

Sperm and Oocyte Banks: A Comparative Study

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Abstract:

In recent decades, the advent of in vitro fertilization (IVF) has led to the establishment of banks for the freezing of human embryos and sperm as a medical intervention to treat infertility. The utilization of these banks has raised both legitimate and illegitimate concerns. This research aims to explore this issue, beginning with the concept of embryo banks and their types, the legal prohibitions associated with their use, and ultimately providing a legal ruling on the matter.

The study concluded that there are two types of embryo banks:

1. A commercial type prevalent in non-Muslim countries, which operates purely for profit and does not adhere to ethical and legal guidelines in the freezing and utilization of frozen embryos. Scholars unanimously agree on the prohibition of this type.
2. A legitimate type that adheres to legal and ethical standards in the freezing and handling of embryos, with differing opinions on its ruling. This type must be strictly limited to the couple, avoiding potential legal issues such as the mixing of lineage. Scholars have agreed that this is the only permissible scenario.

Keywords: Banks, sperm, oocytes, embryos, legal prohibitions

Introduction

All praise is due to Allah, and may His peace and blessings be upon His Messenger, his family, and companions.

In contemporary times, we have witnessed numerous developments and challenges across various fields of life, largely due to rapid advancements in medical and technological domains. These areas are characterized by a swift emergence of new issues, and it is essential that these medical developments receive appropriate legal rulings just like any other situation that arises for Muslims, allowing them to understand the legal pathways available.

One such issue is “embryo banks,” a topic that has emerged from the technology of in vitro fertilization (IVF). The concept of these banks involves collecting gametes, whether male (sperm) or female (oocytes), and storing them under specific physical and chemical conditions for extended periods, potentially up to twenty-five years, until they are needed. The idea of sperm preservation began in 1950, when scientists considered the possibility of storing animal sperm for future use in fertilizing oocytes at appropriate times.

This concept has evolved into the establishment of banks specifically for human embryos and sperm, which can be utilized in various legitimate and illegitimate ways. Some uses are medically necessary, such as treating infertility; others are scientific, involving experiments on frozen embryos; and some are commercial, aimed at generating significant profits from the sale of sperm and oocytes.

These developments have prompted scholars and legal researchers to rigorously investigate these matters in order to establish legal, ethical, and moral rulings that govern and regulate them.

In this research, it was necessary for us to achieve a comprehensive understanding of the nature of embryo banks, the reasons for their establishment, the associated legal prohibitions, and the opinions of scholars regarding them. Thus, we posed the following questions: What is meant by embryo freezing banks? What are the reasons and motivations for their emergence? What are the legal concerns arising from their existence and reliance? What is the legal ruling regarding them?

To address these issues, I employed a descriptive and analytical approach, occasionally utilizing a comparative method to contrast the various scholarly opinions on the matters discussed in this research.

Regarding previous studies on the topic, I reviewed two studies related to embryo banks:

1. The first study: “Banks of Fertilized Oocytes (Embryos) as a Model for Human Fluid Banks: Their Rulings and Legal Regulations” by Waseela Sharibaat, published in *Al-Mee’yar* magazine, issue 01, 2024. However, this study is limited to surplus fertilized oocytes and their legal rulings, whereas my research encompasses all embryos from sperm and both fertilized and unfertilized oocytes, along with their legal rulings and regulations according to different scholars and contemporary jurisprudential assemblies, as well as in the legal systems of various countries.
2. The second study: “Freezing Oocytes Between Medicine and Sharia” by Shafiq Radwan, published in 2014. This study, though somewhat dated, focuses primarily on the concept of how to freeze oocytes, representing only a minor aspect of my research.

My research is structured into an introduction, three main sections, and a conclusion that includes the most important findings and recommendations, as follows:

Section One: The Concept of Freezing Embryos (Sperm and Oocytes)

- Subsection One: Definition of Embryo Banks: Linguistically and Terminologically
- Subsection Two: Types of Embryo Banks
- Subsection Three: Reasons for Freezing Embryos
- Subsection Four: Legal Prohibitions Associated with Establishing Embryo Banks

Section Two: The Legal Ruling on Establishing Embryo Banks

- Subsection One: Clarifying the Subject of Dispute Regarding Embryo Banks
- Subsection Two: Scholarly Opinions on Embryo Banks and Their Evidence

Section Three: Legal Regulations for Establishing Embryo Banks

- Subsection One: General Regulations for Embryo Banks
- Subsection Two: Specific Regulations for Establishing Embryo Banks

Finally, our concluding prayer is that all praise is due to Allah, Lord of the worlds, and may blessings be upon Muhammad, his family, and all his companions.

Section One: The Concept of Freezing Embryos (Sperm and Oocytes)

Subsection One: Definition of Embryo Banks Linguistically and Terminologically

Definition of Embryo Banks Linguistically:

The term “bank” has various definitions¹, the most prominent of which are:

- A place where people securely store their money and can retrieve it when needed².
- An institution that engages in credit operations through borrowing and lending³.

It is worth noting that the word “bank” is not of Arabic origin; it derives from the French term *banque*, which refers to a sturdy box for storing valuables, or from the Italian term *banca*, meaning the table where money changers conduct their transactions⁴. The use of the term “bank” has been considered a common error; the correct term is “financial institution⁵,” although the Arabic Language Academy has recognized this term^{6,7}.

