

The Ethical Viability of In Vitro Fertilization

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In vitro fertilization is considered from multiple ethical positions and whether or not it is limited to disease prevention or used for genetic enhancement. The first can be in line with most ethical theories provided time and resources are allowed for the technology to be provided for all. The latter seems to devalue humans and remove compassion for the disenfranchised.

In vitro fertilization (IVF) in humans was first accomplished in 1978.¹ IVF is the fertilization of a female egg by a male sperm cell outside of the uterus. The woman is first given medication that stimulates the production of multiple eggs during her next cycle. Once the eggs are ready for ovulation, they are removed via a minor surgical procedure and combined with sperm obtained from a male to form a zygote. The zygote is allowed to grow for roughly two to three days in vitro. The resulting embryo is then placed inside the female's uterus for implantation and maturation.

IVF is used worldwide to enable women who are naturally infertile to conceive; it is also used to prevent undesired genetic traits or characteristics in one's offspring. This paper addresses IVF's validity and role in the future of human reproduction and ultimately evolution from three major ethical perspectives including Deontology, Utilitarianism and Virtue Ethics as well as my own perspective based on available data and current ethical ideologies.

Advantages

IVF has been a viable procedure for three decades. Like any medical intervention IVF provides unprecedented options already and will do so even more in the near future.

One advancement with IVF is Pre-Implantation Genetic Diagnosis (PGD). PGD is possible because of the 3 to 5 day window between oocyte fertilization and embryo implantation. This gap allows PGD, which is a procedure where one cell is removed from an approximately eight cell *in vitro* embryo and tested to identify that embryo's genetic makeup to prevent specific genetic defects.² Such genetic defects include monogenic and X-chromosome linked diseases as well as other chromosomal abnormalities including cystic fibrosis, Alzheimer's and even pre-disposition to cancer.³

Technology such as IVF provides groundbreaking genetic therapy but is controversial because of its potential powers. Parents can use IVF and PGD to guarantee they will have a child free of painful, fatal, and devastating genetic disease. Potentially doctors could use PGD and other procedures with it to change the genetic code of an embryo to prevent heart failure and blindness. This is the powerful promise that IVF is providing.

Disadvantages

There is the potential, however, to go beyond merely having a child free of genetic anomalies. Genetic Enhancement is possible too. Instead of using IVF to eliminate

¹ Wang and Sauer, 2006

² *ibid.*

³ Maia, 2015

devastating diseases such as Huntington's, parents may wish to enhance mere appearance or attractiveness (e.g. eliminate genetic links for baldness or obesity). Theoretically, the technology could be available to make sure one's child is smarter or more physically capable than another.

This potentially unlimited control over reproductive abilities, and essentially the future genetics of humanity, raises ethical questions regarding who will have this ability, how will it be monitored, what is the nature and purpose of such control when it is used, and what kind of impact will it have on society.

Various Ethical Approaches

One way to evaluate the ethics of IVF is to examine it through the three most prominent ethical approaches. We will consider Deontological, Utilitarian, and Virtue ethic approaches.

Kantian Deontology

This ethical theory relies on what Kant called the *categorical imperative* which insists that one should act in such a way that one's actions should become a universal law.⁴ This idea is somewhat comparable to the Golden Rule often taught to young children, "treat others the way you would have them treat you." The categorical imperative also requires that an individual to never treat others as simply a means but also as an end in themselves.⁵ The basis of this ethical approach is rooted in respect for others over everything else. Kant believes that every person is due an inherent respect and dignity based on their existence as human beings. It is worth noting that Kant essentially applies respect to the most basic and universal human quality - existing as a human. Applications of categorical imperatives require one to act in such a way that he or she treats humanity,

whether in his or her own person or in the person of any other, never merely as a means to an end, but always at the same time as an end.

Deontology, specifically Kant's translation of his categorical imperatives into perfect and imperfect duties, seems at odds with the actions and effects of IVF. The effects of the action on the person who receives it are in full compliance with Kant's duties if said action impacts only those individuals and not others. However, because of the extension of morality beyond those directly affected by an act, a deontologist would decide against the use of IVF. Genetic therapy, altering genes to correct defects that inhibit relatively normal function, is good for the person whose parents had the financial means to prevent the disability. But if being born 'normal' is deemed an unalienable right, then humans born with what is considered abnormal are in jeopardy.

Advancements made on the backs of those with defects to create a world where they are undesirable uses people as a means to an end. IVF, even if it is limited to genetic therapy, diminishes the perceived value of those who are unable to directly benefit from the therapy.

Utilitarian Ethics

When considering Utilitarian ethics there are two major veins of thought: Act-Utilitarianism and Rule-Utilitarianism.⁶ I will only consider the former. Act-Utilitarianism (from here on, referenced only as Utilitarianism) follows the underlying principle that an individual should act in a way that will produce the greatest amount of good for the greatest amount of people. This theory differs from deontology in that it does not depend on the specific morality of an act in itself for justification but on the consequence of that

⁴ Degrazia and Mappes, 2006

⁵ *ibid.*

⁶ *ibid.*

act on society as a whole. In this way Utilitarianism can be considered circumstantial ethical reasoning.⁷ For instance, where Kant would say that lying to someone is morally wrong every time because it disrespects that individual, a utilitarian will believe that lying is justified as long as it maximizes the total happiness of everyone affected in that situation.

