

RETHINKING ETHICAL ISSUES IN NEW REPRODUCTIVE TECHNOLOGIES (NRT)

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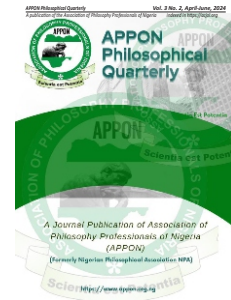
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ABSTRACT

Scientific advancements have undeniably transformed societies, offering solutions to challenges and expanding human capabilities. However, these advancements often present complex ethical dilemmas that demand careful consideration. While science excels at providing factual understanding, it lacks a framework for addressing the moral questions surrounding its applications – the “oughtness” of using these technologies. This is particularly evident in the field of New Reproductive Technologies (NRTs) such as In Vitro Fertilization (IVF), Artificial Insemination, and Surrogacy. These technologies raise numerous ethical concerns, including embryo disposition, surrogacy, informed consent, access and equity, and psychological impact. This paper demonstrates that science and technology itself cannot resolve the moral dilemmas and contradictions that are the consequences of the uses of NRT, and recommends that these ethical issues require a multifaceted approach that draws upon resources beyond science, incorporating expertise from the humanities. By adopting this multidisciplinary approach, we can ensure the ethical and responsible use of NRTs, promoting the well-being of individuals, families, and society as a whole.

Keywords:

Introduction

The ability to reproduce is one of the attributes of a living being. This fact forms the basis of actions and decisions that inform medical research and therefore raise issues in certain spheres. On the one hand, we have the scientists and medical technologists. Their advancement in reproductive science is regarded as a major breakthrough for man. On the other hand, we have the fundamentalists; who have argued vehemently against the interruption of the natural processes of reproduction.

The history of science reveals that major revolutions in are usually received with mixed feelings by society, especially if they affect cherished and established beliefs and assumptions of people. When science fiction becomes reality and society is unprepared to accept it, the impact can cause lasting ripples throughout that society.

In his book, *Modern Science and Modern Man*, Conant identifies two prevalent misconceptions about scientists. The first mistakenly equates them with magicians, while the second confuses them with mathematicians. This latter conception,

Conant argues, fuels the notion of a strict divide between the scientific realm and the realm of values. In medical science, this perception might not be different since the object of scientific research is man himself.¹ This brings us to our present concern which is New Reproductive Technologies (NRT) also at times referred to as Assisted Reproductive Technologies (ART). This technology falls under medical science. And just as science in general has recorded tremendous successes and advancements, the medical sciences are not left out.

The term *Reproductive Technologies* refer to various medical procedures that are designed to solve infertility in couples. The advancement in science has brought with it new forms of reproduction. These new reproductive technologies give great hope to infertile couples and make many new reproductive arrangements possible. They also raise many difficult moral issues.

Definition of key words

Artificial Insemination is a term used when sperm is injected through the catheter into a woman's reproductive tract. Bowie explains that artificial insemination (AI) is a procedure commonly used to address male infertility caused by physiological issues. In most cases, the sperm from AI comes from the husband.² The first Japanese medical ethics committee, established at Tokushima University Faculty of Medicine in 1992, focused on ethical considerations surrounding in vitro fertilization (IVF) technology, particularly its application to women with diagnosed fertility issues. Kimura highlights the high demand for IVF research in this context. She also notes that artificial insemination, both by donor and husband, has been practiced since the early 1950s.³

In vitro Fertilization (IVF) refers to four

ways that overlap. In one case, it refers to the joining of female eggs and male sperm outside the woman's living body. This is also referred to as external fertilization. Anthony Dyson explains that:

The female eggs (or ova) are placed in a culture medium in a glass or plastic flat shallow Petri dish or other appropriate lab container, not usually in a test-tube as the popular term 'test-tube baby' describes it. The male sperm is then introduced into the dish and the process of fertilization takes place over the next 24 hours or so.⁴

After fertilization (and this is the second way), some of the embryos are transferred to the woman's uterus (or womb) where it is hoped that implantation shall take place followed by natural pregnancy. Dyson further notes that these two processes of fertilization and transfer are sometimes referred to as IVF and Embryo Transfer (ET). However he quickly points out that at other times the term IVF alone covers both fertilization and transfer since both are mutually inclusive.

