

## **SOCIO-CULTURAL ANALYSIS OF SORROGACY**

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### **ABSTRACT**

Nature has bestowed the beautiful capacity to procreate a life within women and every woman cherishes the experience of motherhood. Right to reproduction is an innate right of an individual. The desire for children among couples is an universal phenomenon. Parenthood is a life changing and eternally rewarding experience.

Due to various reasons, a large section of the society is unable to have their child. Research has stated that one in six couples have such problems. The absence of a child is considered as a stigma to the family. There are many instances where the inability to have a child led to matrimonial breakdown. The inability to have a child which is known as infertility in medical terms is a global problem. According to the WHO Report the incidence of infertility across the globe including India is around 10-15 percent.

The concept of surrogacy has become widely recognized all over the world. Surrogate motherhood is considered as a boon by infertile couples as it is revolutionary hope for having a child. The word 'surrogate' has been derived from a Latin word 'surrogatus' meaning a substitute, that is person appointed to act on behalf of another. Traditionally, surrogate motherhood is referred to as 'an agreement between a married couple who is unable to have a child because of wife's infertility, and a fertile woman who agrees to conceive the husband's child through artificial insemination, carry it to term, and surrender all parental rights in the child.'

Surrogacy carry social stigma in the society as it is equated with prostitution and by virtue of that it is argued that it should be disallowed on moral grounds. Surrogacy involves conflict of various interests and has inscrutable impact on the primary unit of society viz. family. Non-intervention of law in this knotty issue will not be proper at a time when law is to act as ardent defender of human liberty and an instrument of distribution of positive entitlements. At the same time, prohibition on vague moral grounds without a proper assessment of social ends and purposes which surrogacy can serve would be irrational. Active legislative intervention is required to facilitate correct uses of the new technology i.e. ART and relinquish the cocooned approach to legalization of surrogacy adopted hitherto. The need of the hour is to adopt a pragmatic approach by legalizing altruistic surrogacy arrangements and prohibit commercial ones.

**Keywords: Surrogacy, Gestational Surrogacy, Surrogate Mother.**

## Introduction

Marriage constitutes the basis of social organisation and is considered as sine quo non for birth of child. Change in the life style, poor nutritious diet intake etc are the reasons for increasing infertility rate in India. As science and technology develops we have solution also to deal with this problem of infertility. They can look for advanced reproductive techniques such as advanced infertility treatment, egg, sperm and embryo donation. Among all, surrogacy has emerged as a ray of hope.

## Meaning& Definitions

The word 'surrogate' has its origin from a Latin word "Surrogatus", meaning a substitute, that is, a person appointed to act in the place of another. Hence a surrogate mother is a woman who carries a child on behalf of another woman, either from her ovum or from the implantation in her womb of a fertilized egg from other woman.

A standard definition of 'surrogacy' is offered by the **American Law Reports** in the following manner:

"A contractual undertaking whereby the natural or surrogate mother, for a fee, agrees to conceive a child through artificial insemination with the sperm of the natural father, to bear and deliver the child to the natural father, and to terminate all of her parental rights subsequent to the child's birth."

As per the **Black's Law Dictionary** "surrogacy means the process of carrying and delivering a child for another person".

**The New Encyclopaedia Britannica** defines surrogacy as "a practice in which a woman bears a child for a couple unable to produce children in the usual way".

**According to Warnock Report (1984)** HF&E, "surrogacy is the practice whereby one woman carries a child for another with the intension that the child should be handed over after birth".

**In Medical parlance-** the term surrogacy means using of a substitute in place of natural mother.

**The Assisted Reproductive Technologies (Regulation) Bill, 2010** defines surrogacy as "an arrangement in which a woman agrees to a pregnancy, achieved through assisted reproductive technology, in which neither of the gametes belong to her or her husband, with the intention to carry it and hand over the child to the person or persons for whom she is acting as a surrogate."

**The Report of the Committee of Inquiry into Human Fertilization and Embryology** or the **Warnock Report (1984)** defines surrogacy as "the practice whereby one woman carries a child for another with the intention that the child should be handed over after birth to the Biological mother."

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Surrogacy is an arrangement whereby a woman agrees to give birth to a baby for

someone else.