Definition of Embryos (Sperm and Oocytes)

Firstly, Sperm: The term refers to the male fluid, as mentioned in the Quran: “Was he not a drop of fluid which gushed forth?” (Qiyamah 37). Sperm is also referred to as “nutfah,” which linguistically means a small amount of water. It is called “nutfah” due to its minimal volume, with its plural forms being “nutfat” and “nufaf.”

Sperm is a thick, milky fluid containing spermatozoa that is expelled from the penis during intercourse and is produced by the testes. Dr. Zaghoul Al-Naggar states: “The male possesses reproductive organs known as testes, which Allah has granted the extraordinary ability to produce male reproductive cells known as spermatozoa. It is noted that some doctors, when mentioning the term ‘spermatozoa,’ follow it with ‘sperm’ in parentheses, indicating that they are synonymous.⁸”

Secondly, Oocytes

The term “oocyte” is a diminutive form of “egg,” referring to what a female bird and similar creatures lay, named for its white color. In the Holy Quran, it is mentioned: “As if they were eggs, well-protected” (As-Saffat 49).

Abdullah Al-Khamees noted in this context a significant⁹ point: “In the terminology of doctors and some contemporary scholars, it is commonly referred to as ‘buwaydah,’ which is incorrect; the proper term is ‘bayidah.’ In the book *Al-Lama* it is stated: ‘In the diminutive form of a trilateral root with a weak middle letter, if the middle letter is a waw or a ya, they appear in the diminutive. For example, in *jowzah* (walnut), it becomes *jowayzah*, and in *baydah* (egg), it

¹- Dictionary of Modern Arabic by Ahmed Mukhtar Omar, Al-Alam Al-Kutub.

²- Encyclopedia of Youth(76).

³- Al-Mu'jam Al-Wasit: (1/71).

⁴- Encyclopedia of the 14th-20th Century: (2/363).

⁵- See Dictionary of Common Errors by Mohammed Al-Adnani: (42).

⁶- See Al-Mu'jam Al-Wasit: (1/71).

⁷- See sperm and Egg Banks (A Juridical Study): (1569).

⁸- See the article The Zygote in Arabic and Science by Dr. Zaghoul Al-Najjar, on the Dr. Zaghoul website, Scientific Miracles in the Quran and Sunnah. Previously published in Al-Ahram newspaper on 09/08/2004.

⁹- See Sperm and Egg Banks (A Juridical Study): (1573).

becomes **bayidah**. If the *ya* is derived from a *waw*, it is returned to its original form in the diminutive, as in **rayh** (wind) becoming **rayihah** and **dima** (rain) becoming *dawaymah*.¹

As for the definition of “*bayidah*” in jurisprudence, it has not been mentioned by the scholars since it was not known to them; they typically refer to sperm².

In specialized terminology, there are many definitions of oocytes, which are described by doctors as “*buwaydah*.” The diminutive form of “*baydah*” is “*bayidah*,” and it refers to the wife’s sperm or the female reproductive cell³. This is a female gamete that is spherical in shape, corresponding to the male sperm in meaning.⁴ The oocyte is considered the largest human cell, with a diameter of about 200 microns (5 millimeters)⁵, whereas sperm does not exceed 5 microns. When the male sperm fertilizes the female oocyte, it is referred to as a zygote or a fertilized egg⁶.

Thirdly: Related Terms in the Context of Embryo Banks⁷

Embryos: The term “embryo” is the plural of “*janin*,” which is derived from the root “*j-n-n*,” meaning to conceal. This meaning is foundational for many words derived from these letters, including “*mijan*,” meaning shield or cover, and “*janan*,” which refers to a grave. The term “*jin*” (genie) is also derived from this root due to their hidden nature⁸.

In scholarly terminology, an embryo refers to a child while it is in its mother’s womb⁹, as stated in the Quran: “When you were embryos in your mothers’ wombs” (An-Najm 32). A child that has been born is no longer referred to as an embryo. In medical terms, “embryos” refers to fertilized oocytes, even when they are outside the womb. This usage of the term “embryos” is debatable; using “fertilized oocyte” is more precise, as the term “embryo” in language is derived from “*ijtinan*,” meaning concealment, and it is not called by this name unless it is in the mother’s womb, as previously mentioned¹⁰. Al-Shafi’i stated: “The minimum requirement for something to be termed an embryo is that it must surpass the state of the morsel and the clot until some part of human creation is evident.”¹¹

Zygote: This refers to the fertilized oocyte, formed by the fusion of the male and female gametes¹².

Freezing Oocytes (Fertilized):

The term “to freeze” refers to the process of turning a liquid into a solid state. In the context of medicine, freezing refers to the preservation of tissues and cells found in the fertilized oocyte.

The linguistic definition of freezing relates to the process of solidifying, as defined in various Arabic linguistic sources. For example, Ibn Sidah states that freezing occurs when water or blood and similar fluids solidify, indicating a state of stillness. The term also applies to snow¹³, and Ibn Faris noted that the root letters *j*, *m*, and *d* convey the idea of something liquid becoming solid due to cold or other factors¹⁴.

In medical terminology, “freezing” involves the preservation of tissues and cells in the fertilized oocyte¹⁵.¹⁶

Fourth: Definition of Embryo Banks¹⁷ (Sperm and Oocytes)

Embryo banks are storage facilities for preserving and storing human sperm and oocytes by cooling and freezing them in a laboratory with suitable physical and chemical properties. They are designed to maintain these specimens for an appropriate duration based on demand. Essentially, embryo banks function as freezers or cryogenic chambers used to freeze both fertilized and unfertilized oocytes using liquid nitrogen. The purpose of cooling is to completely freeze the

¹- Al-Lami' in Arabic by Osman Ibn Jinni, (212-213).

