



BIOETHICS: A NEW FRONTIER OF BIOLOGICAL SCIENCE

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Abstract

New researches in the field of biological sciences are creating new problems which were hitherto not faced. New techniques in biotechnology have paved way for transplantation for kidney, heart and liver successfully. *In vitro* fertilization, surrogate mothership, researches in totipotent stem cells which are capable of cloning are creating moral dilemma for the scientists. These techniques have immense capacity for the wellness of human beings. But there is every possibility of their misuse. Should researches in biotechnology be allowed unconditionally or there be some guiding principles? If the technique of cloning is perfected what will be the fate of the society which is based on conjugal love and trust? Should abortion and euthanasia be allowed? These questions need a clear answer. Here comes the role of bioethics to deal with such queries. In our view no such laws can be framed which can guide scientists in each and every case. Each case is specific and requires particular attention. There should be some norms for individual decision taker which are given in spiritual book of Hindu 'ShrimadBhagavataGeeta'. With the help of this technique of decision making specific cases can be dealt with.

Key words: Bioethics, euthanasia, Geeta, surrogate mothership.

Article information

Received on May 16, 2012

Accepted on May 30, 2012

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INTRODUCTION

Ethics may be defined as a science of what is good and what is right in human conduct. Ethicists try to give reason for an act to be good or right. There are so many ethical theories which by their own way try to find out criteria for good conduct. We may call a particular act to be good or bad, or right or wrong. But to define the term good or right is much complicated affair. The object of moral judgment is human conduct. There are two parts of human conduct - the intention of the doer and the consequence of the action. An unintentional action cannot be judged morally, although its consequence may be good or bad for the society. The doer if he has done something unintentionally cannot be held responsible for the act though he may be punished for carelessness. There are divergent opinion among the ethicist about the nature of morality. Two main theories about morality are Consequential Ethics and Deontological Ethics. Consequential Ethicist assumes that an act can be called moral or immoral on the basis of its consequence. The Deontologists say that an act in itself may be right or wrong without taking into the account of its consequence. A brief description of the two theories are given here. Deontologists believe in human capacity of intuitive grasp of reality. An intuition is 'The immediate apprehension of an object by the mind without the intervention of any reasoning process'. A moral intuition is apprehension of some moral principle immediately without any deliberation about its various ramifications in practical field. We may know that assassination of an innocent person is unconditionally wrong. We also know that telling the truth is always right. Immanuel Kant, the great German philosopher asserts that moral laws are uncondi-

tionally imperative. They are guided by our goodwill and goodwill is good in itself- without reference to any external fact. In this way Kant denied all teleological theories of ethics which hold that an action is right because it leads to certain consequences. It is the same truth that is expressed in Kant's statement. 'There is nothing good without qualification except goodwill'. Kant himself has propounded some categorical imperatives for our guidance which according to Kant are the outcome of the dictates of goodwill. The first moral law is that one should accept one's action at the instant of its performance to be a universal law. For example telling a lie cannot be accepted as a universal law because in that case its purpose will be defeated; but telling the truth can be unconditionally accepted as a law applicable for all time. The second law which emanates from goodwill is that each and every body should be treated as an end in itself not as a means of some selfish motive. The third principle is to accept oneself as a custodian of moral laws - as a member of the society of ends.

The categorical imperatives of Kant present a very lofty ideal for human beings. Certainly goodwill is an end in itself but goodwill cannot be limited in the adherence of some laws. Laws are meant for life and not vice-versa. Telling the truth is universally accepted maxim of morality but in exceptional cases it may betray the good will. To save an innocent person from being lynched by a communally frenzied mob is the imperative of goodwill and in that case telling a lie is not immoral. If somebody sacrifices his life to save the nation, he makes himself a means for the welfare of larger humanity and his act cannot be called immoral. So Kant's categorical imperatives are incapable of giving us guidance in specific cases.

There are other Deontological theories of Ethics but

we have given the example of the most famous theory. The other theory of Ethics is consequential or Teleological theory. The most popular theory is J.S. Mill's utilitarianism. In his words, "the creed which we accept as the foundation of morals, utility or the greatest happiness principle, holds that actions are right in proportion as they do produce happiness, wrong as they tend to produce the reverse of happiness. By happiness is intended, pleasure and the absence of pain; by unhappiness pain and its privation of pleasure." The other proponent of this theory was J. Bentham. Bentham did not differentiate between sensuous pleasure and mental happiness. There is only quantitative difference among different kind of pleasure. Mill did not agree with his predecessor and regarded qualitative difference in pleasure. He also accepted intuitive capacity in human beings to have a "feeling for the happiness of mankind, a feeling of regard for the feeling and pains of others. The social feeling of mankind- the desire to be in unity with fellow creatures, which if not innate are same the natural. In public life both Bentham and Mill propounded the principle of greatest happiness of the greatest number as the sole criterion of an act being moral. There are two examples of Deontological and consequential ethics is given. The Kantian categorical imperative and Mill's utilitarian theory of greatest happiness principle are two most popular ethical principle often cited for solution of moral problems. But they are not adequate to guide us in specific problems especially concerning medical field.

