

Ethics of stem cell research



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Stem cell research represents a new opportunity for ethical thought and debate. Stem cells are primitive cells which have yet to specialize. Through proper coaxing, stem cells can be made to differentiate into usable body cells and eventually used for medical treatment. Though stem cell technology has been in development since the 1960's, it was not until August of 2001, when then-president George W. Bush announced that federal funds could be allotted to embryonic stem cell research, that the issue became a hot political topic.

The matter is argued with vehement fervor, but the quarrels are wrought with emotivism and partisanship more than actual valid and cogent arguments. In fact, stem cell research has a very broad range of ethical implications. The normative ethical theories, the abortion debate, and even business ethics all have a place in the discussion due to the different new moral challenges which are prompted by this blossoming technology. The first task of dissecting this debate is to differentiate between the two types of stem cell research.

The first is adult (also called somatic or germ-line) stem cell research and is generally accepted and endorsed by all groups. Taken from human bone marrow or other deep tissues, this type of research has already been used for years in the treatment of many diseases, most notably Leukemia. Even the Catholic Church supports adult stem cell research, going so far as to partner with certain groups to further adult stem cell research funding. The disagreement lies in embryonic stem cell research. In embryonic stem cell research, a human embryo is created and then destroyed in order to obtain the intended stem cells.

The circumstances which make the embryonic cells more desirable are two-fold. First, technology for embryonic stem cell research is currently farther along than somatic cell research; and therefore, it is cheaper. The more important distinction is in the quality of the cells collected. Adult stem cells are multipotent, meaning they can only differentiate into a select few types of cells, whereas embryonic stem cells are pluripotent, giving them the ability to divide into many different types of cells in the body.

Extremely early research has indicated that it may be possible to “reprogram” adult stem cells to be pluripotent to the same extent that embryonic stem cells are. These induced pluripotent cells may eventually make the debate moot, but the knowledge is so young and the process so expensive that many scientists do not currently see induced stem cell research as a viable economic option. With that possibly on the scientific horizon, the present moral question lies with whether it is ever permissible to destroy a human embryo in order to harvest the stem cells for scientific development and the application of medical treatments.

The normative ethical theories-virtue ethics, deontology, and utilitarianism-each purport to be objective approaches to ethical thought. As usual, deontology and utilitarianism will disagree on stem cell research. If we are to follow utilitarian John Mill and his support of the greatest happiness principle, embryonic stem cell research is not only morally permissible but mandated, regardless of the ethical standing of the embryo. This is due to the fact that more people would benefit from embryonic stem cell research than a destroyed embryo would suffer.

Recent medical applications of stem cell research indicate that lupus now may be treatable by pluripotent stem cells, and there is evidence that multiple sclerosis, Parkinson's disease, and Alzheimer's disease may all someday be treatable by embryonic stem cells. With this information, it seems that a utilitarian would almost have to support embryonic stem cell investigation. Deontology as presented by Immanuel Kant proceeds from the point of trying to achieve the categorical imperative. By this objective perspective we have a duty not to kill a person no matter the consequences of the action.

Does this mean that destroying an embryo for research is a moral evil? The Catholic Church, which usually follows a deontological route, claims embryonic stem cell research is unethical and defends its position in the Catechism of the Catholic Church saying, " Since it must be treated from conception as a person, the embryo must be defended in its integrity, cared for, and healed, as far as possible, like any other human being. "(Catechism 2274) In addition Pope John Paul II claimed that " The killing of innocent human creatures, even if carried out to help others, constitutes an absolutely unacceptable act. (Evangelium Vitae 63) Here the Catholic Church contradicts itself with its position on abortion. While the pope opposes abortion for seemingly the same reasons he opposes embryonic research, he states that the destruction of an embryo or fetus in order to save the life of a mother does not count as abortion because the intent is not to kill the human but to save the mother. On the other hand, he asserts that embryonic research is wrong while in those cases the intent is not to kill the embryo but

rather to develop life-saving medical techniques and often to treat otherwise terminal diseases.

It follows that the Church, if it were to follow its principle of intent as a moral standard, would have to concede embryonic stem cell research to be permissible. Many of the arguments for or against stem cell research depend on the perceived “personhood” status of the embryo. The requirements for ethical acknowledgement may vary to a degree between people, but most would agree that all human persons have ethical standing and thus killing that person would be wrong.

