implant embryos produced *in vitro* on grounds that they show serious chromosomal or genetic abnormalities are acceptable to most Islamic scholars.²²⁵ PGD is furthermore acknowledged as a diagnostic option for avoiding subsequent pregnancy terminations among couples that run a high risk of transmitting genetic disorders to their children.²²⁶ In addition, one must consider the generally restricted access

219 See the text of the Decree of the Council of Senior Ulama No. 140 (1407 H./1987), which is included in Art. 24 of the Ministerial Resolution No. 288/17/L (1410 H./1990) promulgating the Rules of Implementation of the Regulations on the Practice of Medicine and Dentistry, which were ratified by Royal Decree No. M/3/1409 H. (1988); Atighetchi, 2007, at 112, 121 *et seq.* The view that abortion is permissible in case of a confirmed threat to the mother's life was confirmed by a *fatwā* of the jurisprudential body of the Muslim World League in Mecca: Abduljabbar & Amin, 2009, at 462.

220 Cf., e.g., F. Mostajeran, H. Gharavi & S.M. Ahmadi, 'Comparison of Twin Pregnancy Outcome After Assisted Reproductive Technology With and Without Embryo Reduction', *Iranian Journal of Reproductive Medicine*, Vol. 4, 2006, pp. 69-72.

221 B. Larijani & F. Zahedi, 'Changing Parameters for Abortion in Islam', *Indian Journal of Medical Ethics*, Vol. 3, 2006, pp. 130-131 at 130; Hedayat *et al.*, 2006, at 654 *et seq.*; Zahedi & Larijani, 2008, at 631 *et seq.*

222 Arts. 1 and 19 of the Iranian Ethical Guidelines for Genetic Research permit prenatal tests only if they relate to the health of the mother or the embryo. Eugenic research is prohibited. See Larijani & Zahedi, 'Biotechnology, Bioethics and National Ethical Guidelines', 2008, at 46, 50 *et seq.*; Zahedi & Larijani, 2008, at 632.

223 Larijani & Zahedi, 2006, at 130.

224 See, in general, K. Sermon, A. van Steirteghem & I. Liebaers, 'Preimplantation Genetic Diagnosis', *The Lancet*, Vol. 363, 2004, pp. 1633-1641.

225 G.I. Serour & B.M. Dickens, 'Assisted Reproduction Developments in the Islamic World', *International Journal of Gynecology & Obstetrics*, Vol. 74, 2001, pp. 187-193 at 190; Mahmoud, 2012, at 85.

226 Inhorn, 2012, at 203.

of couples to abortion should severe congenital diseases be detected at a later stage in pregnancy through prenatal diagnosis (PND).²²⁷ In Islamic scholarly discourse, PND is considered to be of lesser harm compared with elective pregnancy reduction.²²⁸

The use of PGD for non-medical indications such as prenatal sex discernment is a more contentious issue.²²⁹ In its primary applications, prenatal sex discernment is typically used as a complement to genetic testing for certain genetic diseases that are linked to the sex or for non-medical reasons, such as to fulfil a sex preference or to balance the sex ratio in a family. While Sunni authorities generally approve of the technique in cases of gender-related diseases,²³⁰ sex selection for non-medical purposes has traditionally been considered in the context of the pre-Islamic practice of infanticide for gender selection and discrimination against female children, which is strongly condemned by the Qur'an,²³¹ ascribing the creation of the female or male child to God's will.²³² However, as with many ethical questions pertaining to modern medicine, scholars have identified advantages and disadvantages regarding sex selection for non-medical purposes.²³³ While recognising that sex selection technologies may perpetuate prejudice against female children in societies where agnatic kinship ties prevail, Sunni religious authorities consider sex ratio or 'family' balancing lawful in individual cases when parents already have several children of the same sex and wish for one child of the opposite sex.²³⁴ At the same time, discrimination against either sex, but especially against females, is deemed unacceptable.²³⁵ Moreover, using PGD for sex selection merely to fulfil a couple's sex preference is not permitted.²³⁶ In Shia Islam, by contrast, scholars generally approve of PGD for sex selection, both for medical and non-medical purposes. For example, couples in Iran can legally donate unwanted embryos of either gender to infertile married couples.²³⁷

