

Shiite Perspective on the Moral Status of the Early Human Embryo: A Critical Review

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Abstract According to Shiite perspective, the relative inviolability of the human embryo starts at the time of implantation and attains complete ethical status at ensoulment. Different paradigms of embryology have been influential on the understanding of Shiite jurists of the relevant Qur’anic verses. This paper provides a critical review of the process of issuing religious decrees on issues related to the early human life and concludes that Shiite jurisprudence needs to obtain consistency in its adopted account of embryology and adopt a proactive approach toward the bioethical new-emerging issues.

Keywords Islamic bioethics · Shiite bioethics · Human embryo · Moral status · In vitro fertilization (IVF)

Introduction

Covering at least 10% of all Muslims in the world and making the second largest branch of Islam (After the Sunni branch), the Shiite (Shi’a) Islam has its own independent theological, jurisprudential, and ethical schools. Among the Islamic countries, Iran, Iraq, Azerbaijan, Lebanon, and Bahrain are Shiite-majority ones. In addition, large Shiite populations and communities exist in other Muslim and non-Muslim countries around the globe. In all these countries and communities, Shiite jurisprudence (*fiqh*) has a great influence on the lifestyle and life decisions of large groups of people; including their decisions on child-bearing, using assisted reproduction technologies (ARTs), or abortion. (Larijani and Zahedi 2006a, b).

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Iran is home to the largest Shiite population in the world. It has been estimated that about 90% of the population of Iran is Shiite. Most of this population seeks guidance on issues related to life and death from their believed religion. In addition, according to the constitution of the Islamic Republic of Iran, all the laws and regulations must be derived from or in accordance with Shiite jurisprudence (*fiqh*).

Therefore, the Shiite perspective toward such an important issue as the moral status of the early human embryo, not only is important as a noteworthy part of religious ethics, but also deserves attention because of its great impact on some vital aspects of the lives of more than 200 million people in the world.

Over the past few decades, there has been rapid growth in ARTs, stem cell research, and cloning in Iran. For example, Iran was the first Muslim country to create a human embryonic stem cell line (2003) and among the top 10 countries that produced, cultured, and freezed human embryonic stem cells (Aramesh and Dabbagh 2007; Larijani and Zahedi 2004; Saniei 2013; Saniei and De Vries 2008). In addition, new legislations and formal guidelines on assisted reproduction, stem cell research, cloning, contraception, and therapeutic abortion have been passed and announced. For instance, Iran's parliament has passed the Embryo Donation Act (2003) and the Therapeutic Abortion Act (2005) (Afshar and Bagheri 2013; Aramesh and Dabbagh 2007; Larijani and Zahedi 2004; Larijani et al. 2005; Zahedi and Larijani 2008).

Although these legislations, guidelines, and the related religious decrees (*fatwas*) have been based on theoretical debates and deliberations on the ethical status of the early human embryo, it does not mean that a consensus is reached on these topics among Shiite scholars and jurists. On the contrary, the above-mentioned scientific, medical, and legislative developments have raised serious concerns and brought about a large volume of discussions and controversies on the ethical and legal status of the early human embryo (see *The Nature of the Question*, below). Therefore, it is not surprising that Shiite jurists (*fuqaha*), authorities (Grand Ayatollahs), and scholars (*ulama*) have paid attention to this topic. This attention, however, has not been proportionally reflected in the international bioethics literature.

In fact, some aspects of the above developments and debates have been discussed in the international bioethics literature; however, a critical review of the Shiite perspective and Iran's unique experience toward this subject seems to be missing (see *The Knowledge Gap*, below).