BIOETHICS AND ETHICAL PROBLEMS

Bioethics is a new discipline and this word was first coined by a biologist S.V.R. Polter in 1970. This was the era when the physicists who explored the inner structure of matter and saw the destructive use of atomic energy and the biologist who unravelled the mystery of human life by mapping genome exposed their anguish and concern for the social implication of their knowledge. To deal with ethical implication of scientific findings Kennedy Institute of Ethics was founded at Georgetown University, America in 1971. The Encyclopedia of Bioethics which the institute began to plan in 1972, defined bioethics as 'the study of the ethical dimensions of medicine and biological Sciences' (3,5). The code of conduct for medical practitioners is not a new phenomenon. All the great cultures - Chinese, Indian, Roman and Arabic where medical practice was in vogue some sort of ethical code was defined. It was generally accepted that the relation between patient and a physician is very pious and latter is a sort of guardian to the former. The physician will in no case divulge the secret of the patient and his attitude should be to cure him not to fleece him. In India it was imperative for the 'Vaidya' to charge the minimum for his services. But with the advance of science new technologies were developed and their application in medical sciences created problems which were not faced by the ancient followers of this discipline. Old ideas about medical morality were found inadequate to meet the challenge posed by new developments in Biotechnology (7).

Science is based on experimentation and medical science is concerned with human well being. New medicine can be prescribed only after its efficacy is established and for this it should be tested on human beings. But all experimentation is a journey into the unknown and they involve some

risk. In Second World War Nazis used prisoners as object of experimentation and so many persons suffered heavily. Even in America some unscrupulous physicians experimented on black people causing great physical ailment to them. American Government established a National Commission to protect the human subjects from biomedical research. The commission proposed three principles to guide the research. These are - respect for persons, beneficence and justice, which means informed consent, the assessment of risk in relation to benefit and equitable selection of subjects for research (1,4).

Transplantation of organ from one person to another is possible and this technique has benefited so many persons. Death from kidney failure is avoidable and kidney from a healthy person can be transplanted in the body of a person suffering from kidney failure but for this the physicians have to invade the body of healthy person which is akin to obstruct the natural function of the body. Sometimes poor people are enticed to sell their healthy organs and this advancement in medical technology gives impetus to unethical practice in the society (7).

In 1968 Dr. Christian Bernard successfully transplanted heart from a dying person to the other who lived for several months. Heart transplantation is different from kidney transplantation. In kidney transplantation one functioning live kidney is taken from a healthy body and the remaining one is sufficient for the donor for living a normal life. In heart transplantation a physiologically living organ must be taken from a person who is already legally dead. This requires a definition of death. The first problem of ethical concern is the time of death. When the person is supposed to be dead? When the brain is not functioning or when the heart is not palpitating. What is the distinction between life and death? Is sustained physiological activity through artificial means is life? When a person has lost the capacity of internal and external stimuli, can he still be called alive? Without finding a clear cut definition of death, how a functioning heart can be taken for transplantation?

Human reproduction was considered to be guided by some laws established by God or for the atheist by a process set by Nature. But with the advancement of scientific knowledge, this has also become an object of human manipulation. Now sperm and ovum taken from two persons - man and woman can be fertilized in the laboratory and the developed egg can be implanted in the womb of woman who can give birth to a child. If the mother is not giver of the ovum, she is called surrogate mother. Now the question of motherhood arises. Is the woman who donated the ovum or the woman who gave birth to the child be called the legal mother? Surrogate motherhood is creating new legal and ethical problems. Recently, a Japanese couple hired the services of surrogate mother in India. But before the birth of the child the couple got divorced. The legal problem is as to who should be given the custody of the child, the man who donated the sperm or the woman who gave the ovum. Such problems were not debated before (7).

In late twenties further advanced developments in biotechnology created new problems. In natural process of reproduction sperm from man and ovum from woman spliced to make a fertilized complete cell which develops as an embryo. In cloning female egg is spliced with a cell taken from the body and the fertilized cell is implanted in the female. The resulting offspring is identical with the

donor of the skin cell. Using this technique a lamb named Dolly was produced. Scientists are able to isolate stem cells from human embryos, these cells are immature but pluri-potent which can be grown into infinite variety of human cells. This technique has immense capacity which can be used for the benefit of human beings. Different human organs can be grown into laboratory and transplantation of kidney, heart, liver can be possible without taking the services of a donor. These cells can be used to create clone infants too and if these techniques become a success, any dictator can create havoc by forcing scientist to create an army of clone persons. The natural process of reproduction which involves men and women will be ignored. The pleasure and solace of conjugal life which is the very basis of culture and society will be in jeopardy. Should such researches be allowed? This is the question which is debated by theologians, philosophers and politicians all over the world. In 2001 the then president of United States of America George Bush announced that public funds could not be used for such research except in highly restricted circumstances. But recently President B.H. Obama has removed this restriction over stem cell research. A well defined ethical code is imperative to guide such experiments (7).

