

Stem cell research research paper sample

[Health & Medicine](#), [Body](#)



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Abstract:

Medicine and science had always maintained a steady flow of debates by the beginning of the 20th century with the ongoing increase of diseases, and virus mutations keeping up with the modern technology. Medicines had to be updated regularly to ensure that mutations would not influence a person's sickness and overall health. It is common to see various medical procedures claiming that they can cure a disease or complication without the need to pay medicines regularly. One of these offerings is known as stem cell treatment, which uses stem cells to repair damage tissues or cure diseases. While the preliminary studies over this new treatment had presented positive results, several experts and religious groups have questioned the legality of stem cell usage as it violates the sanctity of human and animal life. There is also the argument that there are better mediums to use in terms of curing disease that does not deal with the ethics of life. However, the promising results stem cell research can produce in curing the incurable diseases and foster regeneration of tissues and cells for patients showcases a growing possibility of eliminating the problems to today's incurable diseases.

Stem Cell Research

Medicine has maintained a constant growth throughout the years as more mutations of current diseases and illnesses become immune to the present treatments in the market. Scientists and experts have constantly developed new dosages of medicines, and even new types of treatment that presents higher chances of recovery now currently presented in the market. While some of these developments have met reluctance in the part of the public due to its price and questionable capacity to heal, some have produced controversy despite early claims of its capacity to ensure optimal development. One of these controversial medical treatments is the usage of stem cells to foster the development of new cells in the recipient body.

Skeptics, especially the Church, argue that the usage of stem cell is similar to cloning and disregards the sanctity of the human body and life. Experts, on the other hand, proved that the effectiveness of stem cell research can enable patients to recover from life-threatening and debilitating diseases that are deemed incurable at present context. Despite the ongoing feud between debates regarding stem cell research, the results of studies pertaining to the effectiveness of stem cell research and treatment can help reduce the risks of experimental medication and open possibilities to discover effective treatment for incurable diseases and complications.

Stem cells are cells that comprise the inner cell mass of the blastocyst, which is upon four to six days after the egg's fertilization. Stem cells have the capacity to develop to any tissue type that create bones, liver, nerves and even blood. Eventually, these cells would grow and become specialized, creating parts of the body. Normally, stem cells do not retain their capability

to divide once they develop into organs. However, some of them retain their capacity to divide, enabling them to regenerate new tissues and repair the damage done to the part of the body. Scientists call these cells adult stem cells as they retained their capacity to divide and regenerate. It is also known as the somatic stem cells which are active throughout a person's growth to foster recovery from damage. Another stem cell is known as the embryonic stem cells, which is capable of developing into any type of cell in the body. Recently, scientists have debated the capacity of embryonic stem cells in helping out patients with debilitating injuries or incurable diseases, allowing regeneration to take place. Nowadays, the main focus of stem cell research is the capability to treat the nervous system. In normal instances, once nerve cells in the brain or nerves in the spinal cord are damaged, there is a slow chance of it to be restored. With the discovery of the stem cell's potential to restore these damaged systems, scientists hope to restore these broken connections despite the difference in body chemical structure and the stem cell to be implanted. For the process to be a success, researchers would take cells from a week old embryo and mix it with growth factors to foster replication. In 2000, the National Institute of Neurological Disorders and Stroke stated that upon their trials, rat specimens injected with stem cells first showcased difficulty in movement. However, the results changed after eighty days when the rats showed 75% improvement in movement . Nonetheless, the debates to the right of scientists to utilize embryonic stem cells immediately began as many saw the implications it could bring ethically, medically and morally.

There had been several comments and arguments when it came to stem cell treatment and use. In a deontological or moral perspective, opponents argue that stem cell research, specifically embryonic stem cell research, would deem murder for the emerging human lives that would become the sources of these stem cells. In the United States, the nation supports and protects even the smallest blastocyst of the embryo. Many have argued that the research would remove the ideals on how human life can be treated. Others argue that human suffering cannot easily be alleviated, noting that it devalues the feelings of compassion for anyone who is considered frail or vulnerable. Many also add that once life begins from conception in the womb; a soul is already instilled in the embryo. Using stem cells from embryos would result into murder . In the Teleological perspective, arguments see that stem cell research end results may be something that could lead into a world that defies the standard norms, such as social engineering, designer toddlers, or the idea of perfect people. Research in this level could be also moral harmful to the people, seeing it as a means to reshuffle social and moral order .

The next intriguing argument is the idea of the Slippery-Slope supporters as they believe that stem cell research does not have a definite ending. Some have even cited that the current stem cell treatments would be similar to the World War II eugenic experiments to sterilize the ill and frail. Others also fear that stem cell research would be similar to cloning in the extent it would create a new type or class of humans. The proponents to this argument also present the ethical implications of the stem cell tests, especially if it is to be done first in animals. Many question if human stem cells should be used in

animals. In one statement done by Dr. Ruth Faden of the Bioethics Institute of Johns Hopkins University, she stated that using too much human stem cells in apes would alter the cognitive capability of the animal, making it think more like a human. This sentiment alone presents the ethical dilemma that may cause concerns over the social order.

Other arguments also come from the feminist and environmentalists. In the case of the feminists, since stem cell research would always require the usage of egg cells to create new embryos, sustaining the need for fresh stem cells. Feminists believe that this would make women vulnerable to science and be utilized as embryo farms for scientists can always have a fresh sustenance of stem cells. The feminist stance also argued that the research money is best given to the efforts in preventing diseases or creating new medical treatments. In the environmental sense, opponents fear that experimentation with the human gene can create a disturbance in nature that would eventually make humans extinct, similar to the case of the Florida panther. Finally, opponents to the stem cell research argue that scientists performing the study could not be trusted. There might be instances that these scientists would try and play God, causing more complications over the application of stem cell research. One researcher from the University of Michigan, Raymond DeVries, cited that misconduct had happened in several instances when scientists are prone to scientific misbehavior .