This paper tries to fill this knowledge gap by providing a theoretical and critical review of the Shiite perspectives on the ethical status of the early human life. For this purpose, this paper starts with a brief explanation of the existing ethical and legal challenges and controversies and shows their jurisprudential nature in the Shiite ethico-legal tradition (see *The Nature of the Question*) and then describes the knowledge gap that exists despite the relative numeracy of scholarly works that describe Islamic perspectives on these issues. Subsequently, this paper portrays the theoretical resources and bases and the main characteristics of Shiite perspective on the ethical status of the early human embryo. This paper maintains that the flexibility of Shiite *fiqh* has been one of the most crucial backgrounds of rapid development and growth of ARTs and research on human embryo in Iran, especially because (according to the mainstream of Shiite jurists) the partial (and increasing with age) inviolability of the human embryo starts only after the time of implantation. Finally, this paper argues that the Shiite *fiqh* needs to adopt a proactive (rather than reactive to the raised needs and questions) approach to this subject and become consistent regarding its adopted theoretical account of human embryology.

The Nature of the Question

In the ARTs, stem cell research, and cloning, for research or practical purposes, there is a need to multiply human eggs or embryos in the laboratory environment. The result is producing multiple human cells that each of them can potentially grow into a whole human person. For the above-mentioned purposes, also, it is practically possible—and in some cases necessary—to manipulate, destruct or dispose the resulted cells or embryos. In addition, some sorts of contraceptive methods entail termination of the life of the early human embryo in the first few days after conception. These interventions have raised major ethical questions for different religions and other schools of thoughts. Questions such as: Is it ethically acceptable for scientists and practitioners to multiply, genetically manipulate, or destruct the human embryo? Does the early human embryo (i.e., 0–14 days after conception) have ethical status? Are there any reasons supporting partial or complete inviolability of the early human embryo? These questions have been broadly discussed by religious and secular scholars, and the responses have been quite different (de Miguel-Beriaín 2015; De Wert and Mummery 2003; King and Perrin 2014).

An endeavor to find the answers to the aforementioned questions in Shiite *fiqh* needs to begin with a search for the very nature of these questions through the lens of Shiite Islam. In other words, are they philosophical, biological, theological, or jurisprudential in nature?

In the secular context, to which the mainstream of Western bioethics depends, they are categorized as philosophical questions. They are not biological ones, but a biological description of the growth and development of the human embryo is needed and used in formulating the philosophical answers. In a secular context, the philosophical answers are utilized as a basis for legislation and policy making. In Catholicism, as another example, these questions are answered in the light of Catholic theology, appealing to the natural law and holy revelations (Copland 2004; Kelly et al. 2013). In the Islamic (including Shiite) context, however, these issues have been mainly examined and discussed by the jurists (*fuqaha*) in the field of *fiqh* (Aramesh 2007; Aramesh 2009a, b). Therefore, it can be argued that these questions are considered of jurisprudential nature in Shiite schools of thoughts.

The Knowledge Gap

A brief look at the contemporary bioethical literature reveals that the Sunni perspectives (usually under the title of Islamic perspective) have been broadly introduced and discussed (Al-Aqeel 2009; Fadel 2012). Although there are major similarities between Shiite and Sunni perspectives in this regard, the Sunni perspectives do not flawlessly reflect the Shiite viewpoints, because of the major differences between Shiite and Sunni jurisprudential schools. For instance, Sunni and Shiite jurists refer to distinct collections of *Hadith* and have distinct views on the role of independent reason (see *The sources of fiqh*, below).

Some authors have provided mixtures of Sunni and Shiite perspectives (Atighetchi 2007; Sachedina 2009). This group of authors has been successful in providing a general picture of Islamic perspectives at the expense of ignoring the noteworthy differences in detail. For example, Sachedina tries to provide a list of principles of Islamic bioethics that has been adopted by both Sunni and Shiite schools of jurisprudence (Sachedina 2009: pp. 25–76). The result, although portrays an overall picture of Islamic *fiqh* for the outsiders, fails to provide an exact picture of each jurisprudential school. In the real world, neither

Sunni nor Shiite jurists base their arguments upon that list of principles. Instead, they argue based on their particular lists of adopted principles and books of reference.

The articles that describe Shiite perspectives generally describe different aspects of the related rules and regulations in Iran and do not explain their theoretical/jurisprudential backgrounds. Afshar and Bagheri, in a critical review of Iran's Act of Embryo Donation (2003), describe its shortcomings in providing enough safeguards for the women who use these ARTs and the children procreated by them. This article, however, does not provide enough details of the theoretical backgrounds of this piece of legislation and the theoretical conflicts that have resulted in such shortcomings (Afshar and Bagheri 2013).