### **Surrogacy - Historical background**

Surrogacy is not a new practice. It is an ancient practice. This practice dates back to biblical times. The first surrogate mother in history is believed to have lived somewhere near the city of Hebron, the land of Canaan, two thousand years before the birth of Christ. Sarah, infertile wife of Abraham, commissioned her maid Hager to bear a child by persuading Abraham to sleep with her. Abraham was 86 years that time. But despite of his age he was still able to conceive a child. In 1910 BC Hager gave birth to a son called Ishmael. Ishmael was the first child in history born due to the so called traditional surrogacy programme. The second surrogacy programme was carried out in Summer Mesopotamia in the middle of the XVIII century BC. Rachel, wife of Jacob, commissioned her maid Billah to have a child by convincing Jacob to sleep with her.

Surrogacy was quite common in ancient Egypt. Many of the Egyptian Pharaohs asked their concubines to help them in producing an offspring. The ancient rulers of Egypt were believed to directly descend from the God of Sun Ra. Artificial insemination has been studied for several centuries already. In 1677 the inventor of microscope, the Dutch scholar, Leeuwenhoek examined human semen and was the first to detect spermatozoon's. He made a suggestion that a spermatozoon was a kind of seed, and a woman's uterus created a favourable environment for its spouting.<sup>4</sup> In 1790 Scottish surgeon and venerologist John Hunter, artificially inseminated a woman and this was the first artificial insemination in history. In 1880 the first IVF attempt in history was listed in guinea pigs. In 1891 a French scientist Heape was the first to carry out successful IVF by transferring an embryo from one guinea rabbit to another one.

Starting with 1920 artificial insemination by the husband's or a selected donor's sperm has become widely spread in infertility treatment. The world's first IVF baby, Louise Brown, was born on July 25, 1978, in the UK through the efforts of Dr. Robert G. Edwards and Dr. Patrick Steptoe. The world's second and India's first IVF baby, Kanupriya, alias Durga was born 67 days later on October 3, 1978 through the efforts of Dr. Subhas Mukherjee and his two colleagues in Kolkata. The first gestational surrogacy programme was implemented in Ann. Arbor (MI, US) in April 1986. The first surrogacy programme implemented among relatives, when 48 years old Pat Anthony successfully bore and delivered three grandchildren for her own 25 year old daughter Karen Ferreira Jorge, was carried out in South Africa in 1987.

### **Indian history of Surrogacy**

Hindu mythology also offers instances of surrogacy and reflects the secrecy that still surrounds surrogacy practice. In Bhagavata Purana, Vishnu heard Vasudeva's prayers beseeching Kansa not to kill all sons being born. Vishnu heard these prayers and had an embryo from Devaki's womb transferred to the womb of Rohini, another wife of Vasudev. Rohini gave birth to the baby Balaram, brother of Krishna, and secretly raised the child while Vasudev and Devki told Kansa that the child was born dead.

In the Mahabharat, Gandhari did not deliver a child rather delivered a semi solid material which was divided by Maharishi Vyas into 100 pieces and planted them in different pans. Thus, the 100 Kauravas were born. Similarly, Maharishi Bhardwaj saw a divine nymph coming out of water after having a bath and seeing such a beautiful woman, he felt discern and deposited his semen in pot used for yagna called Darona. This is from where Dronacharya was born and named after the vessel. Thousands of years after the biblical events in 599 AD, the 24th Trithankar, Mahavira, was born after an embryo had been transferred from one woman's womb to another one's. He is one of the key figures of the Jain Mythology. Devananda, wife of a Brahmin named Rishabdeva conceived him. The gods, ingeniously, transferred the embryo to the womb of Trishala.

The world's second and India's first IVF baby, Kanupriya, alias Durga, was born 67 days later on October 3, 1978, through the efforts of Dr. Subhas Mukherjee and his two colleagues in Kolkata. The birth of baby Kanupriya (also known as Durga), through the novel procedure was marked by tremendous controversy.

### **Surrogacy in India**

Most of the countries like, Australia, China, the Czech Republic, Denmark, France, Germany, Italy, Mexico, Spain, Switzerland, Taiwan, Turkey, and some U.S. states ban surrogacy altogether. Some have imposed partial bans, as in Brazil, Israel, and the United Kingdom. Others, such as India, Belgium, Finland, and Greece, have no regulations at all (Taman 2006, 10). Apart from the recent spurt of surrogacy in India, commercial surrogacy is mainly practiced in the state of California and in Israel. The Indian structure is closer to the liberal market model of surrogacy in California, where surrogacy births are primarily managed by private, commercial agencies that screen, match, and regulate agreements according to their own criteria and without state interference.

