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Embryo Donation and the Conditions of Children's Inheritance: A Shiite Perspective

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Abstract

This study explains the lineage in embryo donation and the inheritance of born children. This study was conducted with a library, descriptive and analytical design, relying on books of jurisprudence and laws of Shia and other Islamic religions, as well as citing some legal studies. Under Ayatollah Khamenei's original fatwa in 1990, which permitted gamete donation by third parties. This legal approach paved the way for the adoption of the Embryo Donation to Infertile Spouses Act in 2003. The embryos formed from a man's sperm and the ovum of his legitimate wife, with any methods of embryo formation and its transfer to the aforementioned man and woman, have a legitimate lineage and there will be no problem in the inheritance for the baby. However, the embryos formed from the sperm of another man (other than a legal husband) or the egg of another woman (other than a legal wife) regardless of the method (natural or artificial) will not have legitimate lineage, and as a result, donated children are deprived of inheritance. To ensure the financial future of children born through embryo donation, solutions such as an official will or using the life insurance industry can be considered as a temporary solution. However, it is necessary to review the embryo donation law by religious and legislative authorities. Keywords: Assisted reproductive technology, Egg, Embryo donation, Fatwa, Gamete, Inheritance, Lineage, Shia muslim, Sperm, Sunni muslim

Introduction

A child, like other divine blessings, is one of the gifts of Almighty God, who clearly says in the verses of the Holy Quran; ".... *He creates what He wills [and plans]*. *He bestows [children] male or female according to His Will [and Plan], Or He bestows both males and females, and He leaves barren whom He will: for He is full of Knowledge and Power"* (Shura, verse 49-50).

In the Holy Quran, the principle of having a child is mentioned as a divine blessing in different surahs with different expressions (1). Having a child is one of the basic values of Iranian society (2). Not having children puts couples in a disappointing and devastating situation. Due to the stigma of childlessness, they will have a lower quality of life and it leads to stress for them. A study on women reported infertility as the most stressful event in women's lives (3,4). Although in about half of the cases, infertility has a male cause (5), this issue mostly affects women and it seems that infertility affects more aspects of the lives of infertile women (6). Infertile women live in constant fear of being abandoned, since polygamy is accepted in Iranian society (3). Infertile couples make up 10 to 15% of married couples worldwide (7). In a study conducted in 2015 to investigate the prevalence and causes of primary infertility in Iran, the prevalence of primary infertility in Iran was reported as 17.3% (8) and in another study, it was estimated at 20% (9). Due to the high prevalence of infertility and cultural resistance to adoption (10), the public demand for the development of the use of assisted reproductive methods country has increased in Iran. Medical treatments for infertility usually include the use of fertility drugs, surgery, in vitro fertilization, intrauterine fertilization, or other assisted reproductive techniques (11). The use of reproduction with Assisted Reproductive Technology (ART), which includes a surrogate mother, whether it is sperm or egg, or embryo donation, is one of the new methods that Islamic jurisprudence has made possible, and there is no legal or religious obstacle to using it (12). Iran is the most advanced country in the Islamic world in this field and uses all kinds of ART methods (13). Officially registered married couples can use almost all ART methods, including third-party gamete donations. Like other societies, Shia Muslims

try to adapt the use of different ART techniques with the relevant regulations and according to the sociocultural, legal, ethical, economic, and political factors of their society and the opinion of their Shia jurists. Religion usually plays an important role in medically assisted fertility management in Iran (14).