Larijani and Zahedi in 2007 provide a brief review of Islamic perspectives on stem cell research and cloning without specifying or providing more details on Shiite perspectives (Larijani and Zahedi 2004). In their other paper in 2007, Larijani and Zahedi provide a descriptive and sympathetic narration of Iran's Act of Embryo Donation. This paper provides historical and background information about the legislations on embryo donation in Iran, but does not provide a critical review on this subject (Larijani and Zahedi 2007).

Saniei is another scholar who has published about the Shiite perspectives on the ARTs and the early human embryo, in English (Saniei 2010, 2013; Saniei and De Vries 2008). In addition to a descriptive picture of the historical developments in this field over the past decades, Saniei provides the results of a qualitative study that shows the importance of the flexibility of Shiite scholars in permitting stem cell research in Iran for the rapid growth of this field in this country (Saniei 2013).

Although the above-mentioned pieces of the existing international literature provide very helpful and clarifying images of the historical background and current legislations related to the early human embryo in Iran and Shiite perspectives, they do not provide a critical review of the theoretical discrepancies that exist in this field, such as the adopted embryologic accounts and the reactive nature of the theoretical endeavors. Also, some relevant parts of the jurisprudential background of the existing legislations and fatwas, such as the controversies on withdrawal as a contraceptive method, have not been discussed in the literature yet. This paper is aimed to cover these missing parts of description and analysis.

Shiite Fiqh and the Early Human Life

The Sources of Fiqh

Islamic *fiqh* (including its Sunni and Shiite branches), also referred as *Shari'a* law, has four main sources. The first and most important one is the Holy *Qur'an*, the primary source of Islamic law. The second source of Islamic law is the Tradition or *sunna*, which is what the prophet (and the innocent imams in the Shiite school) said, did, or agreed to. The third source is *ijma*, which is the consensus of Islamic scholars (in Shiite jurisprudence, this source is used with limitations. Some authorities believe that only the cases of consensus that have been endorsed by an innocent Imam are valid). The fourth is reason (*aghl*) in the Shiite schools and analogy (*qiyas*) in the Sunni schools of jurisprudence (Motahari 2001, pp. 16–22; Fadel 2012).

In dealing with ethico-legal questions about the early human life, the most referred and cited resources are the Holy *Qur'an* and the *sunna*. However, Shiite jurists (like other scholars in other fields) have always read, understood, and interpreted these sources

according to their scientific knowledge and understanding of human embryology. Therefore, studying the Shiite perspective on the ethical status of the early human life necessitates exploring the related parts in Qur'an and *sunna* and the way Shiite jurists understood and interpreted them and how their understanding has been evolved through history.

Qur'anic Embryology and the Meaning of *Nutfa*

The term *nutfa*, by which the semen and the early human embryo have been named in the most Islamic classical texts and scriptures, has been repeated 12 times in the Holy *Qur'an*. In some verses, the consecutive stages of embryonic and fetal development are described, for example:

We created the human from an essence of clay. Then we made him, a drop (*nutfa*), in a secure receptacle (the womb). Then we created of the drop, a clot (of congealed blood) and we created the clot into bite size tissue, then we created the bite size tissue into bones, then we clothed the bones with flesh, and then produced it another creation. Blessed is Allah, the best of creators! (23:12–14)

And:

... and that it is he who created pairs, the male and the female, from an ejaculated drop (*nutfa*) and that upon him is the second creation. (53:45–47)

Obviously, the term used for referring to the early human embryo in the Holy *Qur'an* and Islamic Holy Scripture is *nutfa*. Other terms, like *alaqa* (the clot) and *mudgha* (tissue) that represent the subsequent stages of fetal development, are not covered by this article (Sachedina 2009, pp. 131–134).