The concept of surrogacy in India is not new. Commercial surrogacy or "Womb for rent," is a growing business in India. In India, English speaking environment and cheaper services attract the willing clients. Future projections of surrogacy practice range from opportunity to exploitation from rural women in India uplifted out of poverty to a futuristic nightmare of developing country baby farm. In case of surrogacy in India, it is hard to tell that whether these women are exercising their own personal rights or whether they are forced to become surrogate mothers due to their mother-in-law's or husband's desire to fulfil material and financial needs. Opponents of surrogacy argue that the practice is equivalent to prostitution and by virtue of that similarity; it should be disallowed on moral grounds.

Surrogacy contracts are dehumanizing and alienating since they deny the legitimacy of the surrogate's perspective on her pregnancy. Surrogate mother tries to avoid developing a special bond with the child in her and views the pregnancy as merely a way to earn the much-needed money. The payment for bodily services dehumanizes the surrogate mother and exploits her reproductive organs and capability for personal gains of the wealthy. In fact,

outsourcing surrogacy is an exploitative practice in India. Currently, no law exists to protect the surrogate mother in case of birth complication, forced abortion etc. Since 2002, commercial surrogacy has almost become legal in India and India has become a sort of leader in it. This is the reason that has led critics to allege that surrogacy business is exploiting poor women in country like India already having high maternal mortality ratio.

According to estimates, which might be conservative, the business of surrogacy in India is already touching \$445 million a year. Surrogate motherhood as an arrangement, in which a woman takes no ownership of the child born, has raised moral, ethical social and legal questions about both woman and the “Commissioned baby.” According to legal experts” if surrogacy becomes an avenue by which women in richer countries choose poorer women in our country to bear their babies, then it is economic exploitation, a kind of “biological colonization.”

The Ministry of Women and Child Development is examining the issue of surrogate motherhood in India for bringing up a comprehensive legislation. A draft legislation on surrogacy-prepared by the Indian Council of Medical Research (ICMR) has recommended strict penalties for offenders and a tight regulation on Assisted Reproductive Techniques (ART). The draft law restricts the number of embryo transfers a mother can go through to 3 times for the same couple, if the first two attempts fail and it also adds that no woman should act as a surrogate for more than three live births in her life. In fact, these are the only guidelines framed by the ICMR and the Ministry of Health and Family Welfare in 2005. ICMR guidelines, states, “A relative, a known person as well as a person unknown to the couple may act as a surrogate mother for couple. In case of a relative acting as a surrogate, the relative should belong to the same generation as the woman desiring the surrogate.” The experts believe that surrogacy propels childless couples needlessly toward commercial surrogacy. Section 3.10.5 of the guidelines states that “a surrogate should be less than 45 years” being the upper age without mentioning the minimum age to be surrogate. So does that mean an 18 year old or someone even younger, can become surrogate mother? Before accepting a woman as a possible surrogate for a particular couple, the ART Clinic must ensure (and put on record) that the woman satisfies all the testable criteria to go through a successful full term pregnancy.” These guidelines are skewed and thoughtless. The bifurcated role of woman in surrogate arrangements is prompting renewed assessment of the meaning of motherhood and designation of maternal rights. Surrogacy only furthers Right to Life under Article 21 of the Constitution: The relation of the surrogated mother to the child she is carrying is nothing but womb leasing or womb for rent. After the birth of the child she has no right to keep the child because she is neither the mother (where both ova and sperm are from different persons) nor the owner of the genetic material. She is only a contractor who is willing to give the end product once the contract between her and the person is fulfilled.

Like in other countries, in India also, the following two types of surrogacy arrangements are being practiced:

**1. Altruistic surrogacy:** Where the surrogate mother receives no financial rewards for her pregnancy or the relinquishment of the child to the genetic parents except necessary medical

expenses.

**2. Commercial surrogacy:** Where the surrogate mother is paid over and above the necessary medical expenses.

Surrogacy is the union of science, society, services and person that make it a reality. Surrogacy leads to a win-win situation for both the infertile couple and the surrogate mother. The infertile couple is able to fulfil their most important desire and the surrogate mother receives the suitable reward. To give a womb for rent means to nurture the fertilized egg of another couple in your womb and give birth to the child with a specific intention, the intention here being either money, or service, or because of altruistic reasons.

