



Reproductive technology: A study in changing times

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Abstract

The pressure mounted by the society and more importantly the desire to have one's own biological offspring has paved the way for development of the reproductive technology. Amongst Hindus, an offspring could help in the attainment of 'moksha' because only one's own son could offer 'shradh and pind daan' which were considered as ways for attaining salvation. This is not it, across all religions and countries, the birth of child is considered a matter of prestige and as the only purpose of the matrimonial union. The society has from very inception emphasized on child bearing and the couples especially women who could not bear child were often abandoned or ostracized. With advent of reproductive technology or popularly known as assisted conceptional techniques the society has viewed it as nothing less than a miracle especially for infertile couples, single parent, homosexuals and lesbians. But soon after it becoming popular it got entangled in controversies due to the shift from traditional ways of conception to non-traditional methods and at the same time an opportunity for artificial reproductive clinic offering such services, a mechanism for minting money at the cost of health of woman and child. This article is kaleidoscope showcasing the socio-legal aspects of reproductive technology.

Keywords: Reproductive technology, assisted conceptional techniques, artificial reproductive technology, IVF, etc

Introduction

Like marriage, having a child is also one of the most profound decisions that affects an individual's life. Especially, of a woman because the way it affects her it affects no one and also that the inability to have a child is indelibly tied to her dignity. However, things have changed and in the present scenario, women exercise control over their lives and decisions they make but to what extent, is another important discourse but it is not the matter of discussion in the current article. The article in hand discusses the meaning and scope of reproductive technology, its extent and changing usage and the legal implications that arise from it. In contemporary times, there is not only an acknowledgement of the reproductive technology but very wide use of it by couples, singles and different genders as it offers infertile families and individuals, the ability to conceive and people to have children of their own.

Concept of Reproductive Technology and its Forms

Reproductive technology, popularly known as artificial conception techniques or assisted reproductive technology, has existed over thirty-five years and during this time, it has proved as a blessing for couples who could not conceive naturally. Before plunging into reproductive technology, it becomes important to understand what it actually means, and what all does it offer? Reproductive technology is a very wide term which subsumes many techniques that can assist couples in the process of procreation. However, the most common methods are artificial insemination, gestational surrogacy and *in vitro* fertilization. Reproductive technology initially only offered a simple technology called artificial insemination, but over the time it has widened its ambit. The area has now extended to gestational surrogacy and *in vitro* fertilization also. To begin with, the artificial insemination, the first technique under discussion is a simple method of inducing semen in a women's vagina or uterus other than by sexual intercourse^[1]. This technique is used where women fail to conceive naturally or does not have a male partner. Semen can be obtained from a sperm bank and procedure related thereto can be performed, at any doctor's clinic. Artificial insemination when it is done by using husbands' semen, it is called AIH and is used in cases of cervical barrier^[2]. But, when a donor's sperm is used, it is called AID^[3] and can be a boon in cases of single or lesbian woman, or where husband is infertile. In gestational surrogacy, there is another woman provides only gestational component that is uterus through *in vitro* fertilization and she is not genetically related to the child. In this process. Embryo is transferred to the surrogate's uterus. In this process, the embryo is used and in case where all the embryos are not used, then they are preserved using the technique of, cryopreservation, so that it can be used later in time, if the initial transfer is not successful. Gestational surrogacy is via contract in through *in vitro* fertilization. There is combination of sperm and eggs in laboratory which results in creation of baby, which is genetically related to one or both donors, here, the fertilization, takes place *in vitro* in a laboratory and pre-embryo is then implanted into gestational mother. Gestational mother may or may not be genetic mother of the child. The reproductive technologies have helped couples who were

suffering from infertility to have the joy of parenthood. Lastly, the process of in vitro fertilization is a process through which eggs are fertilized outside the womb, *in vitro*. IVF is a major breakthrough in the cases of infertility when all other methods does not help. It involves controlling the process of evolution, removing the egg from the woman's ovary and letting fertilization with help of sperm in a fluid. After fertilization, zygote is then transferred into the uterus of the woman to ensure successful pregnancy. Contemporary times *in-vitro* refers to procedures performed outside the organism distinction with *in vivo* procedure where it remains inside the biological organism.