Sometimes, a distinction can also be made between 'embryo replacement' (ER) and 'embryo transfer (ET). The former refers to when the embryo is returned to the woman who supplied the egg while the latter refers to when the newly fertilized embryo is 'transferred' to a recipient other than the woman who supplied the egg.

The third sense of IVF is also used to refer to the whole process starting with the preparation of the woman for the release of eggs and ending with the delivery of the baby. Finally, the term IVF also indicates that the entire process takes place "in and with laboratory apparatus and under

¹ James Bryant Conant, *Modern Science and Modern Man* (New York: Columbia University Press, 1952), 61.

² Robert A. Bowie, *Ethical Studies*. 2nd ed. (London: Nelson Thornes Ltd. 2004), 6.

³ Rihito Kimura "History of Medical Ethics: Contemporary Japan." In Warren Reich, ed., *Encyclopaedia of Bioethics*, Rev Ed., Vol. 3 (1985), 1500.

⁴ Anthony Dyson, *The Ethics of IVF*. (New York: 1995), xi

laboratory conditions”.

Surrogacy: this usually takes place during embryo transfer. It could refer to when the embryo is transferred to a woman who is not the supplier of the egg. The baby is therefore carried in the womb of another woman who is not the supplier of the eggs. In most cases, surrogacy occurs when the womb of the donor woman is too weak to carry the embryo. Rosemarie Tong further explains that the concept of surrogacy could involve three or more persons coming into play for several reasons:

When the female member of a married couple is unable to conceive child or is unable to gestate a child for physical and /or psychological reasons; or though able to conceive and gestate a child, unwilling to do so for some medical reason- for example, a genetic disease that she does not wish the child to inherit-or even for some strictly personal reason- for example, a schedule interruption that will interfere with her career. If she and her husband decides to rear a child to whom they are at least 50 per cent genetically related, they may decide to seek a woman who is willing to carry the pregnancy to term for them. Less typically, unmarried couples may seek the services of a surrogate mother for reasons similar to those of married couples. So, too, may single women and single men, with the specific aim of single parenting a child related to them.⁵

To avoid ambiguity, we refrain from using the singular term “mother” in the context of surrogacy. This is because two women play

significant roles in the child's birth: the gestational carrier, who carries the pregnancy, and the intended mother, who provides the egg (or sometimes uses a donor egg) and intends to raise the child. The gestational carrier may also be referred to as the surrogate. The gestational carrier's role is often established through a formal agreement with the intended parents, outlining the rights and responsibilities of each party.

Human in vitro fertilization has opened the possibility that the resulting pre-embryos can be transferred to a woman other than the woman providing the oocytes. The second woman, referred to variously as a surrogate carrier, a womb mother, a placenta mother or a surrogate gestational mother, provides the gestational but not the genetic component of the pregnancy. Usually arrangements are made for the couple whose egg and sperm produced the embryo to adopt the new born⁶

Thus, surrogacy is not new but it is the most controversial of the new reproductive technologies (NRT). In most cases, the contracting couples are full of gratitude to the surrogate as should be expected since their dream of having their own child is made a reality. From the preceding explanations, the phases of IVF can be summarized as follows:

- Reproduction of eggs
- Extraction of eggs
- Fertilization (or conception)
- Transfer of the embryo to the mother's uterus (or womb)

The facts!

⁵ Rosemarie Tong, “Surrogacy.” In Warren Reich, ed., *Bioethics: Sex, Genetics, and Human Reproduction*, (New York: Macmillan Library, 1995), 951.

