

Advancement Of Biotechnology And Family Laws In Pakistan: An Analytical Study

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Abstract

Science and technology facilitate the human race, and Islam encourages such knowledge, providing comfort and benefits to humanity. The desire to have a baby is a natural wish of every spouse, but some spouses can't fulfil it for several reasons. Consequently, they suffer from severe social, emotional, and psychological issues. The rapid advancement of biotechnology has facilitated humanity in every zone of life, particularly in human genetic issues. It also had an impact on human society with the creation of ethical and legal controversies. Certainly, modern reproductive techniques, such as artificial insemination, ART (Assisted Reproductive Technology), IVF (in vitro fertilization), gestational surrogate mothering, and gender selection, challenge the balance between spiritual and material components of human life. Islam and the modern world are both eager to disburse social justice and welfare to children, mothers, and the whole society. But their diverse approaches to bioethics and modern reproductive techniques raised legal and social problems. Although the constitution of Pakistan guarantees the protection of family, children, and mothers, there is a dearth of legal and social research in this area. Modern reproductive technology is not ab initio prohibited in Islamic jurisprudence. The research at hand will underline technology-oriented procreation practices and Islamic edicts. It will denote the juridical discourse by the Islamic jurisprudential institutions. This study will investigate practices in Pakistan with regard to reproductive technology and the lack of legal protection. It will pave the way for future research in this zone.

Introduction

Science and divine studies have ranged from conflict and hostility orbits to harmony and collaboration. In recent developments, biotechnology has emerged as a prominent kind of technology that has great potential to solve problems related to science and human beings. The use of biotechnology has changed human society and its social and legal segments. This technology comforts humans, in particular genetic and reproductive issues. Certainly, use of biotechnology facilitates reproduction as well as safeguards against genetic disorders and other diseases. Recent developments in biotechnology include artificial insemination, genital transplantation, human cloning, heredity, genetic engineering, and human genome editing, which gave hope to infertile couples. This term of biotechnology has diversity in its defining words. It is simply defined as "any technological application that uses biological systems, living organisms, or derivatives thereof, to make or modify products or processes for specific use.". Biotechnology performed esteemed applications in agriculture, food, mining, medicine, and pharmaceutical companies. In fact, the technology brought about a revolution and reduced costs. There have been several articles written about the use of biotechnology in the reproductive process. Unfortunately, almost all of the writings were centered on the Islamic viewpoint and ignored its medical, social, and legal foundations. The use of reproductive technologies, as well as their ethical and legal discourses, has received proper discipline.

The institution of the family is a fundamental pillar of human society. The protection of the family, parenthood, and childhood are top priorities in today's society. Effective legislation is required for the systemization and administration of justice in society. On many levels, family law is being questioned, including whether it is a law or merely a social policy, and whether family issues should be handled outside of court through mediation and collaboration, among other things. In fact, family law has expanded its scope to include social issues that are addressed by other branches of law, including criminal law, such as forced marriage, forced conversion, and domestic violence. Furthermore, medical technology, parentage identification, gender identity, embryo banking, artificial insemination, reproductive cloning, gene therapy, and genetic testing have all been incorporated into advanced family issues.

Basic Understanding

Artificial insemination is a way of conceiving a child that does not require sexual contact. The correct timing and location of the sperm can help a couple who are experiencing trouble conceiving. It can be used to overcome instances when a woman's immune system rejects her partner's sperm as invading molecules, or when a male partner's physical constraints prevent him from impregnating her through sexual contact. Unfortunately, some women are incapable of fertilizing sperm and, as a result, do not get pregnant. In such a case, sperm is obtained from the husband and an egg from the wife, which is fertilized in a test tube and then it becomes an embryo. This embryo is placed in the womb of the wife, and in the natural process, she produces a child. The process of fertilization by manually combining an egg and sperm in a laboratory and then transferring the embryo to the uterus is called In Vitro Fertilization. It may be gotten through the following forms:

1. The sperm does not belong to the father, but the egg is obtained from the mother;
2. The sperm and the egg belong to an actual married couple, but the embryo is placed in the womb of a third woman who gives birth to the child;
3. The sperm belongs to the father but the egg to the donor, and the child is also produced by the donor;
4. The sperm does not belong to the father, nor the egg to the mother, but the child is produced by the donor for the couple. All the above-mentioned cases are, in fact, cases of surrogacy.