However, supporters to the stem cell research and treatment presented several counterarguments when it comes to utilizing this breakthrough to medical use. Moral supporters of the stem cell research noted that the

utilization of stem cell research is crucial to end the suffering of human kind due to diseases and debilitations. As of today, there are at least 6, 000 genetic diseases, which had taken the chance of many children and adults in showing their potential. Supporters see stem cell research as a means to treat these diseases and enable patients to recover from suffering. Embryos is also seen by supporters as beings that are still not classified as full human beings. The claims that embryos are still just clumps of cells are usually used by supporters in the argument pertaining to stem cell research. While this embryo is still not human, supporters believe that it is still a potential person that deserves respect. A few often claim that these embryos would have to be sacrificed for the sake of eliminating diseases and illnesses.

Another argument raised by supporters is the fact that stem cell research present value, accessibility, and abundance. Supporters point out that embryonic stem cells are easy to obtain considering it could be done through harvesting of both egg and sperm cells, obtaining leftover embryos from fertility clinics (which are labeled for destruction), and the use of therapeutic cloning of the embryo through nuclear transfer. All of these three methods are currently accepted by society today. In addition to its accessibility, supporters also note that the sources of embryonic stem cells are contained in various supply points around the globe. In the estimate done, there are at least 400, 000 frozen embryos in various fertility clinics in the United States which can be used for stem cell research. Adult stem cells are extremely hard to produce in consideration of its structure and component. The embryonic stem cell is also considered more than adult stem cells because of their plasticity, making it easy to customize. This would enable scientists

to coax the cell to develop the particular tissue required to treat the infection or the disease .

Supporters also note that nowadays, governments are now starting to become active in studying for the benefits of stem cell research. In the United States, for example, proposed in 1990 to support any stem cell research with funding from the government. Since George Bush vetoed against it, Bill Clinton allowed public funding for stem cell research. While the public then disapproved stem cell research, the government reaffirmed support in 2000, ordering scientists to use aborted human fetuses to extract embryonic stem cells. While George W. Bush opposed the attempts to support stem cell research, state leaders and senators in the US vouched for the stem cell research groups. In one notion, Senator Orrin Hatch (R-Utah) stated that the technology itself would save lives. Former California governor Arnold Schwarzenegger even supported the stem cell research in 2006 by approving state funding for the field . Other countries such as the European Nations, Israel and China had also opened up policies to support stem cell research .

However, the greatest benefit supporters claim that could be achieved in stem cell research is the capacity of stem cells to be used as treatment to the incurable and debilitating diseases and injuries present in society today. Aside from its capacity to help scientists to understand basic cell biology and development of diseases in the body, scientists believe that if one can create a means to replicate stem cells to an unlimited supply, stem cells could be used as a therapeutic medicine to patients. Cell therapy would tremendously benefit from stem cell research. Stem cells could be used to produce the lost

stem cells infected by the disease, and could be implanted to cure or alleviate the pain of the disease to the body. In addition to benefiting the cell therapy field, stem cell research can also help in creating whole organs so that they can be used for transplant, removing the risks from organ donations. Some even noted that stem cell-research can increase a person's lifespan . There have been patients who have first tried the procedures of stem cell treatment, and most of them have agreed that it has indeed helped them to recover from their diseases. In the interview done by the Weekly Staff, Marty Kelley noted that her son, Kenny, who was diagnosed with autism, had undergone stem cell injections and is now recovering from the ordeal. Marty also professed that they did a little research regarding stem cell treatment and saw the story about a fellow autism patient named Matthew Faiella. The story detailed how Faiella took stem-cell treatment in Panama for autism and had gradually regained his communication skills. Marty also said for the interview “ We were willing to do it as long as it is safe, and I've researched this: Stem cells are very natural.” Since the time of the interview, Kenny had undergone four stem cell treatments and had progressed to speaking clearly and reading . Another patient had also attested to the capacity of stem cell treatment to work, namely Spanish patient Claudia Castillo. Castillo had been diagnosed with tuberculosis in 2003 and had been weakening since she was given conventional treatment. However, in January 2008, she was offered to have an operation to implant stem cells to replace her windpipe. She stated in her interview for the Telegraph,

“ The moment I woke after the procedure (stem cell implanting), I looked up

at the doctor, and he smiled and told me it had been successful- it was the best moment ever. I knew then that I had a life and a future .”

It may be true that there are some questionable facts and procedures when it comes to the use of stem cells for medical purposes, however, the benefits it presents to the public gives new light with the various diseases now springing in society. On the one hand, it may be true that it is still questionable as to the present time as to how scientists would continue their studies while using stem cells from embryos or even the usual adult stem cells. There is also the fact that there is uncertainty over the conclusion of the stem cell research and what it entails. On the other hand, it is visible that stem cell research can indeed present a breakthrough for the diseases still considered incurable. It can also be the medium to cure physical and mental disabilities some members of the public acquire from birth. From deadly cancer to the physical and mental child complications, stem cell research could become the key in identifying how stem cells could be utilized to redevelop these damaged and infected parts of the body back to normal. Stem cells also present the benefit of reducing cases of mortality through the use of conventional treatment. While it is still being studied, the future of stem cell research remains optimistic given the results it has presented to various patients who have tried the result of stem cell research.

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