According to the Holy Qur'an, *nutfa* is the very first stage of development of an embryo. Whether it is attributed to: (a) the sperm (male gamete) which continues to form an early embryo in the womb (the traditional understanding of embryonic development); or (b) just the result of conception which develops in the womb after fertilizing an egg by a sperm (the modern understanding of embryonic development), is not clear in the verses themselves (Ghaly 2014). However, the commentators and interpreters, based on their understanding of embryology, have read the text differently.

In some verses, the former interpretation is more obvious, for example:

...was he not a drop of fluid which gushed forth? (75:37)

while, the proponents of the latter interpretation refer to the verses which denote a “mixed *nutfa*” as the very first stage of embryonic development, for example:

Indeed, there came upon the human a period of time when he was an unremembered thing. We have created the human from a drop (*nutfa*), a mixture, testing him; we made him to hear and see. (76:1–2)

As seen above, the *Qur'an* describes the consecutive stages of embryonic growth and development, but does not provide any quantitative measures of the length of each stage. Muslim jurists have usually relied upon the *sunna* for determining the length of each stage and accordingly, estimating the time of the last development (*khalghan akhar*) that is supposed to bestow full ethical status to the human fetus. For this purpose, Shiite jurists appealed to the following quotations (*hadiths*) of the prophet and innocent Imams:

According to a *hadith* of the prophet Mohammad, narrated by and named after *Abdullah Ibn Masoud*, each of the developmental stages mentioned by *Qur'an*, *nutfā*, *alaqa*, and *mudgha*, lasts for 40 days. Therefore, the earliest possible time for ensoulment is 120 days after the formation of *nutfā*. This *hadith* is narrated by Sunni sources; however, some Shiite authorities also appealed to this *hadith* for this purpose (Fadel 2012; Muhaqiq Karaki 1993, p. 406; Shahid Thani 1993, p. 195). In Shiite sources, there are also other *hadiths* from the Shiite innocent Imams denoting the same or other descriptions for the Qur'anic stages of embryonic development (Ibn Babvaiy 2009, p. 311; Koleini 2009, p. 347; Sachedina 2009, pp. 132–133).

As a matter of fact, in describing natural issues—from the human body to astronomic facts—the *Qur'an* never obviously contradicts the knowledge of the era in which the Prophet lived. Therefore, the commentators and interpreters of the *Qur'an*, before the modern era, had never understood the Qur'anic verses describing the growth and development of fetus in contradiction with Aristotle's or Galen's descriptions of the early human life. Accordingly, they did not consider any difference between semen and the early human embryo (before 40th day) (Ghaly 2014).

Even now, some commentators and jurists utilize this word with ambiguity. Some others, however, clearly recognize the findings of modern science, which show the very difference between sperm (the male gamete) and early embryo (the result of conception in which a male and a female gamete are combined to form a zygote and then the zygote multiplies to form the embryo) (Tabatabayi 1987, p. 209).

It seems that some interpretations with regard to the moral status of the human embryo in Islamic revelations have been based upon the traditional understandings of human embryology, rooted in the ancient Greek and Medieval Islamic medical sciences (Ghaly 2014). On the other hand, the permitted extent of relying on the modern scientific findings in ethical conclusions is not agreed upon among Islamic schools of thought. Therefore, some interpreters and jurists rely on the traditional understandings that equate *nutfā* to the semen and the first stages of embryonic development in the womb and others see the fundamental differences between the sperm and the early embryo and consider *nutfā* as equal to only the early human embryo. This ambiguity in the adopted embryologic account (traditional or modern) has resulted in some degrees of discrepancy and contradiction among their ethical viewpoints (Alai and Rezai 2009).

The Importance of Implantation

In their assessment of the tort committed against the fetus, jurists have regarded the implantation of the *nutfā* in the uterus as the beginning point of the sacred embryonic life beyond which any infliction of harm to it necessitates a compensation (*diya*) (Najafi 1981, pp. 373–389). Before implantation, destroying the *nutfā*, without any justifiable reason, is considered morally disliked but, according to the majority of Shiite scholars, no monetary compensation has been considered for it (Esfandyari 2013). The monetary compensation gets higher with the growth of the embryo and fetus and reaches its maximum level after 120 days, which is the very point of ensoulment (Aramesh 2009a, b).