⁶ Luigi Mastroianni, Jnr, In Warren Reich, ed., *Bioethics: Sex, Genetics, and Human Reproduction*,

The inherent tension between scientific objectivity and the ethical implications of its applications is particularly evident in assisted reproductive technologies (ARTs). While science strives for factual understanding, ARTs procedures raise profound questions about human life, well-being, and what constitutes a 'good' outcome. This necessitates careful consideration of the ethical dimensions alongside the scientific realities. An appreciation of this fact is evident in the following scenario:

Many couples are unable to have children naturally. For those who desire children, this can be painful and traumatic. Couples may feel that a major part of their lives is impaired or limited by the lack of children, and women in particular can feel a sense of lacking or loss. For people in this position, medical advances in the area of assisted reproductive technology (ARTs) offer a chance to live life to the full as they see it, to fill a gap in their marriage and purpose. A whole chapter of their life may be opened by the possibility of having their own children. It might be said that humans, like all living creatures have a biological imperative to reproduce and that human life cannot be fully experienced if that option is beyond reach.⁷

Against the above facts is the associated or resultant response of medical scientists' development of NRT or ART. In Purdy's view, ART began as a way of allowing infertile couples to become pregnant.⁸ This technique has been successful, in that the rates of deliveries are just about equal to

those achieved by normal fertilization. The success rate of IVF has been a topic of debate. Ashley and Rourke argued that IVF has not been very successful, citing a low live birth rate of only 5% per procedure. However, they acknowledged that success rates improve with multiple attempts. This finding presents a significant dilemma for medical professionals: how to balance the potential benefits of IVF with the reality of its limited success rate per attempt, particularly when considering the emotional and financial toll on patients.⁹

Phenomenal advances have occurred in medical knowledge and scientific skills, particularly in the years since the Second World War. The power of medicine to prevent nature from taking her course has been massively extended, and with that greater power has become an almost intolerable extension of moral choice. In many situations, doctors may now find it difficult to know what to do for the best, whereas forty years ago, they simply would not have encountered similar problems. When a patient suffered a heart attack, for example, or a haemorrhage into the brain he or she would likely have died. As soon as it became possible, however, to keep the patient alive by artificial respiration, the restoration of the normal balance of the body's chemistry, and other improved resuscitation techniques, doctors were faced with the dilemmas posed by their new ability. Was it right to

⁷Robert A Bowie, *Ethical Studies*. 2nd ed. (London: Nelson Thomas Ltd. 2004), 203

⁸Laura Purdi, "Is Preconception Sex Selection Necessarily Sexist?," *Reproductive BioMedicine Online*, 15(2)(2007): 33–37.

⁹Benedict M. Ashley and Kevin D. O'Rourke. *Health Care Ethics: A Theological Analysis*. 1989), 283

preserve life if the quality of life was judged to be poor? Should doctors make any decisions about the quality of life, or should they preserve it at all costs? Was switching off the life support machine tantamount to murder? Even if it wasn't would it be seen as such by the relatives?¹⁰

A debate exists regarding the ethical responsibilities of medical professionals in assisted reproductive technologies (ARTs). Some argue that doctors should focus solely on the technical aspects of these procedures, leaving moral considerations aside. Others, however, believe that doctors have a duty to address the ethical questions that arise in the course of ARTs. The issues raised are rather critical quite sensitive as they affect the interest of the parents, child, embryo and the question of life. We shall look at some of these issues and raise several questions such as the following:

- Whom does the ART assist?
- What is the status of a frozen embryo?
- Who is the real mother of the child; the surrogate or the donor?
- Where is the marital rights and union with the separation of sex from reproduction?
- How morally justifiable is the process of reproduction with the involvement of a third party

The above questions seem easy to answer especially the first two. This is so because at first glance they require a factual answer. A scientific answer though given yet proves inadequate. Let us look at the following answers:

- ✓ It assists the infertile and those who might have genetic disease that could be transferred to the child if the mother decides to conceive and have the baby naturally.

- ✓ The frozen embryo is a potential life which can be kept in the bank to assist others in need of children or for further research which could lead to more advancement in the field. It has helped to select healthy embryos in situations where it is likely that the parents will produce embryos with serious medical problems.