Bhadaraka has described the following misconceptions regarding a surrogate mother:

- (i) She is not the genetic mother of the child whom she nurtures and gives birth to.
- (ii) She is not the wife of the father of the child to whom she gives birth.
- (iii) This is a scientific idea, a scientific process. There is no need for any physical contact.
- (iv) She is not an asocial woman.
- (v) This is not an illegal practice.
- (vi) She is not forced into this. She herself decides whether she wants to become a surrogate mother or not.
- (vii) She has no claim or rights over the child that is born.
- (viii) "This is my child", "this child is my inheritance" she cannot articulate such thoughts, because of social, scientific and legal restrictions.
- (ix) She is not a woman who sells children.
- (x) She is not responsible for the child (once the child is born).
- (xi) Surrogacy is a mutually beneficial concept of providing services.

It is necessary to mention here that the couple's insistence does not agree with what science believes. It does not matter as to which religion the surrogate belongs, as the child is genetically of the couple. Religion is interpreted according to the conditions, education, time and the circumstances. Surrogacy is a social act of highest level of service which is scientific and brims with goodwill. A person's opinion based on a lack of information should not harm others. Like medicine is prescribed for treatment of a disorder, in the same way surrogacy is also a method of treatment.

### **Social Stigma of Surrogate Pregnancy**

The recipient couple must face a withdrawn social attitude after the birth of the baby. Most people view this procedure as a sort of 'baby bartering'. They are not concerned about the possible reasons that compelled the couple to opt for this alternative. This happens because at the end of it all, it is money that decides the price of the service. This again has another problem to it. The woman who has consented to become a surrogate mother has to face a social stigma of offering services similar to a prostitute. The process of artificial insemination is not very

commonly known amongst people. So there is a possibility that the woman stands to live on the fringes of the society during and even after the delivery of the child.

According to the findings of the various studies conducted by social scientists, it has been observed that women opt for surrogate pregnancy due to the following reasons:

1. Since in most cases, they are from the underprivileged class of the society, they are naturally in need of money. This means that they are doing it for money.
2. It has also been observed that women who agree to surrogacy are fascinated with the idea of having a child. They are thrilled by the process and the entire chapter of pregnancy and motherhood gives them a sort of high.
3. It can also be the case that the woman who becomes a surrogate mother is extremely compassionate and co-operative at heart. She feels the pain of the other woman who cannot become a mother due to fertility issues and are ready to help them experience the joys of motherhood by conceiving the child on their behalf.
4. The sentimental and maternal instinct provokes the woman to agree to surrogate pregnancy.

Surrogate pregnancy gives rise to many social, ethical and emotional issues. It is very difficult for the surrogate mothers to overcome the emotional issues associated with the pregnancy. Surrogate mothers may also have to face social stigma. Read on to know the ways of dealing with the ethical issues of surrogate pregnancy.

### **Moral and Ethical Issues of Surrogacy**

The underlying idea behind surrogacy is a noble one as it is based on the altruistic principle of doing good to others i.e. one woman helping another woman. The religious texts of Hinduism and Christianity highlight the practice of surrogacy in ancient times. Some of the moral and ethical issues relating to surrogacy are as follows:

**1. Harm to Surrogate Mother:** Most Indian women act as surrogate mothers due to poverty or other economic necessity. However, surrogacy technology may involve some complications and cause harm to the health and life of the surrogate mother. This raises the important issue of liability for the harm caused or suffered by a surrogate mother. If there is no medical negligence on the part of the doctors and other medical staff, it would be difficult to fix the liability and thereby indemnify the loss suffered by the surrogate mother.

**2. Interest of the Child:** Surrogacy generally involves payment of money to the surrogate mother for delivering and handing over the child to the commissioning parents. Thus, it is criticized as equivalent to buying and selling a child. It is argued that it would lead to selection of sex and traits in a child, i.e. creation of designer babies. Thus, surrogacy would result in treating a

child as a product which is considered as morally wrong and unethical. It is also observed that the process of surrogacy involving in vitro fertilization usually results in birth of triplets or quadruplets. This may harm the interest of the child, as the commissioning parents may not be in a position to look after such number of children born against their wish. Further, it is argued that surrogate children may be born with defects. Another contentious issue in the process is the determination of parentage and custody of child. Surrogacy involves participation of three or four or five adults. So it is difficult to determine the parentage of child.