This mode of thinking allows the Utilitarian to ultimately take a *not now but later* stance on IVF. Based on a recent study by Cohen and Chen the average cost of each cycle of IVF in the United States is \$12,400 with the average cost of IVF resulting in a live birth falling between \$66,667 and \$114,286.⁸ While IVF is not illegal or regulated, it is certainly not a viable option for everyone at that price considering that less than one in five insurance companies cover the procedure.⁹ Such a high cost implies that only the wealthy can afford IVF furthering the chasm between the rich and the poor. There is no doubt that IVF may greatly enhance the happiness of those who can afford it but that includes only a few wealthy couples.

Another concern of utilitarian tension related to IVF is the effect it might have on illnesses still affecting those who are without the means to be born genetically healthy. For this reason, a utilitarian perspective cannot endorse an immediate implementation of genetic therapy and/or enhancement. If the privileged few are able to make themselves immune to the consequences, their funding may diminish at a greater rate than the majority of the world's need for treatment of those diseases from which they are unable to afford genetic prevention.

The history of medicine in the world has proven this to be a valid concern for the

utilitarian that it may happen again. In the United States, Tuberculosis, a bacterial infection, poses no threat to one's life or happiness because antibiotics have been developed to treat it. So, for the most part, research to continue to fight Tuberculosis has stopped despite the fact that it continues to kill millions of people every year worldwide because that is mostly in developing countries where the money and power is limited. Thus, any medical intervention including IVF only has the ability to maximize happiness for all of society once it is available to all. Until then the resources would have a greater utility elsewhere.

Virtue Ethics

Virtue Ethics is in many ways a system of moral preparedness. It instills virtues or traits of character that ready one to act in the most moral way in any given circumstance. Within this system, the *why* always takes precedence over the *what*.¹⁰ Following that line of logic, the disparity between the rich and poor is not a matter of means but rather of motive. For example, current cancer treatments are costly and available to those who can afford them. Why do people of means give millions of dollars to cancer research centers that benefit the general population when they could hire private researchers and physicians? Virtue Ethics would attribute this generosity to empathy. Consequently, virtue-based ideology focuses on nurturing a desire to do great good. Virtue Ethics' seeming indifference to IVF and genetic engineering may have something to do with its paramount emphasis on a quality believed to be developed, not born with – virtue.¹¹

One particular virtue that is at the center of new dilemmas is what Aristotle referred to as *phronesis* – the virtue of

⁷ *ibid.*

⁸ Cohen and Chen, 2010

⁹ *op. cit.* ref. 4

¹⁰ Bright, 2013

¹¹ *op. cit.* ref. 4

understanding context and circumstance. The underlying notion of Virtue Ethics is that one must prepare oneself to decide what is right when the situation calls for it as opposed to learning what is right and moral beforehand and hoping those rules are eternally applicable.

IVF, like many areas of medical science, has moved far beyond its origins. It provides the opportunity to have a child and the ability to heal or enhance that new being before it is born. Genetic therapy and genetic enhancement, though rooted in the same technology, come with different sets of desires and outcomes. Altering genetic makeup to ease suffering and prevent disease may be a wonderful achievement in history if it is given the time and resources to reach the masses and provide positive, sustainable change for all.

When considering the ethical implications of genetic modification, one would do well to consider the purpose of ethics in general. Ethics provides structure for those who wish to deal justly with their neighbor, to generate welfare beyond themselves. If genetic therapy brings unity and equality to humankind, it may be one of the most ethical pursuits of all time. Genetic enhancement, on the other hand, is a different thing entirely, finding its roots deep in self-aggrandizement far removed from enhancing community welfare.

As technology evolves so must definitions of basic human rights. With the ability to do more comes the debate over how much more we have the right to do, what should we do, and what we will do. Human actions, interactions, and achievements now more than ever have global consequences. Progress of every kind moves faster and the discussion of the right to try has morphed into the right to succeed.

But at what point does the right to succeed grow so monstrous that one dictates the very fabric of another's being on one's own terms? If one person's ideal world includes all of Germany being blonde haired and blue eyed, is it their right to bring about that world? If it is one's right to succeed at running a large plantation, can they breed only the strong to work on it? Do scientific advancements warrant the dictation of every gene in a human being? A child is a separate organism from its parents. It is a human, a person, a son or daughter. When genetics are something to be engineered and perfected, new life is no longer created, only an iteration of an old life. Parents will no longer raise a child, but their ideal version of a child. If IVF is allowed to be used for genetic enhancement, there will be a society where diversity is devalued and only artificial perfection is desired.

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