Critical Evolution

Sterility and infertility are critical issues of the contemporary era throughout the world. *Infertility is diagnosed when a couple is unable to conceive or sustain a pregnancy until the birth of a live child after 12 months of regular unprotected sexual intercourse. Almost everywhere in the world, the same definition of fertility is used. In the United Kingdom, the national institute of clinical excellence requires a couple to wait 24 months before being labeled infertile. Infertility affects more than 5% of the world's population. Worldwide, an estimated 48.5 million couples were infertile in 2010. Male and female infertility are further classified based on their causes. Male infertility accounts for 20–30% of total infertility causes. Female infertility accounts for 20–35% of all infertility causes. 25 to 40% of cases are caused by a combination of male and female partners. South Asia has one of the highest rates of infertility in the world. In Pakistan, the rate of infertility is as high as 21.9 percent, with 3.5 percent being primary and 18.4 percent being secondary. The inability to conceive for the first time is referred to as primary infertility. Secondary infertility refers to a couple's inability to have another child.

Social Disease of Infertility

Infertility has biological medical reasons. Because of insufficient food, low health rate, and medical factors are increasing ratio of infertile couples. Women usually undergo surrogacy arrangements due to certain medical problems such as an absent uterus, recurrent miscarriages, repeated failure of in vitro fertilization (“IVF”), etc. The risks of childless couples especially women, and desire to birth own lineage must be considered by researcher, legislatures and judicial bodies. Although the cases of infertility also caused by male side but social and psychological burden comes only on female. Consequently, infertile woman suffers negligence and domestic violence. According to another reporting data, the total age specific fertility rate of Pakistan is decreasing in 2007-8 it was 4.2, 2013-14 it was 3.9 while in 2018-19 it was 3.7, specifically in urban areas, where fertility rate decreased speedily. It is vulnerable to state that ultimately fundamental human rights are neglected such as childless women are deprived from family functions, birthdays, marriage ceremony and other event of children. The families think infertile couples are regarded as a socio economic burden due to loss of continuity, rights to property and inheritance, and discontinuity of family name.

The twentieth century saw significant scientific advances. Science and technology advancements have transformed the way we live today. Science's miracles have made things that were thought impossible a century ago fairly commonplace today. It is now possible to treat.

Technology-oriented Procreation Practices

1. **Assisted reproductive technology, or ART**, refers to a class of infertility treatments that all involve laboratory procedures and medical drugs. Some infertility treatments involve egg or sperm donation from a married couple or third-party donation, which leads to the process of fertilization, implantation, conception, and finally birth.
2. **In vitro fertilization (IVF)** is a method of fertilization that takes place outside of the body. The fertilized embryo or embryos are then implanted in the uterus. IVF is especially beneficial for women who have damaged fallopian tubes, severe endometriosis, immune issues, unexplained infertility, and older women with declining egg production.
3. **Intracytoplasmic sperm injection (ICSI)** boosts pregnancy chances. It entails picking a single sperm, treating it, and inserting it into the egg directly. This differs from IVF, which fertilizes the eggs in the traditional manner.

*Langrhial, Altaf Hussain, The Concept of Surrogate Mother in the modern world in the Islamic Perspective, Al-Idah 29, (2014), 63.