Religious Perspective of the Reproductive Technologies

In India, when a woman was unable to have children, the husband could have children from another woman, and in case the man could not produce children than his wife could conceive a child from another man but certain requirements such as bloodline, caste and religion were determinants for such conception. Amongst Hindus, the Niyogi Pratha also deserves a mention which represented conception through a surrogate father ^[4]. In Mahabharat, Gandhari, wife of King Dhritrashtra gave birth to 101 children through *in vitro* ^[5]. In Islam, surrogacy was forbidden ^[6], since it required transfer of men's sperm into another woman's uterus and subsequent fertilization in the ovum with the sperm of man, other than her husband was considered relationship which was despised in nature ^[7]. Islam and Judaism have similar perspective when it comes to assisted reproduction and surrogacy was not acceptable ^[8]. Gamete donation was initially banned in Sunni countries like middle East, Egypt. But the contemporary perspective however, has changed and now there are approximately 50 IVF centers in Egypt and Lebanon ^[9]. As far as Christianity is concerned, the pregnancy should confine to the ambit of matrimony, however, surrogacy has existed since biblical times ^[10]. The Vatican has resisted the assisted reproduction ever since 1956 ^[11].

Ethical Considerations in Reproductive Technology

The reproductive technology has become the only option for women experiencing in fertility. The wide acceptance of reproductive technology can be drawn from different aspects. It can be attributed to the following- firstly, that due to late pregnancy, often a result of careers choices and employment, secondly, the pressure on women to opt for biological pregnancy then adoption. In this context, reproductive technology offers a wonderful opportunity to women who have struggled with social norms about birthing and mothering. Another ethical dilemma surrounding reproductive technology is that child bearing is not confined to the realm of marriage. It is often seen as a system of breeding and traffic in the women who are exploited due to their reproductive functions. As mentioned in the beginning of article, women health is affected because she is subjected to the experiments such as reproductive engineering for determination of sex of the child, physical attributes, and other things, the ethical debate becomes more aggressive since it centres on the plight of powerless woman who are seen as the carrier and children as the product of this experimentation called reproductive technology. Issues such as sex selection, lopsided, contractual arrangements, exploitation of women also puts to forefront the issue of subjective and biased global regulations despite the presence of the Universal Declaration on Bioethics and Human Rights (UDBHR).

Legal Issues Confronting Reproductive Technology

The legal issues are heavily dominated by changing social discourse. From the sacred duty of women to reproduce, the discourse has now transited to the aspect of when to conceive and to how to conceive. Let us be clear that the reproductive technology does not cure infertility but only assist in reproduction. As discussed, it is a medical procedure and has low success rates. It is also expensive and involves major health risk and side-effects on women's health. Reproductive technology only facilitates in having child despite being infertile. The birth of a child through reproductive technology can bring complicated legal issues such as custodial and parental challenges and is also considered risky in context of women and infant born through such techniques. Multiple gestational pregnancies expose women to increase risk of diseases such as hemorrhage and hypertension. Children born through this process are at increased risk of prematurity, mortality, and low birthweight. The regulation of reproductive technology is heavily dominated by commercial fertility clinics. Though, the right to have children existed from the very inception, but in contemporary times, the question is that to what extent this right can be stretched. The right to procreate is also ingrained and affirmed by the preamble of CEDAW and UDHR ^[12]. The basis for this underlying principle can be drawn from rights such as privacy, equality and health ^[13]. These principles are invited even at national level under the right to reproduction as it is well recognized under constitution but the right to seek assistance from reproductive technology, is highly controversial and deeply contested. There is no fundamental right to access reproductive technology. In fact, the Supreme Court of different countries have ruled differently on the aspect of the right to use assisted reproductive technology for bearing a child. In *Skinner v. Oklahoma* ^[14], stated that right to procreate is one of the basic civil rights of humans and the same line court expressed its anguish over government intrusion into matters affecting conception of child in the case of *Eisenstadt v. Baird* ^[15]. The International Conference on Population and Development (ICPD) in Cairo in 1994, categorically stated that reproductive health cannot be confined merely to genital and both government and non-government institution should widen the ambit of reproductive health, especially in the context of reproductive rights ^[16].