Controversies on Withdrawal

It has been claimed that withdrawal (the pull-out method for contraception) is the oldest contraceptive method used by human beings. In Shiite jurisprudential scriptures, the legitimacy of this method, which is named *azl*, has been discussed and different opinions

have been expressed. According to the traditional understanding of the meaning of the term *nutfa*, this method is a kind of wasting *nutfa* (Khalaji 2000). Although today we know that during withdrawal it is only semen, not embryo, that is wasted, but Muslim scholars, at least until recent scientific discoveries showed the difference between semen and embryo, considered the semen as the very beginning stage of human development (i.e., *nutfa*) (Ghaly 2014).

Reviewing the above-mentioned discussions can shed light on the ethical status of the early human embryo in Shiite jurisprudence. Some Shiite scholars consider *azl* as permissible and plausible, provided that the consent of the wife has been obtained. They refer to the *sunna* in which the Prophet and Imams considered *azl* as permissible. Some of them consider it as permissible even without informing the wife. Other scholars, however, consider *azl* as forbidden, as they mostly argued that the purpose of marriage is child-bearing and avoiding to bring a baby is unacceptable for a Muslim couple. Also, they refer to the part of *sunna* whose documentation is less valid than the part that permits *azl*. Accordingly, we can conclude that both the proponents and opponents of this method did not consider any ethical status for *nutfa* before entering the womb (Khalaji 2000). In addition, the validity of their arguments is influenced by the ambiguity on the meaning of *nutfa* (whether it refers to semen or to the early embryonic stages or both).

Blood Money for Pre-implantation Embryo

Bearing in mind that no monetary compensation (*diya*) is considered for destroying pre-implantation embryo, it seems that there is no ethical relevance and worth for such embryos. Some contraceptive methods like intrauterine device (IUD), which prevents implantation thus destroys the early embryo, have been approved by religious authorities and used widely in contraception clinics in Iran. Most Shiite scholars, however, consider this stage of embryonic life as respectful, which means that it should not be wasted or destroyed without having a justifying reason. Medical research and health-related interventions such as contraception or infertility treatment are among such reasons.

Ensoulment and Its Implications

As mentioned above, the later phases of fetal development, including the one in which ensoulment takes place, are beyond the scope of this article. However, because of the important implications of this event on the ethical and legal status of the human fetus, it is worth mentioning, albeit briefly. According to Muslim jurists, including the Shiite ones, ensoulment, which is the breathing of divine soul into the human body, takes place after 120 days of embryonic life after conception. This belief is derived from the embryologic information provided by the *Qu'ran* and the *sunna* as described above in this paper. It does not mean that this is the exact time of ensoulment, but it means that ensoulment never takes place before 120 days after conception.

After the very point of ensoulment, the human fetus is considered a human person entitled to all moral and legal advantages attached to personhood. Before this point, however, the human embryo or fetus (including the early human embryo) is not considered a human person entitled to all legal and ethical rights. Accordingly, killing the human embryo or fetus before ensoulment is forbidden but is permissible under certain circumstances. After ensoulment, however, the fetus is considered an inviolable human person (Larijani and Zahedi 2006a, b).

Legislations and Decrees

In 2003, Iran was the first Muslim country to adopt an act on embryo donation as a treatment for infertile couples. The act of embryo donation to infertile couples holds that the early human embryos, produced by IVF for a legally married couple, can be transferred to the womb of the recipients other than the biological parents. This legislation paved the way for numerous infertility clinics in Iran to use this technology, but raised major ethical concerns, which are discussed elsewhere (Afshar and Bagheri 2013; Larijani and Zahedi 2007).

Almost all Shiite religious authorities and scholars have accepted in vitro fertilization (IVF) as a permissible and legitimate mean for treating infertility (Esfandyari 2011). Also, they permitted scientists to conduct stem cell research involving destruction of the human embryo, with the purpose of finding new treatments for fatal or chronic diseases. Regarding human embryonic stem cell research, Shiite authorities issued religious decrees (*fatwas*) and declared it permitted and legitimate.