As mentioned previously, NRT is not limited to those struggling with infertility. It can also be beneficial for individuals or couples who, for various reasons, would not be able to carry a pregnancy to term. However, this broader access raises ethical questions about who has the right to these procedures. Should access be based solely on wealth, creating a divide between the rich and the poor? The broader availability of NRT raises another concern. While it offers hope for some facing infertility, it could create a sense of frustration or exclusion for others, particularly those who cannot afford the high costs associated with these procedures. This highlights a potential ethical dilemma: should resources be primarily directed towards expensive NRT advancements, or could some of those resources be better allocated towards preventing infertility in the first place, such as through initiatives focused on reducing sexually transmitted diseases (STDs) and other relevant health issues?

In a hypothetical situation let us consider the case of Bimbo (32 years old) and Kola (35 years old), a married couple struggling with infertility, who eventually enter into surrogacy agreement with Stella (28 years old). The agreement outlines the financial compensation for Stella, the process of embryo implantation, and the termination of Stella's parental rights after birth. Bimbo

¹⁰ Melanie Phillips and John Dawson, *Doctors' Dilemmas: Medical Ethics and Contemporary Science*. (Harvester Press, 1985), 2

provides the egg while Kola provides the sperm. Stella then carries the baby to term. Upon the delivery of a healthy baby girl, Yetunde, Stella experiences a strong maternal bond and expresses a desire to raise Yetunde herself. This contradicts the terms of the surrogacy agreement and creates a legal conflict. In resolving the dispute, there is need to carefully examine the surrogacy contract. A well drafted agreement will explicitly state the termination of the gestational carrier's parental rights upon birth. In some jurisdictions, pre-birth orders can be established to solidify parental intent. If the agreement is clear, mediation can be a more amicable approach. A neutral third party can facilitate communication and explore a solution that respects all parties' interests. Financial compensation or visitations rights for Stella could be negotiated.

Traditional opponents of surrogacy argue that surrogacy itself is contrary to nature as it involves artificial insemination by donor and IVF. These are 'artificial means' to a 'natural' end of procreation. Secondly, it is argued that the surrogate mother does not only offer her gestational services but also offers her whole body. This is in no way different from slavery and prostitution since it involves a common feature of selling of bodies.

Tong argues that there is a parallel between sex work and surrogacy. He sees a surrogate mother who offers her body for pregnancy as akin to a prostitute who offers herself as a sex object.¹¹ This comparison suggests that both acts involve a woman devaluing herself by reducing her body to a mere tool or container. Consequently, he insists that just like how prostitution can erode the social fabric by fracturing marriages, embracing surrogacy might also have negative impacts on marital bonds.

This underscores concerns about the intrusion of a third party into the sacred union of marriage. Tong points out that a woman might idealize the virility of the sperm donor, while a man might admire the fertility of the surrogate mother, viewing her as superior to his infertile spouse.

Theological arguments state that the family is the goal of human sexuality and that the *unitive* and procreative aspects of the act of generation must not be separated by a deliberate human act. Procreation without sex is therefore unnatural and therefore contrary to the moral order revealed by God. Besides, the process undermines sexual reproduction in marriage and some ways is disrespectful to the created embryo. It is important to state here that the destruction of bonds could be avoided but the creation of extra bonds might be difficult to avoid. This could become problematic as the surrogate mother might feel bonded to the child she has carried to term and find it difficult to let go despite the contractual agreement she had signed. While some argue that since she entered into a contract, she should treat it as such but then science cannot stop one from having feelings for a child one has carried for nine months. IVF therefore has the potential for complicating filial bonds.

The Supreme Court of New Jersey is reported to have “determined in the famous *Baby M* case that the surrogate contracts are not valid and that the mother should retain visitation rights, no matter what agreements were made before the birth of the baby.”¹²

Another remote and recurring argument is the state of the frozen embryo. Can it be said that disposing of the extra embryos produced by IVF is equivalent to abortion? Who has the right to keep the embryo if the couple should divorce? Is the biological father obligated to make child support payments for the embryo he implanted and

¹¹Rosemarie Tong, “Surrogacy,” 952.