²- See The Medical Jurisprudence Encyclopedia (Comprehensive Encyclopedia of Juridical Rulings): (868).

³- Journal of the Islamic Fiqh Academy: (3/97).

⁴- See Creation of Man Between Medicine and the Quran; Al-Bar: (403).

⁵- The Same Source

⁶- Journal of the Islamic Fiqh Academy: (3/98).

⁷- I benefited from this guidance in the research: Sperm and Egg Banks (A Juridical Study); Abdullah Al-Khamees: (1579).

⁸- Lisan Al-Arab by Ibn Manzur: Entry "Janin": (13/92).

⁹- See Tafsir Al-Tabari: (3/235). Al-Sihah by Al-Jahiz; Entry "Janin": (1/105).

¹⁰- Sperm and Egg Banks (A Juridical Study); Abdullah Al-Khamees: (1579).

¹¹- Al-Um by Al-Shafi'i: (5/143).

¹²- Journal of the Islamic Fiqh Academy: (3/98).

¹³- Lisan Al-Arab: Entry "Jamid": (3/129).

¹⁴- Qiyas Al-Lugha: Entry "Jamid": (223).

¹⁵- Al-Luqihah: The female egg after fertilization by the male sperm, or the union of the male gamete (sperm) with the female gamete (egg) to form the zygote. Fundamentals of Embryology: (48).

¹⁶- Sperm and Egg Banks (A Juridical Study); Abdullah Al-Khamees: (1580).

¹⁷- See Artificial Insemination and Test-Tube Babies; included in the Journal of the Islamic Fiqh Academy, Mohammed Ali Al-Bar: (2/169).

tissues and cells; when tissues are frozen, all metabolic reactions cease, and life processes stop. When it becomes necessary to utilize these frozen specimens, the temperature is gradually raised, allowing chemical reactions to resume, effectively bringing the tissues back to life¹.

Fifth: Steps for Preservation in Embryo Banks

1. Freezing of Semen: Semen is frozen using liquid nitrogen at extremely low temperatures (-169 degrees Celsius) in a specialized freezer. The semen is placed in a container made of special materials to protect the sperm from radiation and contamination.

2. Collection of Semen: The semen is collected from healthy, strong donors with specific characteristics.

3. Storage: The sperm cells are placed in tubes, and the bank maintains confidential data until the embryo is born.

In non-Muslim countries, these banks are available for interested parties in two ways:

- **Private Banks:** These are opened by individual clients who wish to preserve their sperm for future use, whether for aging purposes or to donate to children or grandchildren in cases of infertility. Clients pay a specified fee to open an account.

- **Public Banks:** These banks store sperm from donors and sell it to interested parties for a fee, operating in a commercial manner.

Subsection Two: Types of Embryo Banks

The freezing process applies to two types of oocytes:

1. Unfertilized Oocytes: These oocytes are cooled and frozen, and when needed, they are returned to normal temperatures and fertilized with sperm². The freezing of unfertilized oocytes is generally more challenging than that of fertilized oocytes, as it often leads to cell damage³.

2. Fertilized Oocytes: Scientists refer to these fertilized oocytes as “embryos.” Doctors freeze fertilized oocytes because initial attempts to freeze unfertilized oocytes often resulted in their destruction. Scientists then fertilize surplus oocytes and allow them to develop to the cleavage stage (4 to 8 cells) before freezing. The first successful pregnancy using frozen fertilized oocytes was achieved by “Thompson and Mohr” from Monash University in Australia in 1983; however, this pregnancy ended in miscarriage during the eighth week.

Subsection Three: Reasons for Freezing Embryos⁴

The need for embryo banks can be summarized in the following reasons:

1. Addressing Infertility Issues: Embryo banks help solve infertility problems for both partners, allowing for planning pregnancies at suitable times based on circumstances, such as:

- A decrease in AMH hormone levels and a reduction in the ovarian reserve in women.

2. Sperm Freezing: When the number of sperm (“nutfah”) in the male partner is low, several samples of semen are collected, concentrated, and frozen for future use in the wife’s uterus.

3. Postponing Parenthood: Couples may wish to delay having children due to compelling circumstances.

4. Failed IVF Attempts: In cases where in vitro fertilization (IVF) fails for some couples, fertilized oocytes can be stored to reduce the costs of external fertilization procedures. Given that the success rate of IVF remains low, a large number of oocytes are fertilized, frozen, and stored. If the implantation of the zygote fails (with a failure rate of up to 90%), the woman can receive another frozen embryo at a later suitable time, allowing the process to be repeated multiple times until a desired pregnancy is achieved.

5. Reducing Risks of Multiple Pregnancies: Storing fertilized oocytes reduces the risk associated with multiple pregnancies, as previously, doctors would implant all fertilized oocytes in the uterus, increasing the chances of successful IVF with minimal risks to both the mother and the fetus.

6. Lowering IVF Costs: The cost of a single IVF attempt ranges from \$4,000 to \$6,000. Storing fertilized oocytes can help manage these expenses.

¹- See The Fate of Embryos in Banks, Abdullah Hassan Balsalama, Professor of Obstetrics and Gynecology at King Abdulaziz University, Saudi Arabia, through: Embryo Banks and Their Regulations in Islamic Jurisprudence; Hassan Al-Sayed Hamid Khattab: (10).