**3. Surrogacy Degrades the Dignity of Woman:** Right to dignity is one of the inherent and cherished rights of every human being. It is argued that surrogacy degrades the inherent dignity of a woman. Surrogacy involves the use of a woman's body for producing a baby which is handed over to the commissioning parents. During the term of pregnancy, the surrogate mother has to abide by the conditions laid down in the contract and has no right to take any decision affecting her body. Moreover the surrogate mother also considers pregnancy as a means of earning money and tries to avoid developing a special bond with the child in her womb. Thus the natural mother-child bond is either absent or suppressed and the entire process is viewed as a commercial transaction. The critics argue that the woman's body is reduced to being an incubator or breeder machines and thus it degrades the dignity of woman.

**4. Surrogacy has been equated with Prostitution:** Many authors have criticized that surrogacy is like prostitution, as it involves selling of the reproductive capacity of a woman and the use of her body in return for payment of money. Further it is argued that similar to a prostitute who has no choice and control before a customer who has solicited her favour and paid money; the surrogate mother also has no choice and has to abide by all the terms and conditions put forward by the commissioning parents. In both cases one's physical services is being offered, in both cases material compensation is offered for the physical services provided.

**5. Surrogacy has been compared to Exploitation of Poor Women:** Women with limited economic means in India have readily accepted this method of earning quick money and fulfilling the needs of the family. Thus, the presence of world class medical care facilities and availability of cheap surrogate mothers have placed India at the forefront as the outsourcing destination for surrogacy. As a result, childless couple from across the world are flowing to India to have their children through surrogacy at a much lower cost. This practice of outsourcing has been subject of great criticism raising issues like 'slavery of women', 'neo-colonialism' 'exploitation of poor women etc.

**6. Surrogacy is Playing the Role of God:** Traditionally a child is considered as a gift of God. The act of procreation was also considered as a sacred obligation to be undertaken by the couples for begetting a child. Before the advancement of medical technology the only option available to the childless couple was either to adopt a child or to accept the childlessness as a decision of God. The developments in science and medical technology have created a revolution by enabling the childless couples to beget a child which is genetically related to at least one of the parent. Though science has been a boon to childless couples, the increasing use of technology and experimentation



for creating babies with specific traits and characteristics is being criticized. The critics argue that by interfering with the natural reproductive process, the man is playing the role of God. This is considered as a moral, ethical and religious wrong.

**7. Attachment with the Gestational Mother:** In a surrogate situation, the gestational mother is the woman who carries the baby to term. This can be a very taxing process both physically and emotionally and unique in that after the surrogate mother physically carries the baby throughout the pregnancy, she needs to physically and emotionally detach herself from the child once it is born.

**8. Involvement with the Gestational Mother:** Because the gestational mother will not likely be the child's primary caretaker, there could be legal questions that arise in terms of what, if any, involvement she will have with the child once born.

Some of the other ethical issues that have been raised with regard to surrogacy are:

- To what extent is it right for society to permit women to make contracts about the use of their bodies?
- To what extent is it a woman's human right to make contracts regarding the use of her body?
- Is contracting for surrogacy more like contracting for employment/labour, or more like contracting for prostitution, or more like contracting for slavery.
- Which, if any, of these kinds of contracts should be enforceable?
- Should the state be able to force a woman to carry out "specific performance" of her contract if that requires her to give birth to an embryo she would like to abort, or to abort an embryo she would like to carry to term.
- What does motherhood mean?
- What is the relationship between genetic motherhood, gestational motherhood, and social motherhood?
- Is it possible to socially or legally conceive of multiple modes of motherhood and/or the recognition of multiple mothers?

### **Religious Issues**

Surrogacy is a complex and contentious moral and ethical issue across global cultures. Religions naturally have views on procreation, because the spiritual laws guiding human life are their domain. Religious views on surrogacy vary from complete prohibition to acceptance. The rise of Westerners using Indian surrogate mothers has added a political dimension to the religious and legal debate. Religions naturally have views on procreation, because the spiritual laws guiding human life are their domain. The Christian religion Bible has also been interpreted as stating that children are a gift, not a right. God chooses whether people have babies or not; if a couple is childless, it may be God's will. When individuals or couples are unable to naturally bear children, they have several other alternatives in starting a family. Certainly, while adoption is one choice, there are many who wish to see a child through conception, pregnancy, birth, and rearing. For some, there is also the issue of having a true biological connection with that child.