There is no specific legislation aimed at embryo selection and screening in Egypt. Therefore, opinions and recommendations from prestigious organisations or juristic-religious scholars are used as guidelines.²³⁸ In the UAE, where the fre-

227 See Atighetchi, 2007, at 250 *et seq.* for an overview of the scholarly opinions and state legislation.

228 Serour & Dickens, 2001, at 190; A. Alsulaiman *et al.*, 'Preimplantation Genetic Diagnosis in Saudi Arabia: Parent's Experience and Attitudes', *Prenatal Diagnosis*, Vol. 30, 2010, pp. 753-757 at 753.

229 Serour & Dickens, 2001, at 190; Mahmoud, 2012, at 85.

230 See Mahmoud, 2012, at 85; Serour, 'Islamic Perspectives', 2008, at 36.

231 See, e.g., Qur'an sura 16, verses 58-59 and Qur'an sura 81, verses 8-9; Serour, 'Islamic Perspectives', 2008, at 36.

232 Qur'an sura 42, verses 49-50; Serour, 'Islamic Perspectives', 2008, at 36 with further references; cf. also Houot, 2012, at 61.

233 See, e.g., the discussion in V. Rispler-Chaim, 'Contemporary Muftis Between Bioethics and Social Reality: Selection of the Sex of a Fetus as Paradigm', *Journal of Religious Ethics*, Vol. 36, 2008, pp. 53-76.

234 See Serour, 'Islamic Perspectives', 2008, at 36; Mahmoud, 2012, at 77 *et seq.*; see also Atighetchi, 2007, at 154 with further references; Inhorn, 2012, at 203.

235 Serour, 'Islamic Perspectives', 2008, at 36; Serour & Dickens, 2001, at 190.

236 Serour, 'Islamic Perspectives', 2008, at 36; Serour, 2005, at 188.

237 Cf. Mahmoud, 2012, at 86.

238 Cf. UNESCO Cairo Office, 2011, at 53.

quency of certain genetic diseases is high because of intermarriage,²³⁹ it is permissible to perform a PGD to detect hereditary diseases upon the written consent of the spouses, provided that all necessary measures are taken to ensure that the fertilised egg is not harmed.²⁴⁰ A PGD may be performed only at designated fertility centres, which must act in accordance with international standards.²⁴¹ The UAE Fertility Centres Law does not ban the use of PGD for non-medical reasons, such as prenatal sex discernment to select the sex of the embryo to be implanted in the mother's uterus. In practice, PGD for sex selection is advertised by UAE fertility centres quite openly,²⁴² though it is currently a controversial topic of public debate among physicians and religious authorities.²⁴³ In Saudi Arabia, where consanguineous marriages are also frequent,²⁴⁴ guidelines on genetic testing have been drafted by the National Committee of Biomedical Ethics. According to the provisions of these drafted guidelines, genetic testing is permitted for PND and PGD.²⁴⁵ From the point of view of religious law, which in Saudi Arabia is superior to any man-made legislation, PGD is principally allowed because it is considered a type of treatment and as such does not violate the Sharia. In view of Saudi Arabia's strict abortion policy and the high prevalence of genetic disorders, couples often resort to PGD to avoid the transfer of embryos with serious genetic defects, which could only be aborted at a later stage in a pregnancy if the embryo's condition placed the mother's life at risk.²⁴⁶ A PGD for non-medical reasons (such as sex selection) is not permitted, in keeping with the 2007 *fatwā* of the jurisprudential body of the Muslim World League in Mecca.²⁴⁷ PGD is practised in Iran.²⁴⁸ The Ethical Guidelines for Gamete and Embryo Research address the specific case of research on human gametes and embryos and make scientific research on

239 See, e.g., L.I. Al Ghazali *et al.*, 'Consanguineous Marriages in the United Arab Emirates', *Journal of Biosocial Sciences*, Vol. 29, 1997, pp. 491-497; regarding consanguinity in the Arab world see G.O. Tadmouri *et al.*, 'Community Health Implications of Consanguinity in Arab Populations', in D. Kumar (Ed.), *Genomics and Health in the Development World*, Guilford Publications, New York, 2012, pp. 625 *et seq.*

240 See Art. 15 UAE Fertility Centres Law; Art. 19 (2) Fertility Centres by-law. In the UAE, there exists a mandatory premarital screening programme in order to decrease the incidence of these genetic disorders in future generations.