4. **GIFT (gamete intra-fallopian transfer)** is a method of ART in which sperm and ovum (eggs) are mixed outside the body and then injected into the fallopian tube. Pregnancy occurs as "naturally" as possible with GIFT.
5. **Zygote intra-fallopian transfer (ZIFT)** is an infertility procedure equivalent to GIFT, except that it involves the transfer of a zygote to the fallopian tube (not the sperm-and-egg mixture).
6. **Sub-zonal insemination (SUZI)** is a type of in vitro fertilization in which sperm is carefully selected and injected beneath the egg's outer layer. This infertility treatment enables men with low sperm counts to conceive a child.
7. **Micro-insemination sperm transfer (MIST)** is a technique similar to sub-zonal insemination (SUZI) in that sperm is deposited directly into the egg cell.
8. **Micro-epididymal sperm aspiration (MESA)** is a type of ART in which sperm is surgically extracted from the epididymis. MESA can assist men who have no sperm in their ejaculate (azoospermia) in getting their woman pregnant. Following MESA is intracytoplasmic sperm injection (ICSI).
9. **Similar to micro-epididymal sperm aspiration (MESA)**, testicular sperm extraction (TESE) collects sperm from the testes (not the epididymis). Intracytoplasmic sperm injection follows TESE (ICSI).

Family law is a complicated and sensitive zone pertaining social and legal issues such as paternity and its affiliated matters as inheritance prohibited degrees for the purpose of inter into marriage and privacy. It requires much attention and research to enact legal provisions. Development of biotechnology and its application in procreation of lineage call researchers to review Islamic texts in order to contemporary issues. The rule of paternity and maternity is involved in reproductive technologies. This one is mentioned by Islamic law as maternity is always certain even of illegitimate children, paternity follows marriage. It sheltered the rights of child and recognized birth as the conclusive proof of maternity.

Islamic Perspectives

The Holy Quran gave the most precise and accurate account of the embryological life of a foetus in the 7th century, long before the invention of the microscope and modern knowledge of embryology. The details of conception, embryo development, and finally birth are most accurately described in Quranic verses, and are regarded as living proof of the Book's divinity.

“Then we made the sperm-drop into a clinging clot, and we made the clot into a lump [of flesh], and We made [from] the lump, bones, and We covered the bones with flesh; then We developed him into another creation. So blessed is Allah, The best of creators”.

Islam encourages the seeking of new knowledge and the disbursement of justice in society. Islamic legal jurisprudence has a doctrine of necessity (*maslahah*), public welfare, and justice. Absolute necessity compels us to research and mediate a way to resolve a crisis, but neglecting it ab initio is not fair. Within Islamic edicts and sometimes beyond the mentioned limits, some actions are allowed for the greater public good and necessity. For this juridical doctrine, the relevant texts are:

“But if one is compelled by necessity, without craving or transgression, there is no sin on him, because God is indeed clement and merciful.”

Within Islamic impediments, the necessity of infertile couples suffering solid issues calls to preserve marriage, family formation, and reproduction rights.

The Qur'an states:

“Wealth and progeny are the allurements of this world”

Islam places the preservation of the human species as the primary objective. Hardship from infertility is indicated in holy texts.

And those who pray, Our Lord, grant unto us spouses and offspring who will be the comfort of our eyes.

Prophet Muhammad says,

“For every disease, there is a cure except senility”.

For every disease God has created a cure except senility [meaning death]. So, progeny of Adam seek cure for your ailments, but do not use forbidden things. Wherever infertility is due to disease or medical issue the alternative reproductive technology should be seen as necessity. Indeed, Islamic law ought to be studied with a holistic approach, not narrowed down. It is time to focus on the fact that a social, ethical, and legal approach to family issues is required rather than just a religious approach. Moreover, researchers and legal writers should review this issue in light of *ijtihad* and the theory of *al-maqaasid al-shar'iyah*.

Traditional Schools of Thought: Sunni and Shiite

In the traditional school of thought in the Muslim world, there are two major classes: Sunni and Shiite. Sunni Scholars have reservations about using reproductive technologies, especially when a third party is involved in the procreation process. But they declare it equal to adultery. Generally, other than legal marriage, the precept of procreation of a child is not recognized. On the other hand, Shiite jurists are in favor of the use of modern reproductive techniques. Therefore, the common practice of surrogacy is seen in Shiite population states such as Iran, Lebanon, and a few other parts of the Muslim world.