¹²Benedict M. Ashley, and Kevin D. O'Rourke. *Health Care Ethics*:

¹³S. P. O'Malley, “In Vitro Fertilization: Ethical Implications and Alternatives.” *Life Issues*. Accessed June 10, 2013. <http://www.lifeissues.net>.

grows to term?¹³

The human embryo is regarded by some to be worthy of respect, but then this respect does not necessarily encompass the full legal and moral rights attributed to persons. The notion that the embryo is an entity with a special status deserving of special respect is contested by those who regard the embryo as fully a human being from the moment of conception. Thus, the legal status of the human embryo states that “if the embryo is a human embryo, then it must be treated humanely and not despicably. If the embryo is not considered human, then one has to define its other status.”¹⁴ This presents a binary approach to the moral status of the embryo. If the embryo is considered human, ethical treatment is demanded. However, if it lacks human status, its moral standing requires definition. This framing highlights the ethical considerations surrounding early human development and the need for clear guidelines regarding the treatment of embryos.

The Catholic Church strongly opposes NRT, arguing that life from conception deserves the utmost protection and considers abortion and infanticide to be grave sins.¹⁵ This leads us to the question of the person. *Who is a person and what qualifies us as humans?* Two camps differ on this issue. The first argues that we are made human by the very event of our conception (egg meeting sperm) or at the latest, our birth. The other camp argues that we are considered human only when we act and think as conscious humans do. This reminds us of the Cartesian *Cogito Ergo Sum* meaning *I think therefore I am*.

The proponent of the first case, (i) claims that merely possessing a human body (or the potential to come to possess such a body) is enough to qualify us as “persons”. There is no distinction between *mind* and *body* -

thought, feelings, and actions are merely manifestations of one underlying unity. The fact that some of these manifestations are yet to materialize (in the case of an embryo) or are mere potentials (in the case of a comatose patient) does not detract from our essential incontrovertible and indivisible humanity. We may be immature or damaged persons – but we are persons (and always will be persons). Though considered “spiritual”, this notion is a form of reductionism. The mind, “soul”, and “spirit” are mere expressions of one unity, grounded in our “hardware” – in our bodies.

Those who argue the second case (ii) postulate that it is possible to have a human body that does not host a person. People in persistent vegetative states, for instance – or foetuses, for that matter – are human but also nonpersons. This is because they do not yet – or are unable to – exercise their faculties. Personhood is complexity. When the latter ceases, so does the former. Personhood is acquired and is an extensive parameter, a total, defining state of being. One is either awake or asleep, either dead or alive, either in a state of personhood or not. The latter approach involves fine distinctions between potential, capacity, and skill. A human body (or fertilized egg) has the potential to think, write poetry, feel pain, and value life. At the right phase of somatic development, this potential becomes capacity and, once it is competently exercised – it is a skill.

Embryos and comatose people may have the potential to do and think – but, in the absence of capacities and skills, they are not full-fledged persons. Indeed, in all important respects, they are already dead. Taken to its logical conclusion, these definitions of person also exclude new-born infants, the severely retarded, the hopelessly quadriplegic, and the catatonic. “Who is a person” then becomes a matter of culturally-

¹⁴P.U. Iroegbu and Okeke Echekekwube. *Kpim of Morality: Ethics: General, Special and Professional*. (Nigeria: Heinemann Educational Books, 2005) 605.

¹⁵Robert A Bowie, *Ethical Studies*. 205.

bound and medically-informed judgment which may be influenced by both ignorance and fashion and, thus, be arbitrary and immoral.

The latter approach involves fine distinctions between potentials, capacity, and skills. A human body (or fertilized) has the potential to think, write poetry, feel pain, and value life. With the remaining three questions a scientific answer might not be easy if not outright impossible. Firstly the question of motherhood is a complex one that goes beyond biology. Though science can tell us who contributes the egg (genetic mother) and who carried the pregnancy (gestational mother). However, this does not define the entirety of motherhood. The social and emotional and legal aspects need to be considered. These cannot be measured by science.

Other questions that are vital are questions regarding the safety of human embryos frozen; what is the fate of the embryo when the owning couples die? Though recent development in science suggests that freezing of embryos for later use in ART is a relatively safe procedure but not without risks. The current freezing method called *vitrification* boasts of high survival rates. Studies suggest embryos frozen for up to 12 years show similar success rates for implantation and live birth as compared to fresh embryos.