241 See Art. 19 (1) UAE Fertility Centres by-law.

242 See, e.g., < www.fakihivf.com/gender-selection/ >, last accessed 15 February 2014.

243 See, e.g., *The National*, 'Sex Selection Requests Rising in UAE as Thorny Issue Is Debated', 1 March 2013, available at < www.thenational.ae/news/uae-news/health/sex-selection-requests-rising-in-uae-as-thorny-issue-is-debated >, last accessed 15 February 2014.

244 See, e.g., A.A. al-Abdulkareem & S.G. Ballal, 'Consanguineous Marriage in an Urban Area of Saudi Arabia: Rates and Adverse Health Effects on the Offspring', *Journal of Community Health*, Vol. 23, 1998, pp. 75-83.

245 UNESCO Cairo Office, 2011, at 21.

246 Alsulaiman *et al.*, 2010, at 753, 756; Abduljabbar & Amin, 2009, at 462.

247 PGD for medical reasons and especially the detection of sex-linked diseases was exempted from this ban. See Abduljabbar & Amin, 2009, at 462; UNESCO Cairo Office, 2011, at 55.

248 Cf. S. Kahraman & N. Findikli, 'Current Status of Preimplantation Genetic Diagnosis', *Iranian Journal of Reproductive Medicine*, Vol. 2, 2004, pp. 1-8.

embryos conditional on certain ethical rules, as well as the informed consent of both the donor and the recipient couples.²⁴⁹

7. *Cryopreservation and Posthumous Assisted Reproduction*

Among the more controversial techniques of medically assisted reproduction is the use of cryopreserved embryos and their legal status. During an IVF procedure, a woman regularly receives a treatment with hormones to stimulate the development of multiple oocytes, or eggs, to mature in one menstrual cycle. From these oocytes, more embryos or fertilised eggs are created than can be typically used in a single treatment, and spare embryos may be cryopreserved for transfer in a later cycle in order to ease the burden of treatment in female IVF patients.²⁵⁰ Ethical and legal discussions concerning cryopreserved embryos usually occur when the surplus frozen embryos are no longer needed for reproductive purposes and their fate must be decided. However, problems involving the long-term storage of embryos and the complications connected with the advanced age of the parents to be must also be considered.²⁵¹ In the late 1980s, the issue of cryopreserved embryos was discussed for the first time at a meeting of the Islamic Organization of Medical Sciences, where it was indicated that the creation of surplus embryos should be avoided; if, however, surplus embryos are brought about, they should either be destroyed, used for research or left to die naturally – the last of which being the preferred option. In 1990, a similar meeting was organised by the Islamic Fiqh Academy of the Organisation of the Islamic Conference in Jeddah, Saudi Arabia, where it was recommended that only the exact number of embryos needed for one single IVF treatment be created and that any surplus embryos be left to die spontaneously.²⁵² One year later, however, the first international conference on the ‘Bioethics on Human Reproduction in the Muslim World’ held at Al-Azhar in Cairo, Egypt, decided that surplus fertilised eggs may be cryopreserved. Also in the early 1990s, the Code of Ethics of the Egyptian Society of Obstetrics and Gynaecology considered the cryopreservation of any surplus fertilised eggs and their implantation in a later cycle into the mother from whom the eggs come to be lawful. This view is still commonly held among Sunni Islamic authorities.²⁵³ In addition, the process of freezing sperm and eggs (the latter still being a rather novel technique)²⁵⁴ separately is considered unproblematic and is deemed lawful prior to exposure to radiotherapy or chemotherapy or for social reasons.²⁵⁵ However, according to the majority view among Muslim scholars, it is impermissible either to implant an embryo in a legitimate wife after the death of