²- See Ethics of Artificial Insemination: (98), where the author cites that the magazine "Lance" published on April 19, 1986, a study by Dr. C. Chen titled "Freezing Eggs," which mentioned the successful freezing of an unfertilized egg slowly and then preserving it in liquid nitrogen at -196 degrees Celsius, followed by returning it to normal temperature, fertilizing it, and reintroducing it into the uterus, resulting in a pregnancy and the birth of twins.

³- See Embryo Banks and Their Regulations in Islamic Jurisprudence; Hassan Al-Sayed Hamid Khattab: (9).

⁴- See Ethics of Artificial Insemination: (100), **Artificial Insemination and Test-Tube Babies: (273). Freezing Eggs Between Medicine and Law; Shafiq Al-Shahawi Ridwan: (33).

7. Avoiding Medical Complications: Keeping fertilized oocytes prevents women from facing the challenges and risks associated with egg retrieval procedures, hospitalization, and work disruptions.

8. Timing for Embryo Transfer: The uterine lining may not be ready for embryo transfer, necessitating a wait until conditions are optimal.

9. Providing Opportunities for Women with Endometriosis: For women suffering from endometriosis, preserving oocytes allows for pregnancy opportunities prior to surgical treatment.

10. Cancer Treatment Considerations: If a woman is diagnosed with cancer and requires specific medications or chemotherapy, freezing oocytes helps protect embryos from radiation, forming part of a health plan for future pregnancies post-recovery.

Similarly, for men, if the husband has a malignant disease (cancer) requiring radiation and drugs that may cause infertility, semen samples can be collected and frozen for use when appropriate.

11. Research and Genetic Studies: Storing fertilized oocytes allows for the study of various diseases, particularly those related to genetics and chromosomes, and opens doors to new treatment methods (such as organ transfer).

Subsection Four: Concerns Associated with the Establishment of Embryo Banks¹

Scholars and researchers have highlighted several potential concerns associated with the establishment and operation of embryo banks, which are worth noting:

1. Mixing Lineages: Many banks mix sperm without proper identification of the donor, potentially using sperm from different individuals to increase the likelihood of successful fertilization. This can lead to errors regarding the true parentage of the sperm.

2. Commercial Sale of Gametes: Some banks sell sperm and oocytes from distinguished individuals to improve offspring quality, particularly in non-Muslim and Western countries. They may also sell surplus fertilized oocytes to those suffering from infertility, prioritizing profit over ethical considerations.

3. Anonymity of Donors: The anonymity of sperm and egg donors can result in many children growing up without knowledge of their biological parents.

4. Increased Risk of Genetic Disorders: The use of stored gametes can raise the likelihood of genetic diseases and congenital anomalies.

5. Inappropriate Use of Sperm: The use of a man's sperm, whether during his life or posthumously, can lead to unethical situations, such as the insemination of women with sperm from their relatives or using the deceased husband's sperm.

6. Surrogacy Practices: The commercialization of surrogacy can lead to women becoming pregnant for financial compensation, undermining the institution of marriage and the family structure.

7. Facilitation of Adultery: The proliferation of embryo banks may contribute to illicit relationships, making it easier for a woman to claim pregnancy from her husband's stored sperm.

8. Destruction of Unused Oocytes or Embryos: The disposal of surplus oocytes or embryos raises ethical and legal concerns.

Second Requirement: The Ruling on Establishing Embryo Banks

Subsection One: Clarifying the Dispute Regarding the Freezing of Embryos

It is essential to clarify that there are two types of embryo banks: one that adheres to Islamic guidelines concerning the freezing and handling of embryos, and another—predominantly in non-Muslim countries—that operates purely for profit without adhering to ethical and legal standards. This can lead to transgressions and risks, such as lineage mixing, as previously outlined. Each category thus has its own ruling:

- **Commercial Embryo Banks:** These banks mix embryos without identifying their donors, sell sperm and oocytes, rent out surrogates, or inseminate a wife with her deceased husband's sperm or fertilized oocyte. They may also extract oocytes from unmarried women with the intent of reclaiming them after marriage, fearing menopause. In these cases, engagement with such banks is prohibited due to the aforementioned concerns².

- **Legitimate Embryo Banks:** These banks operate within permissible conditions, which remain a topic of debate among contemporary scholars. The specifics of these permissible situations will be clarified further in the following sections of the research. Before doing so, it is necessary to define what is meant by permissible cases.

¹- See Ethical Issues Arising from Control Over Reproductive Technologies in the Journal of the Islamic Fiqh Academy; Mohammed Ali Al-Bar: (3/110). Ethics of Artificial Insemination; Mohammed Ali Al-Bar: (113), Human Medical Banks, Ismail Marhaba: (381).

²- The aforementioned warnings and their references were previously stated in the research.

Permissible Cases:¹

A review of contemporary scholars' discussions reveals that permissible cases are limited to married couples. They have identified several justifications for these cases, including:

1. Infertility Issues: A wife with reduced fertility due to illness, ovarian surgery, or chemotherapy can benefit from using fertilized oocytes from her husband for future pregnancies.
2. Ease of Reattempting IVF: If the initial IVF attempt fails, frozen embryos can be used for subsequent attempts, reducing the burden on the woman.
3. Avoiding Health Risks: This approach minimizes the woman's exposure to the challenges and health risks associated with egg retrieval procedures, hospital visits, and additional costs.
4. Low Sperm Count: A man with an insufficient sperm count may have sperm extracted directly from the testes, which can then be frozen for several years and used to fertilize oocytes when appropriate.
5. Preserving Sperm: If a man has a low sperm count during collection, part of the sperm can be used for immediate fertilization while the remainder is stored for future ICSI (intracytoplasmic sperm injection) attempts, particularly if the first attempt fails.
6. Male Fertility Issues: A man with deficiencies in his sperm cells may have his semen collected and stored over time to achieve an acceptable level of fertility for successful IVF with his wife.