Most studies have focused on Sunni Islam's perspective on ARTS, as they make up 90% of the Muslim population. In the opinion of Sunni Muslims, it is possible to use ARTS when the marriage of infertile couples is legal and gametes of the same couple are used in the in vitro fertilization. Sunni scholars accepted the use of IVF in March 1980, when the Sheikh of El Azha'r, the great religious seminary in Egypt, issued a fatwa supporting IVF (15). However, in 1986, the Jeddah-based Academy of Islamic Jurisprudence (Majjam al-Fiqh al-Islami) declared all types of assisted reproduction methods using a third party to be haram (16). Thus, other Sunni scholars prohibit any egg, sperm, or embryo donation from a third party due to problems in kinship and lineage. A surrogate mother (womb) is also not allowed in this denomination. Gender selection is completely unacceptable unless there is a medical reason (14). Most Sunni Muslim jurists do not accept such methods even if it is the only way to have children. They usually argue that sperm donation is against the well-known Islamic law of "preservation of the private parts" (the practice as this, too, violates Hifze-Forouj). Almost all Sunni scholars reject the use of sperm from men other than the infertile woman's husband. Some Shiite jurists allow the use of a third party's sperm to solve the problem of infertility for couples (17-19). The problem of infertility may be due to a male factor (weakness or lack of sperm) or due to a female factor (lack or weakness of egg) or both of them, who are treated by donating sperm, eggs, and embryos. If infertility is due to the woman's uterus being unhealthy, the problem of infertility is solved through the uterus of another woman or a surrogate mother. Some contemporary jurists on the use of ART or gamete donation and surrogacy showed good attention and gave opinions in the form of ijtihad in their jurisprudence debates. It should be known who are the parents of the child resulting from laboratory fertilization. It should be kept in mind that the title of "lineage" is one of its main issues, because the next

issues such as inheritance, guardianship, custody, alimony, being mahram, marriage, subordination, and sub-set of lineages are considered. Clarifying the relationship between the recipient of the embryo and the child born through embryo donation is the most important part of this process ("Recipient of the embryo") means the same couples to use third-party gametes (whether sperm or eggs). Unfortunately, according to the law of embryo donation in Iran, the recipients mostly hide the genetic background of the baby and severe relations with the donors (20). Accordingly, lineage is one of the important issues of Islamic Sharia, which has important effects and determines issues such as inheritance, kinship, and forbidden marriage. According to Sharia, lineage is determined by biological relationships. Therefore, according to Islamic teaching and law, the recipients of a child born through embryo donation have not been recognized as having a relationship between the child and the recipient of the embryo. It has limited the rights and duties of recipients and children, including guardianship, upbringing, alimony, and respect, and issues such as inheritance, kinship, and forbidden marriage are still ambiguous in the embryo donation law (21). The rules on the status of children born from a surrogate womb can be examined in two distinct categories: (i) rules that are related to the natural and legal relationship between two people (child and parent), such as lineage and inheritance; (ii) rules that refer to the inheritance, the spiritual and material rights of the child, such as custody, guardianship, and alimony. In this study, the author has examined the status of rules on the rights of a child born from a surrogate womb and embryo donation concerning lineage and inheritance.

Materials and Methods

Ethical approval and informed consent were not required for this study because it was conducted using published studies.

This is a library, descriptive and analytical study using books of Shia jurisprudence and law. This review study was conducted from April to July 2022 to investigate the inheritance of children born from artificial insemination (gamete and embryo donation). Articles published by researchers between 1975 and 2021 in the databases of Scopus, PubMed, Science Direct, Google Scholar, Magiran, SID, and Iranmedex, websites to select a number of appropriate papers. To find studies were searched using the keywords/phrases of "Embryo Donation, Gamete, Sperm, Egg, Inheritance, lineage, Iran, Assisted Reproductive Technology, Sunni Muslim, Shia Muslim, Fatwa". The inclusion criteria include the review of articles published in Persian and English related to embryo donation and conditions of children's inheritance; Their full text was available. Due to the variety of assisted reproductive methods, in this review article, the focus has been on the perspective of Shia Muslims. Exclusion criteria included articles, content outside of the article, articles where the author's point of view was unclear, by removing the repetition of articles, 22 articles extracted from 48 articles about the inheritance of children born from artificial insemination (gamete and embryo donation) were examined.

Embryo donation law

In Iran, Ayatollah Khamenei issued a fatwa in the late 1990s allowing infertile couples to use a variety of donor technologies (22). The law of donating embryos to infertile couples was notified to the government of the time in 2002 by the speaker of the parliament to write an executive regulation (23). The law was finally passed on July 20, 2003 (24); although several members of the Islamic Council of Iran were still concerned about the issues of inheritance, intimacy, and marriage of such children (25). In the above executive charter, there is no religious or legal obstacle to receiving gametes and transferring embryos by IVF method to infertile women who apply to receive donated embryos (Figure 1). The five articles of this law state that "the request to receive a donated embryo must be prepared jointly by the husband and wife and submitted to the court, and if the conditions are met, the court will issue a license to receive the embryo. "(Article 2) In addition, the duties and obligations of the couples who receive the embryo and the born child in terms of maintenance and upbringing, alimony and respect are similar to the duties and obligations of children and parents (Article 3)".