249 Preamble and Arts. 1 *et seq.* Iranian Ethical Guidelines for Gamete and Embryo Research.

250 Cf. N.S. Macklon *et al.*, ‘The Science Behind 25 Years of Ovarian Stimulation for *In Vitro* Fertilization’, *Endocrine Reviews*, Vol. 27, 2006, pp. 170-207 at 170 *et seq.*

251 See Eich, 2008, at 61, 71; Atighetchi, 2007, at 146; Houot, 2012, at 62 *et seq.*

252 Eich, 2008, at 63 *et seq.*; Atighetchi, 2007, at 151 *et seq.*; Atighetchi, 2010, at 139.

253 See Atighetchi, 2007, at 152 *et seq.*; Inhorn, 2012, at 202 *et seq.*; Serour, ‘*Islamic Perspectives*’, 2008, at 36. But see the UAE’s legislation and practice in the following paragraph.

254 See, e.g., J.K. Jain & R.J. Paulson, ‘Oocyte Cryopreservation’, *Fertility and Sterility*, Vol. 86, 2006, pp. 1037-1046.

255 Inhorn, 2012, at 203; Serour, ‘*Islamic Perspectives*’, 2008, at 36.

her husband or to fertilise the egg of a widow with the cryopreserved sperm of her late husband.²⁵⁶ In this context, it is important to recall the necessity of a legitimising framework to establish *nasab* to the father; a child will generally only be attributed to the husband if he or she is born within one year following divorce or the death of the father.²⁵⁷ As an exception to this general rule, the Shia cleric Aya-tollah Khamene'i permits the use of sperm after death irrespective of whether the wife is in her waiting period (*iddat*); however, the child would not inherit from her or the father.²⁵⁸ This opinion is shared by the Iraqi Ayatollah Ali as-Sistani.²⁵⁹ Yet, as the outlined discourse in the Muslim world shows, the issue of the use and fate of cryopreserved embryos remains an ongoing ethical inquiry that is closely connected with the disputed question regarding the beginning of human life.

The cryopreservation of embryos is practiced in Egypt. However, regulations prohibit the establishment of egg, sperm or embryo banks. Likewise, the trade in human embryos is banned.²⁶⁰ In the UAE, the cryopreservation of (unfertilised) eggs and sperm is permissible for a period not exceeding five years.²⁶¹ The fertility centre must obtain a written confirmation from the couple regarding their desire to continue the storage of the frozen gametes on an annual basis.²⁶² The gametes must be destroyed upon the request of both spouses, the death of either spouse or divorce.²⁶³ The same rule applies to any fertilised eggs that have not yet been implanted into the female womb upon the death of the husband or the divorce of the couple.²⁶⁴ The cryopreservation of embryos is prohibited. Therefore, the initial creation of spare fertilised eggs should be avoided, and any surplus fertilised eggs should be left without medical attention to perish naturally.²⁶⁵ Likewise, after the introduction of the fertility centres law, embryo couriers became illegal.²⁶⁶ However, there has been recent controversy in the UAE regarding the permissibility of cryopreserving surplus fertilised eggs. In implementing the provisions of the 2010 fertilisation legislation, authorities required fertility centres to destroy cryopreserved embryos. In 2011, this practice was temporarily halted following a circular issued by the Medical Practices and Licencing Sector at the Ministry of Health.²⁶⁷ However, because of the issuance of Ministry of Health

256 Inhorn, 2012, at 204 *et seq.*; Atighetchi, 2007, at 142; Serour, 'Islamic Perspectives', 2008, at 35; for Saudi Arabia see Abduljabbar & Amin, 2009, at 462. But see Serour & Dickens, 2001, at 190 *et seq.*; Serour, 2005, at 187.

257 Cf. Section B.

258 See Clarke, 2009, at 123; see also Inhorn, 2006, at 305.

259 See Atighetchi, 2007, at 151.

260 Arts. 46 and 51 Egyptian Ministry of Health Decree No. 238/2003.

261 Arts. 11 (1) and 13 (2) UAE Fertility Centres Law; Art. 9 (iii) UAE Fertility Centres by-law.

262 Art. 13 (3) UAE Fertility Centres Law; Art. 9 (iii) UAE Fertility Centres by-law.

263 Art. 14 (4) and (5) UAE Fertility Centres Law.

264 Art. 13 (4) UAE Fertility Centres Law.

265 See Arts. 11 (2) and 13 (4) UAE Fertility Centres Law and Art. 9 (iv) UAE Fertility Centres by-law. Furthermore, it is illegal to establish embryo banks (Arts. 11 (1) and 20 UAE Fertility Centres Law).