Fiqh Academy Jedda

A research-oriented global institute, Fiqah Academy Jeddah, was established by the Organization of the Islamic Conference (OIC). The Islamic Fiqh Academy classified vitro fertilization into seven shapes and permitted two ways. It focused on the concept of *ikhtilāf al-ansāb*. The lawful forms are:

1. Fertilization that is the product of the husband's sperm and the wife's ovum (*sahibay al-nutfawal-buwayda*) achieved outside the body, where the embryo is then inserted into the wife's uterus.
2. Fertilization that is the product of the husband's sperm being mechanically inserted into his wife's uterus so that the fertilization takes place inside her body.

It conducted landmark research on reproductive technologies and passed the resolution.

“The use of a third party in the process of pregnancy is prohibited, whether the subject was liquid sperm or egg or embryo and the third party, whether involved by way of lease or donation”.

Protection of Progeny and Use of Technology

Generally, biotechnological research has brought a lot of benefits to promoting health and the social and economic growth of human society. The last three decades have seen major research in this field. For instance, more than half a million couples may be suffering from infertility in the world. When in vitro fertilization is unsuccessful, surrogacy may be a substitute choice for many couples. Literature shows that ten million Muslims are infertile worldwide. It is concerning that more than half of couples want to know the gender identity of their future child while pregnant. Sometimes, it is mandatory for medical requirements such as protection from cystic fibrosis and muscular dystrophy diseases. Protection of progeny is the primary objective and it needs the use of technology for medical reasons. Genetic information is routinely used to inform reproductive decisions and medical care. It is permitted, as mentioned by the prophetic quotation.

“Choose for your offspring a suitable wife since hereditary plays a role”.

The Rule of Paternity

It is admitted that Islamic legal jurisprudence recognizes three bases for family relationships, which are: blood, marriage, and breastfeeding, not otherwise. Where a third party is involved in the reproductive process commercially, what will be his status in the eyes of the law? It has a strong tie-up with marriage and licit sexual relationships as a prophetic tradition.

"The child should be attached to the (rightful owner of the) bed."

The jurists disagreed over the exact meaning of the term *firash*, which literally means bed or bedspread. The rules of paternity and lineage are linked to marriage, divorce, inheritance, and other events. It aims to preserve progeny, truth and honor, the decline of adoption, and the preservation of confidentiality and privacy. Moreover, it tends to uphold the interests of children and family institutions in society. This issue to be examined in this juridical context also.

Perspective of Pakistan: A Legal Dearth

Pakistan's legal system is based on the English legal system with Islamic provisions. It is important to understand that most current legislation has its roots in the colonial era, which makes them more like tools to rule instead of facilitating the masses. Before jumping into why we need certain legislation on future technologies, we must understand that the source of law is usually the will of the people, and in an Islamic state, this will not be in contravention of the injunctions of Islam. It is a fact that, usually, every married couple wishes to continue their lineage. Pakistan has made conjugal rights part of its legislation. Giving conjugal rights legal status means that the law also encourages couples to grow their lineage. Conjugal rights are protected in different pieces of legislation, which are dealt with under the personal laws of Pakistan.

Relevant legal Provisions

Under Section 2, sub-section (v), of the Dissolution of Muslim Marriages Act 1939[†], a court can pass a decree of dissolution of marriage if the husband is impotent. Furthermore, under Section 2, sub-section (iv), of the said act, if the husband fails to perform his marital obligations, the wife can file for dissolution of the marriage. Marital obligations are not defined in the act, but apparently it includes conjugal rights. Husband and wife can also file suit under section 9 sub-section 1 paragraph a of the Family Courts Act 1964, for dissolution of marriage on grounds of restitution of conjugal rights.[‡]

Constitutional Protection

According to Article 35, Chapter 2 of the Constitution of Pakistan, it is stipulated that it is the responsibility of the State to protect marriage and the family.[§] Moreover, Article 25 of the constitution of Pakistan states that all citizens are equal before the law and entitled to equal protection of the law.^{**} That means all citizens are entitled to the right to choose without discrimination. For a marriage, it is considered essential to have a baby, and under

[†]Section 2, Dissolution of Muslim Marriages Act 1939

[‡]section 9, Family Courts Act 1964

[§] Article 35, Chapter 2 of the Constitution of Pakistan

^{**} Article 25, the constitution of Pakistan 1973

article 35, it is the responsibility of the state to protect the marriage. That means if a marriage can be protected by legislating on different techniques that can help couples to continue their lineage.