Subsection Two: Scholars' Opinions on Embryo Banks and Their Evidence

Scholars have differing opinions on the permissibility of embryo banks, which can be summarized as follows:

First Opinion: Prohibition of Frozen Embryos

Some scholars hold that the storage of frozen embryos is prohibited, along with all methods of freezing sperm and fertilized oocytes (embryos). They do not differentiate between permissible and impermissible cases, thus rejecting both. Proponents of this view argue against the retention of embryos in banks and their reuse between spouses.

The Islamic Fiqh Council has prohibited all methods of storing and freezing sperm and fertilized oocytes (embryos), as well as conducting experiments on them, except in specific cases that ensure the embryo's survival. In its sixth conference, held from 17-21 Sha'ban 1410 AH (March 14-20, 1990), it issued Decision No. 55 "6/6,"² prohibiting doctors from fertilizing any surplus oocytes beyond necessity for implantation into the uterus of the woman providing the oocyte with her husband's sperm and banning the freezing of zygotes³.

Supporters of this prohibition cite the following reasons:

1. Fragmentation of Pregnancy: Freezing divides the pregnancy into two periods: before freezing and after. The gap between these periods may extend significantly, potentially surpassing the normal duration of pregnancy. This practice makes pregnancy a planned event that can be initiated or delayed according to the couple's desires, which is ethically unacceptable⁴.

¹- I benefited from the summary of these regulations in the research: Sperm and Egg Banks (A Juridical Study) Abdullah Al-Khamis: (1594).

²- Journal of the Assembly - Issue Six(1791/3)

The decision states the following: Decision No. 55 "6/6" regarding excess fertilized eggs. The International Islamic Fiqh Academy, convened during its sixth conference in Jeddah, Kingdom of Saudi Arabia, from 17-23 Sha'ban 1410 AH, corresponding to March 14-20, 1990 CE, after reviewing the research and recommendations related to this topic, which was one of the subjects of the sixth medical jurisprudential seminar held in Kuwait from 23-26 Rabi' al-Awwal 1410 AH, corresponding to October 23-26, 1990 CE, in cooperation with this academy and the Islamic Organization for Medical Sciences. After reviewing recommendations "thirteen" and "fourteen" made at the third seminar held by the Islamic Organization for Medical Sciences in Kuwait from 20-23 Sha'ban 1407 AH, corresponding to April 18-21, 1987 CE regarding the fate of fertilized eggs, and the fifth recommendation from the first seminar of the Islamic Organization for Medical Sciences held in Kuwait from 11-14 Sha'ban 1403 AH, corresponding to May 24-27, 1982 CE, on the same topic, the following was decided:

First: In light of the scientific achievement regarding the preservation of unfertilized eggs for retrieval, when fertilizing eggs, it is necessary to limit the number to the required amount for implantation each time to avoid surplus fertilized eggs. Second: If there is a surplus of fertilized eggs—by any means—they should be left without medical intervention until their life ends naturally.

Third: It is prohibited to use a fertilized egg in another woman, and necessary precautions must be taken to prevent the use of the fertilized egg in an unlawful pregnancy.

³- Embryo Banks and Their Use and Regulations in Islamic Jurisprudence: (20).

⁴- Legal Organization of In Vitro Fertilization: Tawfiq Hussein Faraj: (140), via: Freezing Eggs Between Medicine and Law: Shafiq Radwan: (34).

2. Uncertain Risks: Freezing is still experimental, and medicine has not accurately identified the side effects that might impact the child in the short or long term due to the freezing of fertilized oocytes. The full extent of the risks remains undetermined.

3. Mixing of Gametes: Freezing may lead to the mixing of genetic materials and the spread of diseases, opening avenues for commercial exploitation in this area¹.

4. Indefinite Storage: Embryos may be frozen for an unspecified duration, potentially resulting in negative effects on any children born later².

Evidence from the Opponents of Freezing Embryos

A review of the arguments presented by those opposed to freezing embryos reveals that they rely on general evidence from the Quran, Sunnah, and overarching principles³, as follows:

- Quranic Verse: Allah says, “Did We not create you from a mean fluid and then place it in a secure lodging?” (Al-Mursalat 20-21). The establishment of these banks is seen as a misuse of a man’s sperm outside its designated place, which Islam does not endorse.

- Quranic Verse: Allah also says, “And among His signs is that He created for you from yourselves spouses that you may find tranquility in them, and He placed between you affection and mercy. Indeed, in that are signs for a people who give thought” (Ar-Rum 21). The existence of sperm banks contradicts the notion of stability, tranquility, and mercy, fostering the illusion that there is a source of children outside of the lawful means, which can disrupt families and undermine stability and affection.