The ethical considerations involving reproductive technology, basically centers around its unconventional nature as opposed to something considered sacred. Infertile males and females, homosexuals, and women post menopause becoming parents has left people astounded. Questions such as normalcy of assisted conception is heavily questioned on the impact of technology on children and women, its expensive nature, low success rates, and major health risk and are intriguing the human mind. Some people see it as purely a measure for lesbians, gay couples or heterosexual infertile couples, who cannot conceive naturally. In fact, media has referred it as “gay and lesbian baby boom” in 1990^[17]. Beside these reproductive technologies are associated with increased health risk for both mothers and infants because of multiple births, hemorrhage and hypertension, including risk of prematurity, infant mortality, and long-term disabilities^[18]. The skepticism surrounding the assisted reproductive technologies, often face itself into debates and discussions involving legal and moral sanctions. The people who believe in the reproductive technologies consider it not less than a miracle which has enabled them to have their own biological offspring, which otherwise would not have been possible but on the other hand, lack of universal regulations generate serious debate on the meaning of the term family and children’s rights. In terms of economics, it is a new market which is thriving at a faster pace and linking the traditional conception of womb mother. The reproductive technologies are often criticized because it makes the consumer of such technologies vulnerable due to information gap that exist between the scientific experts, doctors, and people involved in this process. One of the most palpable debates is the cryopreservation of gametes and embryos, which is often linked with IVF. The two fundamental questions related to cryopreservation is firstly who decides the fate of these embryos and secondly disposal of such embryos. Ethically speaking the duty of care is envisaged from the intended parents and the clinic involved in the procedure. The cryopreservation has complicated and dragged the reproductive technology into another debate that is commodification of children despite the concept of informed consent that has evolve through this or through the principles given under Nuremberg Code, Declaration of Helsinki and UDHR cited by people who are at the end of receiving but not by the people who are at the helm of affairs.

Human Rights and Bioethics as a Framework for Protection

Human rights have been seen as panacea to the issues raised by the new reproductive technologies. In 1948, the Universal Declaration of Human Rights paved the way for practical agreement about the rights that should be respected universally. It was built on the foundation of international standards, implementation and the investigation of human rights violation. It is considered as one of the most fundamental reference points on any aspect involving human life, including the new reproductive technology. Since, it integrates basic principles of medicine with integrity, it is undoubtedly for the preservation of human kind and can elucidate on the use of reproductive technologies. The idea of dignity has been discussed by legal thinkers, such as Kant and Dworkin, as a way to civilized social life, and as a powerful idea. All international instruments centers around the idea of human dignity, informed consent, bodily integrity, non-discrimination, privacy, confidentiality, and equality which are also reflected in concept of the Bioethics. There has also been worldwide consensus for protection of human rights, specially against the issues post by medicines and genetics. The principles such as informed consent, confidentiality of health, information and principle of non-discrimination can protect even the most vulnerable group such as women and children who are core of the reproductive technology. If these standards put across internationally are subsumed, and in the national framework, then human rights can be a very potent to happen in protection of humans. Because of the slow lawmaking process, and reluctance of different nations to adopt human right framework. The issues such as germline interventions and human reproductive cloning have become serious concerns, jeopardizing the human rights of many. However, human rights and bio ethics together, the most appropriate way to manage reproductive technology at global level and national level.

Legal Framework in India and Across the Globe

There has been tremendous growth in the era of reproductive technology. India has in fact surpass all other countries as far as artificial reproductive technology, industries, concerned and number of cycles performed. Indian Council of medical research has established guidelines in 2005 to curb malpractices surrounding ART. These guidelines though non-statutory, but holds significant place. it addresses the issue of ethical and financial violation in surrogacy, abuse and treatment of women and commercialization of reproductive technologies. Law commission Report number 228 of August 2009 says surrogacy is lawful in India because of absence of any law that forbid it. Section 9 of Civil Procedure Code, 1908, is often in used for interpretation of surrogacy agreements which draws its strength from Guardian and Wards Act of 1890, which can be used by biological parents to be guardians of surrogate child. The cases such as Japanese baby Manji, Yamada, and the Israeli homosexual couple who gave birth in India has often brought the complications to forefront. Since Indian Council of Medical Research (ICMR) Guidelines are incomplete, a desire to develop legislation becomes all the more necessary. In 2010, the ICMR has changed the standards and established legal agreement and health and family welfare department. NRIs and foreign nationals were forbidden to participate in commercial surrogacy by Indian Government in 2015. It was only in 2016, that Surrogacy Regulation Bill was put in place to protect women, couples who are vulnerable due to their financial conditions. Soon thereafter Assisted Reproductive Technology (Regulation) Act, 2021, was tabled to regulate ART industry. The bill defines the ART, the services that can be provided by ART clinics, regulations of ART, clinics and banks, conditions for gamete, donation, and supply, rights of children born through ART and lastly, national and state boards for regulation of ART services. The bill