Vitrification ensures a very high rate of survival (typically around 95% or above) of embryos, independent of the stage at which they were frozen. Vitrification also allows embryos to maintain high rates of viability with implantation rates similar to the rates for fresh embryos.¹⁶

There is limited data however on the long-term health outcomes of children born from

frozen embryos. However, research so far suggests no significant increase in birth defects or developmental abnormalities compared to children conceived naturally with fresh embryos. On the other hand, the freezing and thawing process can damage some embryos. While vitrification minimizes this risk, it is not eliminated.

As to the fate of the frozen embryos at the death of the owning couples, laws, and regulations have evolved to serve as a guide. Ideally, the couple would have documented their wishes in a legally binding document called an embryo disposition agreement which specifies what should happen to the embryos in the event of their death (and sometimes divorce). The embryos could be donated for research, transferred to another couple, or even discarded if the couple chooses. Having dealt with the question of fact, there remains a residual normative issue that cannot be resolved by appealing to facts. This is where the humanities come in.

Conclusion and Recommendation

Perhaps, we might never come to a consensus about the best way to address the issues raised in this paper for the simple fact that there is already a great divide based on personal interests and disinterest. Cultural and religious differences also contribute to this divide. However, we must note in the words of O. Malley that:

When science and technology open doors that should not be opened, a Pandora's Box spews forth evils that menace humanity. We invented the atom bomb and germ warfare. These inventions are now part of human history forever. Scientists have opened another perilous door: they are manufacturing human life and using this product as an object of

¹⁶Zsolt Peter Nagy, et al, "Vitrification of the Human Embryo: A More Efficient and Safer In Vitro Fertilization Treatment." *Fertility and Sterility* 113 (2): 249.

¹⁷S. P. O'Malley, "In Vitro Fertilization: Ethical Implications and Alternatives." *Life Issues*.

experimentation.¹⁷

It is therefore important that while couples are confronted with infertility issues and while the medical sciences look for ways of solving this heart wrenching problem, the above mentioned issues should be taken into consideration and presented clearly before all stake holders. Thus the issue of IVF and indeed NRTs should not only be considered from the position of facts but from the perspective of ought, by this we mean “is it ethically right or morally justifiable; what will be the overall social impact? Definitely, answers would always differ as some would as we have seen in the aforementioned arguments object to it on the grounds that NRTs are man's interference with nature in the reproductive process. Others shall see it as man's scientific victory in overcoming nature's hurdles and therefore endorse it. Indeed some liberal religionists would argue that God had given the command to “be fruitful, multiply and replenish the earth, having dominion over it”. Thus IVF and NRTs are man's way of controlling and indeed dominating nature.

*It may never be possible to have a consensus on this issue, this decision should not be left to moralists, or philosophers, - or government, or doctors. Instead the decision should be left to each individual couple, who provide the reproductive apparatus to create the baby.*¹⁸

The challenges identified highlight the need for further research in several key areas. These include developing freezing techniques that minimize embryo damage, and refining embryo selection methods. Additionally, personalized treatment protocols tailored to individual patients could potentially increase success rates and reduce risks associated with In Vitro Fertilization (IVF) and Assisted

Reproductive Technologies (ARTs) in general.

Clear and well-defined regulations regarding informed consent, embryo disposition, and surrogacy can help minimize ethical dilemmas. However, regulations alone are not enough. Encouraging open communication between doctors, patients, and potential surrogates about the risks, expectations, and ethical considerations surrounding their decisions is crucial. This transparency fosters informed decision-making and helps navigate the complexities of assisted reproduction. By providing psychological support to individuals and couples undergoing IVF and ARTs, we can help them navigate the emotional challenges associated with these procedures. Furthermore, promoting awareness about reproductive health and the factors contributing to infertility can potentially reduce the overall need for these interventions. This includes addressing social factors like delayed childbearing and environmental toxins, both of which can harm fertility.

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¹⁸ A, Banerjee, A., “An Insight into the Ethical Issues Related to In Vitro Fertilization.” *The Internet Journal of Health* 6, no. 1 (2006).

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