Apart from above mentioned problems which are due to the advancement in biotechnology, some old problems also lack unanimous approval by different cultural groups and societies. Can an unwanted embryo be terminated by abortion? Should a person suffering from incurable disease be given the option of choosing death to avoid excruciating suffering? But accepting abortion and euthanasia put us in a state of moral dilemma. Are we authorized to terminate the life of an unborn child? Is it not akin to murder? If euthanasia or mercy killing is allowed, will it not violate the very purpose of medical profession? A person suffering from cancer or AIDS will be neglected by family members so that he may opt for euthanasia. Will this not be against the lofty ideals of humanity?

BIOETHICAL DILEMMA AND REMEDIES

Whenever an ethical dilemma arises whether it concerns a person or is consequential to society, a decision is to be taken by a person or by a group of persons. No traditional ethical theory is capable of guiding us in each and every case. We can take some advice in the art of decision making by the techniques of 'Shrimad Bhagavata Geeta' which is a divine pathfinder for the devotees since the time immemorial. Although the problem faced by the scientist is different from that faced by mythological Arjuna but the dilemma of indecision is same. 'Geeta' is the unique book, it is not only for seekers of liberation or mukti, its advice is very helpful for secular activities of our lives. One of the most fascinating lessons of 'Geeta' is a novel technique of decision making with the help of which Arjuna found his way out of an excruciating state of indecision. These techniques have been described in a very enlightening book on 'Geeta' entitled 'The Gita – A workshop on expansion of self' (6). A brief description is given below which may be helpful to a scientist who is facing a difficult problem of continuing or discontinuing an experiment causing moral dilemma to him. The techniques of decision making has not been outlined explicitly on any place in the text of 'Geeta' but can be deduced from the teaching spread in 18 chapters. It has actually been followed and practiced by

the true adherent of 'Geeta'. It is a technique based on the objective assessment of the situation as well as the psycho – sociological make up of the decision taker. Outlined below are the different steps of this technique (7).

The decision maker should explore all the possibilities without any bias or prejudice to any one of the possibilities. As a result of dispassionate reasoning he may arrive at a certain decision. If it is not possible, he should take the advice of an enlightened mentor and if the mentor is incapable of by beaconing him a path to tread upon, the third step should be taken. This is to de ego one's outlook. One should disinterestedly analyze the motive of one's action. He should find out whether the desire to achieve a result is needed to satisfy one's own self esteem or really the motive is to gain knowledge to further the philanthropic cause. It is quite possible that the very result desired by the decision taker is consciously or unconsciously guided by the desire to bolster his or her ego. Generally, most of our decisions are guided by consideration of ego and consciously we ascribe lofty ideals to justify them. That is why the step to de ego our motive is necessary. If the state of indecision still persists, he should take the fourth step which is to define one's role in decision making. Whether a person who is involved in the act is simply an instrument doing his job without any personal involvement or a rational responsible person whose act is going to influence the society. He should take himself as a person who is setting an example for the others to emulate him and be prepared to take the responsibility of the consequences of his action. The first four steps are meant for the preparation of the individual decision maker. The next four steps are designed to test the options before them, this is test of rationality. The criterion of rationality is universality. The decision should be such that it can be applied in all such cases irrespective of social or cultural differences. The sixth step should be to be careful about the dignity of human being. Each human being is divine in nature and none is authorized to make other his or her instrument. Each individual is an end in itself. While taking some moral decision we can adopt a course of action which can be passed by everyone without detriment to any one else. Any criterion for testing the correctness of a course of action should be based on the standard of rectitude chosen by the decision taker. The next criterion of decision making is self identification. One should be happy in taking the decision and feeling of remorse should not be associated with it. In the final step one should visualize the final result of the action. If decision taker feels that his personality or image is not damaged and he gets the admiration and applause for his action, he should compliment himself for reaching a correct decision.

CONCLUSION

In nutshell we can say that while taking the decision which is going to affect others, we must be free from personal prejudice, cultural bias and be careful about the implication of decision for humanity at large. One should not violate the lofty ideals cherished by all the civilized society and decision should be based on the standard of rectitude. Human dignity and well being should be our aim. Taking into consideration the normal of decision making specific laws can be framed to promote the technical advancement in the field of medical sciences which may not be detrimental

to human dignity. But these laws should be resilient and strict application will go against the very purpose of their framing.

Other articles in this theme issue include references (8-35).

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