Most pro-lifers, like John Paul II in *Evangelium Vitae*, argue that if an organism has the full human genome then it has personhood and is therefore deserving of moral consideration. This would sufficiently undermine the practice of stem cell research if we are to believe that the only criterion for personhood is a genetic code which labels you as homo sapien. Criticisms make this argument either fallacious or too narrow to be true. Take for example a person who has lost their arm in an accident. The arm contains the human genome as do the other parts of the human body.

Are we now to believe that this severed arm now has the necessary qualifications for personhood and therefore is deserving of ethical treatment as such? It does not seem so, since the arm does not have any kind of rationality or autonomy. It appears that in order to establish a moral community, it may be necessary to look past the mere gene sequences to the sorts of qualities required for ethical acknowledgement. To merely say

that birth is the beginning point of personhood also lacks the qualities of a cogent argument.

A child an hour before birth and a newborn are not inherently different ethical beings. Instead, it seems that if we are to argue that the life of a newborn is ethically significant then the life of a fully developed neonate would presumably be significant as well, since the only difference is the way in which the human receives sustenance. The Catholic Church argues from this premise that there is no point in the development of the human that the fetus or embryo can be considered more “ person” than the preceding point.

Therefore, the Church concludes in its catechism that the embryo is person by virtue of the fact that at no point immediately before or after can it be thought to have gained any deeper personhood. The argument is aided by the surprising fact that an embryo will develop into a fetus-which has all organs, limbs, and brain activity-in less than two months. If one is to grant this fetus moral standing based upon it having most basic human characteristics, it would be difficult to deny the embryo moral standing just weeks earlier, when those characteristics are still forming.

Unfortunately for supporters of this argument, Mary Anne Warren points out that this is a slippery slope argument and that just because a neonate and newborn can both be granted personhood, doesn’t mean that embryos can also be considered part of the ethical community. In fact, embryonic stem cell research only destroys embryos of sixty-four or less cells. This is compared to the billions of cells which make up a newborn. Warren counters that “ the moral community consists of all and only people, rather than all

and only human beings. (26) She continues to define people as conscious, reasoning, self-motivated, communicating and self-aware. This is often the defense of pro-choice advocates, but this defense also encounters struggles when examined closely. Most concerning to the proponents of Warren's theories is the moral standing of newborns and infants. These humans may lack any one or even all of Warren's conditions for personhood, yet it seems outlandish to believe that killing these homo sapiens is morally permissible.

In fact, according to modern psychology developed by Jean Piaget, self-awareness and reasoning do not start to fully develop until years into life; and the final stage of logical reasoning does not occur until puberty. While this troubling criticism may appear to advocate killing children under Warren's philosophy, it comes across more as another slippery-slope argument. Warren more so is arguing for any kind of reasoning ability than fully adult rationality and makes note that even if we are to grant embryos personhood, that personhood does not seem to be as ethically significant as a fully adult, rational conception of personhood.

Therefore, it would be an exaggeration to call embryonic stem cell research murder. Nonetheless, her arguments still seem feeble if considering newborns and even the mentally handicapped, who may lack any one of her standards of personhood. While the question of "personhood" is valuable in many arguments of the permissibility of stem cell research, there are those whose arguments in the abortion debate do not necessarily consider "personhood" all that pertinent to the discussion.

One such argument comes to us from Baylor professor Alexander Pruss who attempts to argue for his pro-life stance while avoiding the personhood argument. According to Pruss, the reason for granting the embryo ethical standing is because it has the capability to become a human just like himself. The ability to become a rational being is, by Pruss's reasoning, enough to infer ethical standing. If the human chain of life runs from embryo to fetus to neonate to newborn to infant to child to adult, then "Bob" is "Bob" when he is an adult, newborn, and even an embryo.

To kill an embryo then would be to kill "Bob" which seems morally troubling. Following the lines of deontology, Pruss has an obligation by the categorical imperative to not destroy human embryos which can have a human future, and thus embryonic stem cell research is an ethical evil. Virtue theory can also be applied to the argument. Aristotelians would note the serious matter of destroying a being which can possibly have a human life, but that does not close the door on embryonic research.