266 Art. 18 UAE Fertility Centres Law.

267 See *Khaleej Times*, 'There Is Hope for Childless Couples', 29 August 2011, available at <[www.khaleejtimes.com/darticlen.asp?xfile= data/ theuae/ 2011/ August/ theuae_ August729 .xml& section=theuae](http://www.khaleejtimes.com/darticlen.asp?xfile=data/theuae/2011/August/theuae_August729.xml§ion=theuae)>, last accessed 15 February 2014.

Circular No. 117 of 2012 regarding the disposal of surplus frozen embryos, the ban on the cryopreservation of embryos has resumed.²⁶⁸ By contrast, Saudi Arabia allows the cryopreservation of embryos. However, there are supplementary conditions, such as the signed consent of both the wife and the husband, which must be witnessed by staff members of the fertility centre. The relevant regulations do not address the cryopreservation of eggs and sperm. Nevertheless, following the dominant Sunni view that is permissive of these techniques, the cryopreservation of gametes is practised in the Kingdom, especially for cancer patients.²⁶⁹ Iranian legislation permits the cryopreservation of fertilised eggs.²⁷⁰ Yet the law does not cover egg and sperm cryopreservation, though these techniques are practised in the Islamic Republic.²⁷¹

E. Summary

In Egypt, the Islamic Republic of Iran and Saudi Arabia, which were among the early countries to apply reproductive technologies, the increase in the number of IVF clinics and the access to innovative techniques did not run parallel to the enactment of comprehensive IVF legislation or guidelines. In the UAE, by contrast, clinics operate with rather comprehensive legislative oversight. Yet, being a Sunni-majority country, its laws are firmly based on the authoritative anti-donation *fatāwā*. The same is true for the guideline-countries Egypt and Saudi Arabia. In the Islamic Republic of Iran, by contrast, embryo donation is legally permitted, and some Shia legal opinions differ markedly from the Sunni-majority position. However, there also remain different views among Islamic jurists and senior clerics in Shia Islam regarding ethically controversial issues such as egg and sperm donation, as well as surrogate motherhood. As such, the multiple Islamic perspectives on assisted reproduction reflect not only local moral precepts and the ethical-juristic environment, but also the dynamics of assisted reproductive technologies themselves, which are becoming ever more sophisticated.

268 See *Emirates 24/7*, 'UAE Hospital to Dispose Extra Frozen Embryos', 22 September 2012, available at <www.emirates247.com/2.446/health/uae-hospital-to-dispose-extra-frozen-embryos-2012-09-22-1.476461>, last accessed 15 February 2014.

269 Jones *et al.*, 2010, at 29, 34 *et seq.*; Abduljabbar & Amin, 2009, at 462; Expert Meeting on Ethical and Legal Issues of Human Embryo Research, 12-14 February 2008, Cairo, Egypt, Final Report of the Meeting at 33; see also, e.g., D.M. Rabah *et al.*, 'Fertility Cryopreservation for Female Cancer Patients: Attitudes and Clinical Practices of Oncologists in Riyadh, Saudi Arabia', *Journal of Reproductive Medicine*, Vol. 57, 2012, pp. 431-434. But see UNESCO Cairo Office, 2011, at 55 regarding the cryopreservation of human gametes.

270 Cf. Art. 1 Iranian Embryo Donation to Infertile Spouses Act of 2003.

271 Cf. Jones *et al.*, 2010, at 31, referring to the cryopreservation of oocytes. Regarding sperm cryopreservation, see e.g., T. Talaei *et al.*, 'Effects of Cryopreservation on Plasma Membrane Glycoconjugates of Human Spermatozoa', *Iranian Journal of Reproductive Medicine*, Vol. 8, 2010, pp. 119-124.