Moreover, mostly influenced by the guideline developed in the Western world, the *Iranian National Guideline for Research on Human Gamete and Embryo* requires researchers to perform research only on surplus embryos remaining after infertility treatment and forbids producing human embryos just for research purposes (Aramesh and Dabbagh 2007; Larijani and Zahedi 2004). Limiting the use of pre-implantation embryos for research purposes to the surplus embryos remaining from therapeutic IVF procedures is also compatible with the Islamic idea of respect for human life that partially extends to its earliest stages (Fadel 2012; Saniei and De Vries 2008).

One major issue that can be seen in the process of issuing these kinds of *fatwas* is their reliance on the information provided by the questioners and trusted people. In other words, these *fatwas* are not the end products of comprehensive and multi-disciplinary assessments and studies on the topics, but they are issued in response and reaction to questions that were made and were accompanied by a narrow range of information.

These decrees are usually issued in response to a specific question (*istifta'*) from one or a group of believers. Because of the independence of religious authorities (*maraji' taghlid*) in Shiite jurisprudence, each authority can issue *fatwas* independently. The Shiite authorities issue *fatwas* on a very wide spectrum of issues and topics that encompass all the voluntary deeds of human beings. For issuing these *fatwas*, the authorities usually rely on the explanations provided in the question and the clarifications of their trusted people/experts (*mutamedin*).

The important point is that the way in which the question is presented to the authority and the attitudes of their trusted experts are usually influential on the final *fatwa* he issues. Therefore, it is possible that in some cases, some questioners formulate their questions in a way that they end up with their desired response/*fatwa*. This methodology shapes the background of a variety of *fatwas* and even legislations that have been drafted and passed based on those *fatwas* and suffer from obvious shortcomings and incompatibilities. The aforementioned embryo donation act is an obvious example.

In other words, these *fatwas* are susceptible to being indirectly influenced by special interests. For instance, a group of clinicians who want to establish infertility clinics, that is a very profitable business, may tailor their questions (*istifta's*) in a way that would receive their desired response (*fatwa*). This *fatwa* is issued just in response to the exact terms and conditions explained in that question, without fully considering all the implications, especially the long-term ones. However, it may be used in all the related practices claiming

that the *fatwa* has permitted such practices. This may pave the way for some sorts of abuses. That means tailoring a question to receive the desired *fatwa* and establishing a practice based on the permission supposedly derived from that *fatwa* while that *fatwa* has been issued based on limited information provided by the questioners and trusted people and has not considered all the important real-world implications.

For solving this problem, one of the most prominent religious and political leaders in Iran proposed the formation of specialized committees for issuing *fatwas*. This suggestion has not been taken seriously yet; however, the problem of the reactive nature of such *fatwas* still exists and might pave a way for the aforementioned abuses. Therefore, it seems suggestible to Shiite religious authorities to adopt more proactive methods in addressing these issues and providing sound and well-considered theoretical backgrounds for issuing the related *fatwas* in the future.

Limitations

This paper reviews the perspectives of the mainstream of Shiite Jurists. However, there are other groups of Shiite religious scholars, especially the ones regarded as religious intellectuals, who may have different readings of the nature of this issue and consider it as a philosophical and theological one that has to be formulated and evaluated in the light of reason as it is operated and interpreted in the modern rationality (Amir Arjomand 2002; Soroush 1994, 1995). However, they are a minority among educated parts of the society with no popularity among clergies, law-makers, and the population of believers.

Conclusions

According to the dominant reading of Shiite jurisprudence, the early human embryo, before implantation, does not have any ethical value and can be utilized, manipulated, or destructed for justified medical purposes. The ethical value of a human embryo is considered and talked about whenever implantation takes place. The flexible approach of Shiite Authorities has paved the way for scientific, public health-related, and biomedical advancements in the field of assisted reproduction, stem cell research, cloning, and family planning in Iran. However, the Shiite perspective toward the ethical status of early human life also faces a series of methodological and theoretical challenges, including: (1) the need for a comprehensive approach rather than reacting to practical needs; and (2) the need for consistency in the adopted account of embryology and replacing traditional understandings with modern ones.

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