The total fertility rate is slowly but gradually declining, from 3.6 in 2010 to 3.4 in 2020. Considering the fact that the divorce rate in Pakistan is on the rise, one of the many reasons for divorce is that a woman cannot bear a child or a man is impotent. For the fact that the marriage might dissolve in the case of impotency or if the conjugal rights are not given. The issue is growing day by day. It is important to understand that the problem of impotency in modern times can be dealt with different techniques in bio-medical engineering. Now bio-medical can help sperm from a father and an egg from a mother unite, thus completing the conjugal process. This might result in an extension of the lineage of the said couple.

Application of the Law on Family Issues

Shariah is the fundamental law to regulate family issues in Pakistan until there is a codified provision by Parliament. Even that enactment has interpretation according to the relevant sect's literature as stated in article 227 of the constitution of Pakistan 1973.^{††} Pakistan ought to introduce sufficient enactment on adoption of modern reproductive technologies through the incorporation of guidance from the neighboring Muslim state, Iran. It is a critical time to reinterpret constitutional protections of basic rights of children, mother, and family. Islamic and legal researchers should review respective texts and academic archives in the context of contemporary issues in family laws. In common practice, modern Muslim states regulate family issues through shariah provisions, and a legal vacuum is filled by individual as well as institutional opinions, which are called fatwas. The official judges often consult with Muftis on contentious issues. These opinions illustrate how to respond to new challenges, but unfortunately, they have less information on the medical zone.

A dearth of data related to the cases of biotechnology

Pakistan has a dearth of data collection on cases of biotechnology usage in family matters. Every day has news on gender identity, test-tube babies, surrogacy, and other modern reproductive techniques. There is a popular case in the Federal Shariat Court in 2017. The esteemed court classified several forms of reproductive techniques, particularly those involving surrogacy. It concluded that surrogacy is an axe which breaks the basic unit of society. Unfortunately, this court didn't focus on modern jurisprudence and medical grounds. It was based on traditional Islamic interpretations and ordered to nullify the application of contract law on these issues. Furthermore, the court directed that criminal law be updated to prohibit surrogate activities, particularly on a commercial basis. However, this judgment endorsed test-tube babies and indirectly recognized the application of modern technology in the family zone.

Conclusion and Recommendations

Biotechnology has benefits for human race with some social and legal crisis which are solvable. Every human is compelled to use of technology in his everyday life. From home to office, this technology is practicing. Unfortunately, Pakistan has not amended family laws in accordance to technologies i.e., the law is silent on online marriage. Biotechnology revolutionized the human society and its application ranged family zone. It is time to conduct depth research on use of it in context of medical, social, and legal aspects. Pakistan is an Islamic state and no law can be enacted contrary to Islamic injunctions. But several Muslim states enacted on this issue while the Pakistan is still hesitated in this zone. Academic, researchers, legislatures and judiciary are not comfortable to discuss this discourse in regard to social and legal scenario. It is admitted to ban on third party involved reproduction but all modern reproductive technologies are not banned ab initio. Islamic law also grants Muslim females the right to divorce in the event of their husband's infertility, but this right is rarely exercised in Muslim countries due to the stigma associated with divorce for women. Human biotechnology opened up new possibilities for infertile couples. Islamic law makers have devised methods for treating infertility while remaining within the legal bounds of Islamic jurisprudence and not jeopardising the sanctity of the marital contract. Many Muslim countries, including Pakistan, do not have advanced IVF technologies. Where these facilities are available, they are very expensive and not cost effective for a large number of couples. Furthermore, there is a great deal of stigma and misinformation regarding the legality and religious stance on various ART and IVF techniques.