The question lies in whether the act is character building and whether or not it adheres to the Golden Mean. The research would certainly have to set forth definite goals and a conscious effort must be made not to use more embryos than necessary so as to not commit the vices of callousness and light-mindedness. If the intended goals and procedures are worthwhile to the point that it outweighs the graveness of destroying the embryo, virtue ethics then says that embryonic stem cell research is morally permissible.

The problem with defending virtue ethics is that many of the virtues have conflicting requirements and subjective definitions which can drive

Aristotelian thinkers to what many would consider relativism. For example, it seems that character building in society would require the further development of science for improving everyone's ability to live a "good life." At the same time, Aristotle would certainly be against robbing a human of its autonomy as that would encroach upon his or her ability to build character.

If we are to take the embryo to be a human, then which of these virtues is to be considered the most important, and should we then exercise this virtue while committing a vice at the same time? Aristotle says that we should decide based upon the "mean relative to us, a mean which is defined by a rational principle." (Aristotle bk 2, 38-39). The virtue ethicist would argue that reason is objective; and therefore, all people would come up with somewhat the same decision in regard to defining and weighing virtues.

However, this is not always the case; and since everyone is weighing virtues as they see fit, the argument seems too relativistic; and therefore, it may be impossible to objectively decide upon the permissibility of embryonic stem cell research. Even virtue ethicist Rosalind Hursthouse admits, "Defending virtue theory against all possible, or even likely, criticisms of it would be a lifelong task." (246) The normative theory which seems to have the upper hand, if only by default, is the deontological interpretation presented by Alexander Pruss.

The Catholic Church's argument is the easiest to rule out, since it is evident that there are many sources of human genome which do not deserve ethical standing. Mary Anne Warren's definition for personhood seems too narrow

because it appears to deny ethical standing to infants and the mentally handicapped. Utilitarianism seems to be the most reasonable and advocated of the pro-embryonic research arguments, but the relativistic nature of determining the “greatest happiness” of the act makes it impossible to definitively determine that the resulting benefits from a destroyed embryo outweighs the destruction of the embryo itself.

This is especially true because there is no consensus over whether an embryo contains the “personhood” essential to be included in the ethical community. Virtue ethics is similarly flawed as it seems unlikely that everyone will infer the same definitions for Aristotle’s virtues and even more unlikely that everyone will agree which virtues take prominence. Pruss’s argument is heavily dependent upon his conception of why murder is morally wrong. He asserts that murder is wrong because it deprives the individual and others of the experiences and encounters which they otherwise would have had.

Applied to human embryos, Pruss argues that because the embryos are denied this same future, embryonic stem cell research is immoral. The problems with Pruss’s argument are twofold. First, one must accept his moral reasoning regarding murder. If that is to be accepted, then we would also have to agree that an embryo, which was specifically created for the purpose of destruction, can conceivably have a human life to be encroached upon. Biologically, this seems to be the case so Pruss’s argument emerges as the most plausible.

The embryonic stem cell debate does not just end with a determination of the ethics of the science. The issue of federal funding and legality of research still is at issue, and business ethics has a role as well. If an influential leader of a research company determines embryonic stem cell research to be immoral, does he have a moral obligation to halt the research or is his priority merely to the stockholders who only desire to see a profit? Research into induced pluripotent stem cells presents a viable alternative, but the cost-effectiveness of developing these technologies is dubious.

The Ayn Rand egoist or libertarian Milton Friedman would say that the duty of the business man in this situation would be to maximize profit, thus utilizing embryonic stem cell research because it is the smartest business move. Opposing Friedman is libertarian John Mackey who avows a business philosophy which has some degree of a social responsibility. Social responsibility would presumably include moral business practice, and therefore Mackey's business would be obligated to opt for the more expensive induced pluripotent should he and his business partners conclude that embryonic stem cell research is unethical.

Stem cell research has the potential to be new frontier of medicine. Pruss's argument is the most cogent argument for settling the embryonic stem cell debate. Because embryos are denied the opportunity to fulfill the humanity of which they are capable, it is morally wrong to destroy embryos for scientific research. Instead, the moral business should be focus on the further discoveries in the realm of induced pluripotent stem cells and supplementary uses for adult stem cells.