Stem Cell Research

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Introduction

Stem cell research has been a debate for many years, where it has brought more confusion within the government and non-governmental organizations. The paper is to research and bring out the trouble experienced, and the article focused on how the research is done and the types and the raw materials that are used in the study and dig deep into the facts about the research from different sources presenting data about the issue. The paper has brought out the political and social controversies witnessed in the study and those who are affected by the research. Some of the moral concerns of those who oppose and support the analysis presented in the paper.

**Facts about stem cell research**

The stem cell research puts more effort into the embryonic and adult stem cells, and the study has two unique characteristics that differentiate it from any other cells found in human beings. They are unspecialized cells with the ability to replicate themselves through cell division for an extended period, the cells manipulated in certain conditions for them to mature with specials responsibilities for the production of insulin cells within the pancreas.

There are four different types of stem cells. We have the totipotent stem cells that are developed to facilitate the development of cells in the embryo and fetus example is the zygote. Multipotent stem cells are responsible for the development of other cells in the specific tissues and organs, for example, the adult stem cell (Allum et al., 2017). Pluripotent stem cells give rise to any cell in the body good case is the embryonic cells with the ability to turn into any cell. Then lastly, we have the unipotent stem cells; they can renew themselves and give rise to more cells example is sperm cells.

 The stem cell research has got positive and negative benefits to human beings, and the process through which they are obtained has been a debate for many years. Embryonic stem cells are derived from 4-5 days old embryos, which are a result of embryos used for infertility treatments, the leftover embryos, or the one used to harvest the stem cells. The adult stem cells are designed to specific tissues and organs within the body and can turn into different cell types within the muscle or the organ. Some of the uses of the stem cells include to come up with medicines that are cell-based and used for the treatment of diseases, and researchers are doing much research to understand how undifferentiated cells can be differentiated and come up with ways to treat the illnesses that arise from such issues for example cancer. Stem cells being able to different specific cells used in the treatment of diseases such as Parkinson’s Alzheimer’s diseases, diabetes in young children, spinal cord injuries, heart attacks, and stroke.

The cloning of human embryos is inhuman and should encourage, and there is much debate about it. Cloning is done to produce the embryonic stem cells used in the research. The use of fertilized eggs from the clinics to obtain the embryonic stem cells destroys the embryos resulting in death and more debate about when life begins. Life begins immediately after conception. 65% of the Americans supported the medical research of using the embryonic stem cell, 79.4% of those who supported the study were from the federal government (Kimmelman et al., 2016). The funding from the national institute for the support of the stem cell has been decreasing in recent years. In 2007 the amount spent on stem research in the US was $ 641 million, which $147 was for embryonic stem cell. The funding for the embryonic stem cells in very less, the funding organizations have been contributing less towards the research. NIH contributed only 18.2% of the funding to the support of the embryonic stem cell system and 61.2% for non-embryonic stem cell research in 2007. The government contributed 11.4% to the financing of stem cell research.

**Those affected by stem cell and the political and social controversies**

The stem cell offers an opportunity for the basic understanding of differentiation mechanisms and new treatment methods of diseases affecting human beings like spinal cord injuries, but still, there are many political controversies with most people against how the cells obtained from human beings. There is much dilemma that is a rising we do not understand how the consent from the donors is achieved, are the ethical issues considered in the research, medical trials are done to the donors before the extractions of the materials. More lives terminated while obtaining the cells for the study, there are destructions of the embryos, and this has resulted in more debates when life begins. The researchers do not provide the needed clarification on how they are obtaining the embryos from their clients for the experiment.

The stem cell research is against religious believes and moral and religion does not support the research. According to morals and religious believes, life begins immediately after conception making embryos to be persons with experience and should be viewed as human beings and protected by the constitution. Some also consider that embryo is just a cell and no restrictions placed when used for research with the belief that life starts later after fertilization (Mondo and Close, 2019). Those who oppose it associate it with abortion because both involve the termination of life. Many couples consider giving the leftover embryos to the medical clinics after the treatment of infertility in case they do not feel like giving it to another pair because of this reason many pro-life leaders are now supporting stem cell research.

 In the US there has been much controversy in regards to the study where some organization sees the research to have importance and fund it, while some organization see it as unethical and withdraws its funding support to the study. The stem cell research affects almost everybody in the country, cases of destroying embryos to obtain the raw materials for the research is not ethical, any research should not interfere with human life and that if in case it does then the study should not be carried out, researchers who are involved in the study should consider ethical in their research and value human lives at any stage.

**Morals for not supporting stem cell research**

Human life at any stage of development is instrumental and nobody should interfere with and should not put at risk. The coalition of Americans for research ethics and the present federal law by the congress are against stem cell research; they argue that human embryos subjected to risk of death by destroying, discarding, and even injuries done to the human embryos should not be happening. Stem cell research is knowingly after the destruction of human lives through the elimination of live embryos from human beings to obtain the cell for the study. The federal fund cannot be used to destroy human lives, according to President Clinton’s advisory on the bioethics that calls the act as a mistaken notion, and it is difficult to understand why the research depends only on human life destruction for the study to take place (Nguyen, 2016). They argue that the federal funds cannot be used to destroy human lives through obtaining live embryos from human beings, and even though the private sectors fund the research but it is not constitutional, and it is not human-friendly.

The research is unethical, to destroy human life just for research violates the simple tenet of the healing art, which states that fist does not harm. It is ethically wrong to terminate human lives for the benefit of few other human beings, viewing some human lives as less critical and see them as pragmatic aims harts the individual involved and violates the medical ethics research. If, in any case, such a study funded by the government, there will be the beginning of the deliberate destruction of human life to obtain raw materials for the research. The research is not limited to the excess of the embryos, and they not enough to carry out the research and claim for more disturbing human cloning to come up with the nuclei for the analysis, making them destroy more lives for the genetic match of the cells studied.