also envisaged offences and penalties for abandoning, exploiting children born through ART. Selling, purchasing, and trading on of human embryo and use of intermediate to obtain it is illegal. It also prohibited transferring of the human embryo into male or an animal. However, the bill never saw the light of the day and was replaced by the Surrogacy (Regulation) Act, 2021. The Act imposed restriction on the surrogate mother. It only allowed women who's genetically related to the intending couple to be a surrogate. The act also required under section 4 clause iii(b) that a woman could be surrogate only for once in her lifetime, and that too only for altruistic purposes. However, the provision under section 4 that only allowed married woman with a child of her own to be a surrogate as violative of rights of young, divorced, women, or a single woman. In fact, the Act only allowed infertile heterosexual, married couples to use surrogacy under the altruistic framework of the act. It criminalized any situation which is not permissible under the act. This has led to a disapproval by LGBTQ community over the issue of subversion of their rights to be parents. According to K.S.Puttaswamy's case ^[19] and Modern Dental College case ^[20], one can infer that proportionality must be a guiding factor in determining the dimensions of privacy and same can be extended to the context of the reproductive autonomy its scope and its usage also. As far as other countries are concerned, there has been concerns across the globe in context of reproductive technology. Countries such as Brazil, Israel, and UK have partially prohibited commercial surrogacy. Several countries including Germany and France have outlawed surrogacy contracts. The country like Canada has however recognized non-commercial surrogacy, UK has Human Fertilization and Embryology Act to regulate assisted reproductive technology and research on human embryo. The storage of human embryo and gems are strictly regulated. Women over age of 40 can have only three embryos implanted the act prohibits commercial egg and sperm donation. As far as United States is concerned, there has been silence over the usage of ART in 1990, Johnson v. Calvert ^[21] used surrogacy agreements as a tool to identify parentage. There is fertility clinic, Success Rate and Certification Act of 1992, which requires disclosure of pregnancy accessories to Centre for Disease Control and on that basis these clinics are allowed to practice ART. Human cloning is illegal and commercial surrogacy is either illegal or strictly regulated. In Canada, same-sex marriage is legal and Human Reproduction Agency of Canada and Assisted Human Reproduction Act, 2004, offers governance and enforces assisted reproductive technology. It establishes principles that assist ART prioritizing health and well-being of children born through the technology. In 2010, the Supreme Court of Canada, limited the role of government in ART *in vitro* fertilization, availability, financing, and regulation. Across the globe, the ART regulation is largely influenced by societal customs and believes, political pressure and economic reasons. All governments address the issue of ART through several pieces of legislation put into effect turned out from the fabric of morality and health risk. Privacy and social consciousness are a great dividing factor when it comes to protection of people who offer people who consume ART.

Conclusion & Suggestions

The well accepted and time-tested methods of procreation and parenthood have evolved and reproductive technology is becoming an accepted mode of procreation. Reproductive technology has traversed from miraculous technology to a nightmarish but it is holding its ground firmly. Despite the presence of several laws and international mechanism, the desire to have one own biological offspring has led to sustenance of this technology. It is India, indeed a growing field, superseding the walls of couple's bedroom and government discussions, stomping the policy for protection of human life has raised concerns. In the contemporary time when the infertility is at its high and so is the desire to have one's child, the best method seems to be counselling for couples opting ERT. Widening the dimension of informed consent and trained professionals can help in minimizing the complex issues surrounding ART. As suggested human rights centric approach where the principles such as human dignity, privacy, confidentiality, non-discrimination, disclosure, informed consent, and equity are merged in the national legislation and social consciousness, this technology can work harmlessly and for the advantage of human life.

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