Also, in a part of the executive regulations of this law of 2003, it is stated that "receiving, storing



Figure 1. Process of literature review embryo donation.

and transferring donated embryos is completely confidential" (Paragraph d of Article 6). Providing documents and information related to donors and recipients of donated embryos is only allowed for the competent judicial authorities by observing the laws related to the preservation of state secrets "(Article 10)". However, considering that the entire legislative system of Iran is based on the Shia school of Islam, and considering the lack of rules regarding the inheritance rights of these children, it appears that a large number of them will face such problems in the future.

The ambiguity of the law lies in the fact that according to Sharia and laws, children only inherit from those who are related by blood. Therefore, a child who is born with the donor embryo method will not inherit from the secondary (donor) parents.

According to civil law, the child is confidential to the surrogate mother and her husband and the recipients

of the embryo donation, but according to the laws, the identity of the donor parents who are blood-related to the born child must be hidden (Article 10). This issue causes the child born with the IVF method to not get any inheritance from the original parents or the embryo donor. In addition, one of the reasons for keeping the identity of the original parents hidden is that their identification creates difficult conditions for the born child from a spiritual point of view.

Results

There are different modes for the development of the child, that are listed in table 1. In embryo development, depending on which of the three elements (sperm, egg, uterus) is necessary for having a child, help is taken from gamete donation or surrogacy. It should be known who are the parents of the child resulting from laboratory fertilization. It should be kept in mind that the title of "lineage" is considered one

Different states of the composition	Sperm	Egg	Uterus replaces surrogacy mother	The state of inheritance
Sperm transfer to spouse (natural insemination or IUI)	Legal father	Legal mother	-	The correct lineage & inheritance of parents
Transfer of sperm to the first wife in a way IVF				
 Gamete intra fallopian transfer Intra cytoplasmic spermatozoa injection Zygote intra fallopian transfer 	Legal father	Legal mother	-	The correct lineage & inheritance of parents
Sperm transfer to the second wife in the IVF manner				
- Gamete intra fallopian transfer			Another	- The correct lineage & inheritance of parents
- Intra cytoplasmic spermatozoa injection	Legal father	Legal mother	legitimate wife (second wife)	- Does not have a kinship with the second spouse and does
- Zygote intra fallopian transfer			, , , , , , , , , , , , , , , , , , ,	not inherit from him/her, but they are mahram
Embryo transfer	Legal father	Legal mother	Surrogate mother	Has the correct lineage & inheritance of parents. ** Will be mahram to the surrogate mother and her husband (if she has a husband)
Embryo transfer	Legal father	Egg donation (Illegitimate woman)	Legal mother/ surrogate mother	Does not have the correct lineage & does not inherit from his/her parents
Embryo transfer	Sperm donation	Legal mother	Legal mother/ surrogate mother	Does not have the correct lineage & does not inherit from his/her parents
Embryo transfer	Sperm donation	Egg donation	Legal mother/ surrogate mother	Does not have the correct lineage & does not inherit from his/her parents
Embryo transfer (pre-prepared embryos in embryo banks)	Not knowing the identity of the sperm	Not knowing the identity of the egg	Legal mother/ surrogate mother	Does not have the correct lineage & does not inherit from his/her parents

Table 1. Different modes for the development of the child

Discussion

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Like other countries, 2-4% of all children in Iran are born with the help of ARTs (26). According to table 1, No. 1 to 3 include embryos that are formed through natural and common sexual exposure between the man and the Shari'a spouse, or embryos with in -uterine or outside the womb with sperm and oocytes legal couples are formed. It has a valid and shariah lineage is supported by the law. The parentage of the child born from these methods goes back to the man who owns the sperm and the woman who owns the egg. In Article 861 of the Civil Code of Iran, ancestry is absolutely considered a condition of inheritance. Of course, contemporary Shia jurists have stated in this regard: transferring unfertilized sperm and ovum to the uterus of a woman applying for embryo donation is considered against moral and religious standards. However, if the ovum and sperm have been fertilized outside the uterus, transferring the fertilized ovum to the uterus of the woman applying for the embryo is not prohibited by Sharia (27-37). In the above process, haram (forbidden touch and look between those not mahram) should not occur, otherwise, it should be considered that this process is haram (33). However, some other religious authorities believe that if there is a need for touch and look, there is no Sharia problem (30,33,38-40).