- Preservation of Lineage: The establishment of these banks is seen as a neglect of a critical objective that Islamic law aims to protect: lineage. One of the purposes of these banks is to sell a man’s sperm to unrelated women or to sell oocytes to women for surrogacy, leading to the mixing of lineages. This prohibition is meant to preserve the essential objective of safeguarding lineage. Al-Shatibi stated, “The entire community, indeed all religions, agree that the law was established to protect the five necessities: religion, life, lineage, property, and intellect.”⁴

- Greater Harm than Benefit: The harms resulting from the establishment of these banks are believed to outweigh any potential benefits. Among these harms is the fertilization of a woman with the sperm of a stranger, which is akin to adultery. There is also the risk of a woman being fertilized with sperm that does not belong to her husband, whether by mistake or intention, due to a lack of accountability among those conducting the procedures. Additionally, the fertilization of a wife after her husband’s death can lead to disputes over rights. When harm and benefit conflict, the prevention of harm is typically prioritized⁵.

- Principle of Blocking Means: The freezing of embryos may serve as a means to lineage mixing, as sperm and oocytes can become mixed in the laboratory—whether accidentally or intentionally—leading to the transfer of a foreign zygote into the wife’s uterus. To prevent this harm, it is ruled as prohibited.

Discussion of Previous Evidence

Some scholars and researchers have discussed these arguments as follows:

Regarding the claim that the existence of embryo banks contradicts family stability and the preservation of lineage, which should remain within a secure context as indicated in the Quran, it is argued that these concerns apply only to prohibited cases of freezing that lead to mixing and the use of sperm and oocytes outside the marital relationship. Such cases undoubtedly carry significant risks and harms. However, retaining sperm and oocytes within the context of marriage does not fall under the same prohibition, and the previous evidence does not support such a ban⁶.

¹- Establishing Ethical Guidelines for Human Reproductive Research: Dr. Patricia Marshall, presented at the First International Conference on Regulations and Ethics in Human Reproductive Research in the Islamic World 1991 CE: (251), via: Freezing Eggs Between Medicine and Law: Shafiqa Radwan: (34).

²- Artificial Reproduction: Legal Provisions and Shari’ah Limits - A Comparative Study: Muhammad Al-Mursi Zahra: (102) and beyond.

³- See: Embryo Banks and Their Use and Regulations in Islamic Jurisprudence: (1596), Artificial Reproduction: Legal Provisions and Shari’ah Limits - A Comparative Study: Muhammad Al-Mursi Zahra: (108). Emerging Medical Issues in Light of Islamic Law: (1/232).

⁴- Al-Muwafaqat: Abu Ishaq Al-Shatibi: (1/38).

⁵- See Cloning and Reproduction: (286). Medical Human Banks: (381).

⁶- Al-Ashbah wa al-Nazair by Al-Suyuti: (87).

In addressing the principle of blocking means (Sadd al-Dhara'i), critics argue that applying this principle to embryo freezing is not more justified than applying the principles of "hardship brings ease" (al-mashaqa tajlib al-taysir)¹ and "when the matter becomes tight, it expands" (idha daqa al-amr ittasa'a)². This is especially relevant given that there is no evidence preventing couples from benefiting from these banks within the framework of Islamic guidelines. Furthermore, this principle should not be excessively applied to restrict people in ambiguous matters. Ibn al-Raf'ah³ states in his response to the Malikis, "There are three categories of means:

1. Those that certainly lead to the forbidden, which is prohibited by us and by them (meaning the Shafi'is and Malikis).
2. Those that certainly do not lead to the forbidden but are mixed with those that do, thus warranting caution and closing the door, associating rare cases that certainly do not lead to the forbidden with the majority that do, which he describes as an excess in the application of blocking means.
3. Those that are uncertain, which have varying degrees, and the weighting differs due to their disparities."

He added that they (the Malikis) are opposed to this view except for the first category, which is precise and supported by evidence⁴. Ibn al-Qayyim stated, "The principle of blocking means should not be emphasized if it leads to the loss of a significant benefit or entails a considerable harm."⁵

Second Opinion: Permissibility of Freezing Embryos

Proponents of this view acknowledge that freezing is part of the advancements in reproductive science and complements the process of in vitro fertilization (IVF). They assert that there are guidelines governing the process. Sheikh Ahmad Al-Mousa, a prominent preacher at the General Authority for Islamic Affairs and Endowments in Cairo, supports this opinion. The Egyptian Fatwa House states: "What we see is that performing the mentioned freezing process does not contain any legal prohibition; it is a complement to the IVF process that has been permitted by Islamic juristic councils between husband and wife, based on the fact that it is a means of treatment for infertility. The default ruling in treatment and healing is permissibility, which is a matter of consensus among the imams of Muslims. If the treatment is permissible, then its complements are also permissible."

Conditions for Permissibility

This permissibility is constrained by the following conditions:

1. Fertilization Between Spouses: The fertilization process must occur between the husband and wife, and the embryo must be implanted in the wife while they are still married. This is not permissible after divorce or the death of one spouse.
2. Safe Storage of Embryos: Fertilized oocytes must be stored securely under strict supervision to prevent their mixing with others, whether intentionally or accidentally.
3. No Surrogacy with Foreign Women: It is prohibited to place a fertilized oocyte in the uterus of another woman who is not the biological mother, whether as a donation or for compensation.
4. Ensuring the Embryo's Health: There must be guarantees regarding the embryo's health post-freezing, protecting it from defects and congenital anomalies⁶.

