

# Philosophy of stem cell research: An ethical enquiry into the history of 20 years of stem cell research

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**Abstract:** This year of 2018, the world is celebrating the twentieth year of marvelous success of stem cell discovery. The history of stem cell research was not as easy as it seems to be but had to undergo a long challenge both in experiments and from external world because of its direct involvement with Life experiments. It had undergone strict ethical scrutiny and many moral dilemmas in order to get into the present status. Now the challenge has increased since it is going for real clinical trials in the coming years. This article intends to find out philosophical history of stem cell research over a period of these twenty years.

**Keywords:** embryonic stem cells, pluripotentiality, induced pluripotent cell-iPS Cells, personhood, ethics.

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## 1. INTRODUCTION

It was in 1998 the scientist for the first time derived human embryonic stem cells. The most important success of the scientist world after about twenty years of expectations, controversies and dilemmas, stem cell research is moving towards its revolutionary clinical trials where the entire world is witnessing with a lot of curiosity and expectations. It was in the year 1981; researches derived the first stem cell from mouse embryo. They came to know about the potentiality of stem cell to form any of the future body cells of the mouse. Then the real challenge was to derive it from the primates. Then it took about fourteen years of regress experiments in order to achieve it in monkeys the successful person under these experiments was James Thomson. Then after he himself used the donated embryos unused in the fertility treatment for creating world's first human embryonic stem cells. This experiment sparked an ethical debate in the world around and even led to the restriction imposed upon the research by the government of USA. Even Germany and Italy banned the creation of stem cell in their country. But the research went forward in the countries like Australia, Israel, Canada etc and soon reports came that the embryonic stem cells were converted into neurons, immune cells and even the heart cells. But mean time many unethical things began to happen. South Korean scientist Woo Suk Hwang fraudently claimed that they have cloned a human. Thus throughout the first fifteen years the much concentration was towards the understanding of the property of pluripotentiality, the ability of these cells to become any type of cells. Now the concentration went towards the molecular pathways that make it possible. They the scientist concentration was towards regenerative medicine which lead to the discovery of induced pluripotent cell-iPS Cells. But using iPS cells induced many ethical issues including the issues of its safety, mainly because they would cause tumors. So many scientists preferred to use embryonic stem cell in place of iPS cells. Another factor was its easiness to work with when compared to iPSCells. Researches came to the conclusion that with right artificial conditions the embryonic stem cells can be converted to complex tissues called organoids inside a lab in order for experimenting drugs and even for transplant process. But the most important challenge it poses was that out of many only ten cell type created so far are truly functional equivalents of normal human cells.

The main ethical issue based on the stem cell research deals with the sanctity of life. Scientist has the opinion that in the earlier process of fertilization, embryos have only a thirty percentage of chance of becoming fully human being. Then there is no reason for any hesitation in order to use them for potential benefit of existing human society even the embryos

get destroyed in this process. They assert that the phenomenon of pain and sensation does not inflict them in this early stage of embryos. These cells are useful for research activities and medical treatment which could help to save many existing life. But many feel that destroying embryos is like destroying an unborn child. Here the most important ethical issue is the moral status of the embryo. Whether the embryo should be viewed as a person or as mere cells. The question of life and personhood is the question of concern. Scientists are of the opinion that an embryo implanted into the uterus does not have any psychological or emotional properties in order to assign it as a 'Person'. But when we analyze deeply, development is continuous processes and so as the development of a fertilized egg into a baby is a continuous process and any specific time for personhood is arbitrary. A human embryo is a human being in its embryonic stage itself and although it does not have currently the characteristics of a person, it will become a person and should be given the respect and dignity of a person. They treat these cells as distinct life and adhere to the idea that extracting building block cells from embryos necessitates the destruction of potential fetuses and thus destruction of life. Philosophically, we can assert two different views concerning the personhood of embryo. Firstly, the deontological view point which hold that the embryo possess the right of a human being while the second view, the utilitarian view which hold that the paramount duty of all research is to alleviate sufferings.

## 2. CONCLUSION

Ethical debates on moral issues of embryonic stem cell have helped in establishing and framing many rules and regulations to govern the scientific research. Now this is the time for the scientific world to show that they are more responsible and ethically bounded and committed to the welfare of entire universe. The research having the background of nearly twenty years should possess strict ethical regulations and should know the future potentialities involved in it. As far as the stem cell researches are considered the most important concern is the funding for the research activities. But the scientist should know the fact that it's their duty to create a confidence in the mind of the funding agencies and can only be possible by creating a moral and sound ethical background for the scientific communities. All authorities should feel that every research is for the welfare of the humanity as a whole. So it's the primary moral duties for the scientists to develop an ethically bounded research environment .

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