References

- Sonn, Tamara. "Health and medicine in the Islamic tradition: Fazlur-rahman's view." *Journal of the Islamic Medical Association of North America* 28, no. 4 (1996), 189- 194
- Anton, Philip S., Richard Silbergitt, and James Schneider. *The global technology revolution: bio/nano/materials trends and their synergies with information technology by 2015*. Rand Corporation, 2001. 1-2
- Mohammed Ghaly, Islamic Bioethics in the Twenty- first Century". *Zygon*, 48, 3 (September 2013), 592- 599.

^{††}Article 227, Ibid.

- Langrhial, Altaf Hussain, The Concept of Surrogate Mother in the modern world in the Islamic Perspective, Al-Idah 29, (2014), 63.
- WHO | Infertility". Who.int. 19 March 2013.
- O'Flynn, Norma. "Assessment and treatment for people with fertility problems: NICE guideline." *British Journal of General Practice* 64, no. 618 (2014): 50-51.
- ESHRE, A. "Fact Sheet July 2014." (2015).
- Ibid.
- Social, Pakistan. "Living Standards Measurement Survey (PSLM) 2012-13." *Statistics Division, Government of Pakistan, Statistics Division, Pakistan Bureau of Statistics, Islamabad* (2014). 1-10
- Ombeliet, Willem, Ian Cooke, Silke Dyer, Gamal Serour, and Paul Devroey. "Infertility and the provision of infertility medical services in developing countries." *Human reproduction update* 14, no. 6 (2008): 605-621.
- Ghaly, Mohammed. "Sharia Scholars and Modern Biomedical Advancements: What Role for Religious Ethics in the Genomic Era?." In *Islamic ethics and the genome question*, pp. 15-46. Brill, 2018.
- Quran, 23:14
- Ibid. 2:173
- Ibid. 14:46
- Ibid. 25:74
- Al Bukhari, Al-Jamey, Al-Saheh, Kitab at Tibb, 71, Darussalam, Riyad, 1414A.H, Hadith no: 582
- Fadel, Hossam. 2007. Prospects and ethics of stem cell research: An Islamic perspective. *Journal of the Islamic Medical Association of North America* 39: 73-83.
- Akhtar, Aimen. "Surrogacy in Pakistan: Call for Positive Legislation." *LUMS LJ* 7 (2020): 127.
- Inhorn, Marcia C. "Making Muslim babies: IVF and gamete donation in Sunni versus Shi'a Islam." *Culture, medicine and psychiatry* 30, no. 4 (2006): 427-450.
- Inhorn, Marcia C., Pasquale Patrizio, and Gamal I. Serour. "Third-party reproductive assistance around the Mediterranean: comparing Sunni Egypt, Catholic Italy and multisectarian Lebanon." *Reproductive BioMedicine Online* 21, no. 7 (2010): 848-853.
- Therefore, in 2003, the Iranian Parliament promulgated the "Embryo Donation to Infertile Couples Act" ('Act'). Its bylaw was also passed by the Council of Ministers in 2005.
- Larijani, Bagher, and Farzaneh Zahedi. "Contemporary medical ethics: an overview from Iran." *Developing World Bioethics* 8, no. 3 (2008): 192-196.
- The Islamic Fiqh Council 1985; 161-8
- Ghilardi, Marcello. "Genetic Gestational Surrogacy: Hope for Muslims." *Bangladesh Journal of Bioethics* 8, no. 3 (2017): 1-8.
- Larsson, Margareta, Minna Berglund, Emelie Jarl, and Tanja Tydén. "Do pregnant women want to know the sex of the expected child at routine ultrasound and are they interested in sex selection?." *Uppsala journal of medical sciences* 122, no. 4 (2017): 254-259.
- Al Bukhari, *Buyu' Hadith: 100*
- Section 2, Dissolution of Muslim Marriages Act 1939
- Section 9, Family Courts Act 1964
- Article 35, Chapter 2 of the Constitution of Pakistan
- Article 25, the constitution of Pakistan 1973
- Article 227, Ibid.
- Farooq Siddiqui v. Mst. Farzana Naheed (2017), 2017 PLD (FSC 78) (Pakistan).

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