Justifications for Permitting Freezing

Proponents of this view support their position with the following arguments:

1. Optimal Timing for Implantation: Freezing embryos allows doctors to choose the most medically appropriate time for implantation, ensuring the highest chances of success⁷.
2. Future Fertility Concerns: It provides a wife, who may face future infertility due to specific surgeries (like ovarian removal), the opportunity to retain the possibility of motherhood at a later time, thus maintaining her hope of becoming a mother instead of losing it permanently⁸.

¹- See: Banks of Sperm and Eggs (A Jurisprudential Study): Abdullah Al-Khamis: (1595) and beyond.

²- Al-Ashbah wa al-Nazair: by Al-Suyuti: (76-77).

³- The Same Source.

⁴- Ibn Al-Rif'a, Najm al-Din Abu Abbas Ahmad ibn Muhammad ibn Ali ibn Murtafa ibn Sarim ibn Al-Rif'a Al-Ansari Al-Bukhari, a jurist born in Egypt in 645 AH, took over the market control of Old Egypt and died in Cairo in Rajab 710 AH. He has a biography in the Great Classes of the Shafi'is by Al-Subki: (9/24).

⁵- Irshad al-Fuhul by Al-Shawkani: (247) with modifications.

⁶- Informing the Signatories:(3/177).

⁷- See:Embryo Banks and Their Use and Regulations in Islamic Jurisprudence:Hassan Al-Sayed Hamed Khattab: (23 and beyond).

⁸- Freezing Eggs Between Medicine and Law: Shafiqa Radwan: (35).

Prevalent Opinion on Freezing Embryos

It is important to note that determining the permissibility of embryo banks is not a trivial matter. Supporting the establishment of such banks for embryos, sperm, and oocytes—though only by a minority of contemporary scholars with strict regulations—could lead to an expansion of this practice beyond its originally permitted scope. Conversely, the prohibition, which is held by the majority of contemporary scholars, may restrict couples from benefiting from modern medical advancements.

Thus, there remains an unequal division of opinion, with a larger number opposing and a smaller number supporting the practice under specific conditions. Some scholars argue that keeping frozen embryos in banks is legitimate for implantation in the mother when needed. This may involve multiple attempts at in vitro fertilization due to initial failures or a desire for subsequent pregnancies. By storing embryos, doctors have ready access to previously created embryos, allowing their use. This is seen as the only permissible case for embryo banks, where the use of stored fertilized oocytes is strictly limited to implantation in the mother's uterus under lawful guidelines¹.

Section Three: Legal Controls for Establishing Embryo Banks²

The legal controls for establishing embryo banks can be divided into two types:

First Section: General Controls for Embryo Banks

As previously noted, proponents of establishing embryo banks in permissible cases have outlined general controls for their legality as follows:

1. Necessity for Freezing: The freezing and storage of embryos should be limited to cases of necessity³. This must be based on a medical report from a trustworthy, ethical, and qualified Muslim physician indicating that the couple cannot conceive except through this method⁴.
2. Fertilization Between Spouses: The fertilization process must occur between a husband and wife, and the embryo must be implanted in the woman while they are still married. It is not permissible to implant the embryo in a foreign woman, whether as a donation or for compensation, after the dissolution of marriage due to divorce, death, or other reasons.
3. No Adverse Effects: The freezing process should not have negative side effects on the embryo, such as causing congenital anomalies or cognitive delays due to exposure to various factors during storage.
4. Medical Oversight: The woman's exposure during treatment for infertility (temporary infertility) should be to a trustworthy Muslim female physician. If that is not possible, then to a non-Muslim female physician, and if that is also not available, to a trustworthy Muslim male physician, and if that is not feasible, then to a trustworthy non-Muslim male physician⁵.
5. Government Oversight: These banks should be subject to government oversight, with an official body responsible for establishing and monitoring the implementation of guidelines through specialized reproductive centers.
6. Legal Regulation: There should be laws governing these processes, developed in collaboration with religious scholars, legal professionals, and trustworthy Muslim doctors. It is essential that the body responsible for creating these regulations also oversees and monitors infertility centers, as regulation and organization are preferable to outright prohibition.
7. Treatment-Only Transactions: Engagement with these banks should be limited to treatment purposes and should not involve sale or donation.
8. Purpose of the Process: The operation should aim to combat infertility and mitigate its harmful effects, not for the purpose of controlling the sex of the embryo or altering its genetic traits.

Second Section: Specific Controls for Establishing Embryo Banks

It should be noted that just as scholars have established general legal and regulatory controls for creating embryo banks, they have also outlined specific controls for these banks. These include controls related to the staff, the clients, the storage

¹- Embryo Banks and Their Use and Regulations in Islamic Jurisprudence: Hassan Al-Sayed Hamed Khattab: (25). Artificial Reproduction: Muhammad Al-Mursi Zahra: (172).

²- Ruling on the Use of Aborted or Excess Embryos: Abdul Salam Dawood Al-Abadi, Journal of the Islamic Fiqh Academy - Issue Six:(1368).Embryo Banks and Their Use and Regulations in Islamic Jurisprudence:Hassan Al-Sayed Hamed Khattab: (26).

³- I benefited in summarizing these regulations from the research: Embryo Banks and Their Use and Regulations in Islamic Jurisprudence:Hassan Al-Sayed Hamed Khattab (57 and beyond), while referring back to the sources that the researcher quoted as much as possible to confirm.

⁴- For example, the response of Saad bin Abdul Aziz Al-Shuwairih, a faculty member at Muhammad bin Saud Islamic University, Fatwas and Consultations Today: (12/176).