Regarding No. 4 in table 1, an embryo is formed from a man's sperm and his wife's egg and is placed in the womb of another woman (with or without a husband). Considering the formation of an embryo from a man's sperm and the egg of his legitimate wife, a kinship relationship is established between the embryo and the mentioned man and woman and they inherit from each other. Transferring the above embryo to another woman's womb is like placing it in a suitable environment for growth. If a woman has a husband, her husband's permission is required to accept surrogacy. Of course, from the medical point of view, it has been proven that the uterus has roles related to the development of the fetus, such as preparing the uterus to accept the fetus and controlling its aggressive growth, controlling the defense system in the uterus so that the fetus is not rejected, exchanging messages during the implantation of the fetus and the period of pregnancy from the receiving woman and the formation of the placenta. It is effective for the food, respiratory and excretory exchanges of the fetus with the mother (38,40). The surrogate mother is a foster mother, and as a result, she is mahram with the born child, and for this reason, there is a mahram relationship with her husband as well (31,33,38). Surrogacy is permissible according to Shia jurisprudence, while it is not allowed in the Sunni denomination (41). There have been reports of ethical problems with existing financial transactions (42), but this appears to be acceptable among infertile women (43). In a qualitative study in Iran, it was reported that surrogate mothers experience conflicting feelings of internal satisfaction and social stigma during surrogacy. Despite having harsh physical and socio-cultural experiences such as fear of social labeling and stigma, the participants feel a kind of inner satisfaction and a positive view of their actions.

The satisfaction of mothers due to their sacrifice has created a positive reward for them. Women's self-sacrifice included creating happiness and transferring maternal feelings to another woman, and positive rewards consisted of good delivery, family acceptance, and halal income (44).

Under the guidelines of the Ministry of Health and Medical Education (MOHME), a couple seeking treatment, the potential surrogate mother and her spouse are medically and ethically evaluated. Also, ART clinics should check the social and economic status of couples using indicators such as unemployment, stability of couple relationships, the integrity of the family foundation, mental health status of applicants such as previous marriages and divorces, drug abuse and positive criminal record.

Regarding No. 5-7 in table 1, it is mentioned that the embryos formed from the sperm of another man (other than a legitimate husband) and the egg of another woman (other than a legitimate woman) regardless of the method (natural or artificial) lack legitimate lineage and as a result, they are deprived of inheritance (31,38,45).

Since jurisprudence considers the adoption of the child to the owners of the sperm and egg, and the embryo is attributed to the donors, custody and inheritance established between the embryo and the donor are important issues. On the other hand, considering that according to the law, this donation is done anonymously and confidentially, then how will be inheritance for such children in the future? (45). Also, the anonymity and lack of restrictions for embryo donation increases the possibility of incest marriages and marriages between children of unknown biological parents, especially in small cities, and the donation law is silent on this matter.

Moreover, the gamete donor does not want a child and has only donated sperm or embryos out of charity so that the applicant couple can have a child in this way and satisfy their emotional and psychological need to have a child. Logically and socially, it is appropriate for the child to join the applicant couple, not the owners of the embryo (46). In 1994, two laws were passed in France that required compliance with new regulations in this field: Law No. 94-653 and Law No. 94-654, the former amending the Civil Code and the latter amending the Public Health Law. In Article 311-19, Paragraph 1, it is stipulated that no relationship is established between the donor of the sperm and the resulting child, and the applicants are considered to be the legal parents. In fact, to protect the interests of the society and specifically to protect the interests of the child, within the scope of family rights, falsification of lineage has been attempted (47).