Muslim religion believes that all kinds of the surrogacy arrangements are Haram in the Muslim Tradition and the rules and regulation of the surrogacy arrangements involved in the surrogacy arrangements. Gestational surrogacy as a treatment for infertility is being practiced in some well-known medical institutions in Tehran and some other cities in Iran. While the majority of Muslims in the world are Sunni, the majority of Iranians are Shiite. Most Sunni scholars do not permit surrogate motherhood, since it involves introducing the sperm of a man into the uterus of a woman to whom he is not married. Most Shiite scholars, however, have issued jurisprudential decrees (Fathwas) that allow surrogate motherhood as a treatment for infertility, albeit only for legal couples. They regard this practice as transferring an embryo or foetus from one womb to another, which is not forbidden in Shiite jurisprudence. Nevertheless, there are some controversies concerning some issues such as kinship and inheritance. The main ethical concern of Iran's experience with gestational surrogacy is the monetary relation between the intended couple and the surrogate mother. While monetary remuneration is practiced in Iran and allowed by religious authorities, it seems to suffer from ethical problems. This article proposes that this kind of monetary relation should be modified and limited to reimbursement of normal costs. Such modification requires new legislation and religious decrees. All kind of the surrogacy arrangements are Haram in the Muslim Tradition and the rules and regulation of the surrogacy arrangements involved in the surrogacy arrangements.

Jewish law permits surrogacy only if it is a full gestational surrogacy. Also, the gametes of both intended parents should be included and in vitro fertilization should be the mode of fertilization followed.

Despite the different issues pertaining to surrogacy, statistics reveal that there has been a steady rise in the number of women donning the role of surrogates. In 2006 alone, the Society for Assisted Reproductive Technology or SART estimated about 260 surrogate deliveries, and since then the number has been on a constant rise.

## **Conclusion**

Surrogacy involves conflict of various interests and has inscrutable impact on the primary unit of society viz. family. Non-intervention of law in this knotty issue will not be proper at a time when law is to act as ardent defender of human liberty and an instrument of distribution of positive entitlements. At the same time, prohibition on vague moral grounds without a proper assessment of social ends and purposes which surrogacy can serve would be irrational. Active legislative intervention is required to facilitate correct uses of the new technology i.e. ART and relinquish the cocooned approach to legalization of surrogacy adopted hitherto. The need of the hour is to adopt a pragmatic approach by legalizing altruistic surrogacy arrangements and prohibit commercial ones. In developing country like India where poverty is playing an important factor, women may be compelled by their husbands or in-laws to become surrogates. Surrogacy carry social stigma in the society as it is equated with prostitution and by virtue of that it is argued that it should be disallowed on moral grounds. Surrogate mothers are kept in isolation from

families and allowed to meet families in weekends, which are against the human rights. Hence, there are number of ethical, social, legal and psychological issues associated with surrogacy, which require urgent need for framing and implementation of law.

### **References**

1. Anand Kumar TC, Hinduja I, Joshi S, Kelkar MD, Gaitonde **18**. S, Puri CP, et al. In-vitro fertilization and embryo transfer in India. ICMR Bull 1986; 16: 41-3.
2. Bhadaraka K. The last ray of hope: surrogate mother - The reality. India: Anand Surrogate Trust; 2009.
3. Gupta PD, Lino A. Mothering a cause: practical knowledge of reproduction and motherhood. Bikaner: Capricorn Publishing House; 2010.
4. Mukherjee S, Mukherjee S, Bhattacharya SK. The feasibility **of** long-term cryogenic freezing of viable human embryos - a brief pilot study report. Indian J Cryog 1978; 3 : 80.
5. Saxena N.C. National guidelines for accreditation, supervision & regulation of ART clinics in India. New Delhi: Indian Council of Medical Research-Ministry of Health & Family Welfare, Government of India; 2005.
6. Singh B.K, Sharma R.S, Mathur A. Infertility - Causes, Prevalence and Current Scenario. Embryo Talk 2006; 1: 100-5.