There is no clear evidence that the use of excess embryo in the research will alter the investigation, but it will result in fewer problems to human lives and can still use other alternatives apart from the embryonic cells which destroy human beings. Options like the use of adult stem calla and the post-natal stem cells can work correctly. Adult stem cells have worked in various occasions including in the treatment of diabetes in animals like mice and in the treatment of heart failures and strokes in animals, adult stem cells used in human beings for the treatment of damaged heart, and treatment of children who are suffering from cartilage defects, treatment of the blind patients. Adult stem cells are very much crucial in the treatment of lupus, cancer, immunodeficiency, rheumatoid, and multiple sclerosis.

Embryonic stem cell research has never had a successful procedure in human beings and has never helped any patient to recovery but still used, and more people are still losing their lives as they obtain the raw materials for the research. Even in animals still, embryonic stem cell does not work. Researchers claim that early stem cell research is much difficult to handle and that it is controlling it is not easy enhance (Ravandi et al., 2015). There are many possibilities for tumors. An adult stem cell is in use compared to the embryonic stem cells, and researchers are recommending for its use and that the government should only fund the adult stem cell research, which does not cause any harm to human beings, and it is of much importance to patients.

**Morals for supporting stem cell research**

In 2008 Michigan residents voted to overturn the 1978 law that prohibited stem cell research when the embryos discarded. The law enabled researchers to obtain the embryos using the appropriate procedures used in the laboratories worldwide, and researchers could now use the stem cell in their research and permits provided by the federal law under the following restrictions: stem cell created for infertility treatment, discarded only when not suitable for clinical use or not needed for use and when donated by people seeking fertility treatment. But still, embryos obtained are obtained from human beings but in inappropriate ways. Michigan is one of the three states that push for the support of stem cells in the country. The law does not allow the selling and buying of the stem cell and prohibits the removal of stem cells before the 14 days of the cell division of the stem cells obtained through the written and informed consent of the donor.

Some of the moral concerns for supporting stem cell research in the state is that it may lead to new and appropriate techniques to handle and treat various diseases that affect human beings. Stem cell research result has brought more effective ways on how to handle serious illnesses that people are suffering from, some of the diseases include spinal cord injuries, heart failures in human beings, juvenile diabetes and the Parkinson disease. Transplant of the bone marrow has been done in the past years, and it has been successful when used in the infusion of the adult stem cells. A combination of embryonic and adult stem cells has resulted in a significant improvement in the treatment of Parkinson’s disease and the treatment of diabetes in young children (Rosemann and Faulkner, 2016). The stem cell research has promoted new knowledge on how to handle and broad understanding of the causes of cancer using simple cell mechanisms. Researchers believed that to make rapid progress in dealing with the purposes of diseases, they must use all the weapons available. While researcher uses the stem cell research to improve health of human beings they keep on asking themselves the question.

How long will the stem cell research yield the needed results against the diseases?

The stem cell research has a time limit of between 10, 20, and 30 years to show the results, bone marrow transplant was done for fourteen years without any success, where the first success came after fourteen years of trial among different patients. The bone marrow transplant treated as the most successful treatment method from stem cell research. In the process of the research treatments new techniques arise, and more treatment options realized for example through the use of stem cell research there has been development in the blood transfusion, cardiac diseases, insulin therapy for diabetes, kidney treatments, antibiotics and organ transplant and many other treatment options that we do not value. The stem cell research allows the scientist to understand how the inherited diseases occur through the extract of human cells for the study; the cells extracted contain genetic particles that show how the disorders caused in the patients.

The moral concern on the parties supporting stem cell research is that it allows the researchers to discover the most safer and effective drugs for the treatment of various diseases in human beings’ life cycles. It is through screen drug of patients with different conditions (Kimmelman et al., 2016). The embryonic that is one of the cells used in stem cell research can develop into different cells within the body of human beings making stem cell research one of the most appropriate ways to treat various diseases. They can form unlimited quantities of any cell type in the human body (Ravandi et al., 2015). The embryos used in stem cell research are about 4-5 days old, and created through a vitro realization, which is an unnatural way for fertilization to take place; at this stage, the embryo has only 100 cells and lucks nervous heart and kidney.

The embryos that are not used during the study can still be donated to a family couple seeking fertility treatments also referred to embryo adoption, less than 200 children have been born through embryo adoption since the program was started in 1997 (Allum et al., 2017). It is the responsibility of the parents to decide to donate their unused embryo or to decide to discard them or give them to the medical research centers, and it has resulted in less conflict since parents decide on what to do with their unused embryos. Scientist uses reproductive cloning to treat fertility diseases in human beings, cloning has not been successful in human beings, and more suggestions are coming that it should be banned in the US since the offspring that are as a result of cloning are abnormal and unhealthy.

Most of the US citizens from different backgrounds support stem cell research, and it was from a survey conducted in 2007 from infertility patients. 60% of the infertility patients were willing to donate their embryo for stem cell research, and 28% were willing to give their unused embryo for others who were seeking infertility treatment in the US.

Conclusions

With the introduction of stem cell research, the scientist has come up with different ways to treat various diseases that are affecting human beings like the spinal cord injuries, but the research sounds unethical because it depends on termination of life to obtain the embryos as the raw material to use in the study. Any study that involves termination of life should not be conducted because it is unethical. Life begins at conception and should not be at risk just because for the benefit of the few individuals, the researcher should find other alternative raw material and should not depend on human embryos to conduct the research

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