The existence of the social contract or the interest of the child does not lead to granting a father or mother, but it is a gift that God has given to humans naturally (48). In terms of jurisprudential and legal basis, falsification of lineage is not due to our will, but it is a legal ruling (47). On the other hand, if donating gametes is not confidential, and if the child knows that the parents he lives with are not his/ her real parents, the upbringing of the child will be disturbed in adolescence and youth; and he/she may not consider following them a duty (49).

This child who has no role in his/her birth, like other children, should benefit from some material rights. Due to the secrecy of embryo donation and the anonymity of donors, the child is deprived of his/her rights and does not inherit from his/her biological parents. The child has no kinship or hereditary relationship with the recipients of the sperm and egg and only is mahram.

Thus, what will be the role of this child in terms of benefiting from the property of his/her parents? However, according to customs, the child should inherit from the receiving spouse. Now, if one or both parents receiving a donated embryo use the argument that this is not their genetic child and deny the benefit of the inheritance for the child, the child is deprived of his/her rights.

Therefore, if the inheritors of the sperm owners are informed, the inheritance share of this child must be paid to him/her. If they are not aware of the issue, the legislator has suggested that the right of the child from the property of the recipients of the donation should be determined in the form of a will before

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death (50). To ensure the financial future of children born through embryo donation, measures must be taken. In this regard, solutions such as an official will in favor of the fetus or the use of solutions from the life insurance industry can be used as a temporary solution to protect the interests of the child.

Conclusion

The embryos formed from a man's sperm and the egg of his legitimate wife, with various methods of embryo formation and transfer, are attributed to the mentioned man and woman and have legitimate lineage, and there is no problem in the inheritance for the baby. The use of surrogacy types, including charity or commercial cases (in exchange for an agreed amount of money) also if the gametes of a legitimate husband and wife are fertilized in a laboratory environment and the embryo is transferred to the surrogate mother's womb has a legal lineage and there is no problem with inheritance for the baby. However, the embryos formed from the sperm of another man (other than a legal husband) and the egg of another woman (other than a legal wife), regardless of the method (natural or artificial), have no legitimate lineage, and thus, resulting children are deprived of the effects of true lineage, including inheritance. It appears that to ensure the financial future of children born through embryo donation, solutions such as an official will or using the life insurance industry can be considered as a temporary solution. However, it is necessary to review the embryo donation law by religious and legislative authorities.

Ethical considerations

Embryo donation has been one of the significant developments in the field of medical sciences, especially reproductive medicine, which has witnessed the promotion and development of these methods that have changed the life horizon of infertile couples. In addition to legal issues, the ethical issues of new methods of assisted reproduction, including embryo donation, should also be considered, especially in Islamic countries whose culture and traditions are derived from the standards of the holy Islamic laws. According to Yahyaei *et al*'s research entitled the extent of compliance with the rights of applicants to receive donated embryos based on ethical principles, it has been found that: In more than 50% of cases, brief information about the various aspects of the embryo donation process has been provided to the applicants. In more than 80% of the cases, the necessity of expert legal or juristic consultation is not mentioned. In 64% of the cases, matching the characteristics of the donor and the donated embryo is stated to be accidental. In 76% of the cases, the embryo donation process is described as absolutely confidential. 28% of the cases of conflict of interests between the doctor and the patient occurred in choosing the service provider center (51).

The law of Iran has only mentioned some of the effects of parentage (maintenance, upbringing, alimony and respect) without specifying the addition of a child to the adoptive couple and has kept the issue of inheritance silent (18).

Disclosure of relevant information to donors or owners of sperm or eggs. Besides, there is a possibility of insemination of sperm and eggs of people of the same blood and intimate relations with each other (52). Regarding respecting the rights of those born from the embryo donation method in matters such as recognizing the identity and genetic background, guaranteeing the possibility of rearing in a family with the maximum cultural, social and religious similarity to the biological family, there are no provisions in most infertility treatment centers (53).

There is the ethical competence of researchers who work in this field and the possibility of abuse by incompetents, such as buying and selling sex cells or born children (52).

- Ensuring the health of the donated embryo; Also, no effective arrangements have been made to guarantee the individual's interests in matters such as inheritance, preventing marriages with incest, and issues such as buying and selling embryos and sources of supplying donated embryos (53).

Conflict of Interest

Not applicable.

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