⁵- Ethics of Artificial Insemination: Muhammad Ali Al-Bar: (47).

facilities (where fertilized oocytes are kept), and specific guidelines for the freezing process itself. All of this aims to regulate the operations of embryo banks and ensure the consequences that follow. Below are the main specific controls:

First: Controls for Staff Working in the Embryo Bank

- Qualified Personnel: The individual performing this work must be a trustworthy Muslim physician¹.
- Expertise Requirement: The fertilization must be conducted by specialists whose knowledge, integrity, and ethics are trusted, and who are not seeking fame through these procedures.
- Positive Outcome Expectation: The physician must have a reasonable expectation of achieving positive results from the procedure, and they may repeat it multiple times if necessary.

Second: Controls for Clients

- Marital Status: Fertilization must occur between spouses during a valid marriage, and the embryo must be implanted in the woman while they are still married. Implantation after divorce or death is not permissible².
- Presence of the Husband: The fertilization process should occur in the presence of the husband to ensure that there is no mixing of oocytes.
- Medical Necessity: It must be demonstrated that the couple can only conceive through this method. Ideally, they should obtain a report from at least three physicians confirming that this is the only viable method for conception.
- Record-Keeping: These procedures should be recorded in special registers that document the identities of both spouses and all relevant data, along with a document affirming their consent and approval for the procedure, stating the necessity for it.
- Consent for Freezing: Freezing oocytes in embryo banks requires the consent of both spouses, and this consent must be legally valid³. If the consent is valid and the physician acts within the authorized parameters without negligence, they are not liable for any damage that occurs⁴. However, if the physician acts without consent, or with invalid consent, resulting in harm or defects, they will be liable for the consequences of their actions⁵.

Third: Specific Controls for Storage Facilities (Where Frozen Embryos Are Kept)

1. Licensing: Embryo banks must obtain licenses from the Ministry of Health to operate.
2. Secure Storage: Frozen embryos should be stored very securely under strict supervision to prevent their intentional or accidental mixing with other oocytes. There should be a committee of trustworthy and ethical individuals overseeing the placement of oocytes in a specially secured storage unit that is documented with the couples' information. Alternatively, these storage units should be locked with confidential codes known to both spouses to ensure safety from errors or tampering.

Conclusion

After researching the intricacies of embryo banks, it is clear that this topic is both fascinating and significant, as it involves interconnected issues that may overlap with matters such as in vitro fertilization (IVF) and artificial insemination. The following key conclusions can be drawn:

- 1. Nature of Embryo Banks:** Embryo banks function like refrigerators or small chemical rooms used for freezing fertilized or unfertilized oocytes using liquid nitrogen at extremely low temperatures (-169 degrees Celsius).
- 2. Purpose of Freezing:** The goal of cooling is to completely freeze tissues and cells for future use by gradually thawing them when needed.
- 3. Types of Oocytes for Freezing:**
 - Unfertilized Oocytes: These are frozen for later fertilization with sperm when needed. They are more challenging to freeze than fertilized oocytes, as they often lead to cell damage.
 - Fertilized Oocytes (Embryos): These are referred to as embryos by scientists.

¹- Ruling on Medical Treatment in Islam: Ali Muhammad Youssef Al-Mohammadi, instructor in the Department of Fiqh and Its Principles, College of Shari'ah and Islamic Studies - Qatar University - Journal of the Islamic Fiqh Academy, Issue Seven: (1556).

²- See: Ruling on Medical Treatment in Islam: Ali Muhammad Youssef Al-Mohammadi: (1556).

³- Ethics of Artificial Insemination: Muhammad Ali Al-Bar: (102).

⁴- Modern Treatment Methods for Infertility Between Practice and Research: First International Conference on Regulations and Ethics in Human Reproductive Research issued by the International Population Research Center - Session Seven (95), cited via Embryo Banks: (60).

⁵- The Crown and the Diadem of the Summary of Khalil: Muhammad bin Yusuf Al-Gharnati: (5/431).

4. Reasons for Freezing Embryos: There are many motivations for freezing embryos, including:

- Addressing infertility issues faced by couples.
- The couple's desire to postpone pregnancy due to compelling circumstances.
- Failure of IVF procedures for some couples, leading to the storage of fertilized oocytes to reduce the costs of future IVF treatments.

5. Concerns About Embryo Banks: Scholars and researchers have highlighted several potential risks associated with the establishment and operation of embryo banks, including:

- Mixing of lineages.
- Increased likelihood of genetic diseases and congenital anomalies.
- The emergence of surrogacy markets, where women may carry pregnancies for financial compensation, undermining marriage and family systems.
- The proliferation of embryo banks could facilitate adultery, making it easier for a woman to claim she is pregnant with sperm stored in a bank.

6. Types of Embryo Banks:

- Commercial Banks: Predominantly found in non-Muslim countries, these are purely profit-driven and do not adhere to ethical and legal standards regarding embryo freezing and exploitation. Muslim scholars unanimously agree on their prohibition.
- Ethical Banks: These adhere to legal and ethical guidelines for freezing and managing embryos, and their operations are limited strictly to the context of the married couple. Scholars agree that this is the only permissible scenario.

Recommendations:

1. Legislation: A law should be enacted to regulate the process of freezing embryos, imposing strict penalties on anyone who manipulates this process.

2. Alternative Treatments: Encourage research into alternative therapeutic methods for infertility as a safer and more ethical option for those affected by infertility, aiming to avoid the risks associated with embryo freezing.

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