

Ethics in Biomedical Research

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Abstract

Ethical abuse of human subjects is still prevalent in researches and biomedical research is a culprit of such abuses. Biomedical research as the use of modern day medical technology to test hypothesis so as to deduce conclusions that are generalisable as theories and principles involve both human and animal subjects. If such research is not morally guided, it runs the danger of abusing the sacredness of human life, ditto, the human person. Therefore, Ethics as the philosophical science, which establishes the moral order of human acts would necessarily be required to check and balance the procedural systems of such research. It is within this context that this paper investigates the role of ethics in biomedical research. This paper observes that unethical procedures still prevail in researches and brings about harm to the human subjects. Appealing to the Kantian moral imperatives, it opines that human subjects should never be treated as means to an end but as end in themselves. It succinctly elucidates on the relevance of ethics in researches involving human subjects, particularly, biomedical research.

Keywords: Ethics, Ethical Principles, Biomedical Research, Research Ethics, and Categorical Imperative.

Introduction

Biomedical research is the use of modern day medical technology to test hypothesis. The aim is to draw conclusions that could be generalised and expressed as theories and principles. 'Biomedical' is coined from two words, *Bio*, which refers to life, and *medical*, as derived from medicine. Research is a positive activity of inquiry that enriches human knowledge. For instance through research activities in medicine, medical science has advanced from the period of using ordinary herbs, rituals and sacrifices to the period of Chinese

acupuncture, through the time of Hippocratic medical practice to the century of sophisticated medical practice that we experience today. Researches bring about scientific breakthroughs.

Advances in medical and scientific knowledge, which often come as breakthroughs usually raise concerns on the legitimacy and morality of the practice of such discoveries. These concerns necessitate the need to consider the role of ethics, which is the area of knowledge that deals with moral conduct in human relations, in medical research. Thus, we talk about biomedical ethics, which is the interface between ethics and modern medical technology as it affects the control of human life. It is an offshoot of medical ethics and the predecessor of the wider discipline of Bioethics.

This paper critically examines the moral implications of biomedical research from the perspective of the role of ethics in research involving human subjects. It argues that ethics in biomedical research provides the standard for rational justifications of moral actions by interrogating the complexities in moral responsibility and freedom. Since ethical norms promote moral and social values like responsibility, human rights and compliance with the law, biomedical research must abide by ethical norms in order to foster the ethical standards necessary to promote values like trust, accountability, mutual respect and fairness that are required for collaborative work. This will ensure a significant reduction in possible harm to human and animal subjects in biomedical research. This argument is supported with the Kantian categorical imperative. We adopt the expository and analytical approach that provides the platform for a critical reconstruction of our findings and beliefs.

The Meaning and Nature of Ethics

As used in philosophical discourse, ethics refers to the study of human actions in terms of their rightness or wrongness, whether they are licit or illicit. In other words, it deals with the analysis of good and evil. It is "the philosophic science, which establishes the moral order of human acts".¹ Ethics is a science because it is a

1 Thomas Higgins, *Man as Man: The Science and Arts of Ethics*, (Milwaukee: Bruce Pub. Co. 1956), 8.

systematic body of truths with a proper subject-matter, which is human free act. It is different from moral theology because unlike moral theology, it relies solely on human reason, while the latter appeals to both divine revelation and human reason. Both ethics and moral theology however, deal with the appropriateness of human conduct.

There are various ethical theories, which provide distinct and reasonable tools of analysis when faced with ethical difficulties, they provide the yardstick by which we decide what is good or bad, right or wrong. These theories, which attest to the importance of ethics are broadly categorised into teleological, deontological and virtue ethical theories.

Ethics is divided into four branches; meta-ethics or non-normative ethics, normative ethics, descriptive ethics and applied ethics. Meta-ethics clarifies the meaning of ethical principles and terms, a philosophical inquiry into ethical concepts and theories, which makes it basically analytic. "It treats ethical concepts, propositions, and belief systems as objects of philosophical inquiry"² by analysing the concepts of right and wrong, good and bad in relation to human character and conduct. It "looks at the meaning of moral or ethical terms and statements ... seeks to establish the meaning of terms and by so doing diminishes the ambiguity that would have enveloped ethical terms".³ It is the metaphysics of moral facts that seeks to understand the nature of ethical properties, statements, attitudes and judgments. It provides the platform for the understanding of ethical statements.⁴ For instance, the concept, "autonomy" in biomedicine is not in the sense of an agent being on its own like an island, rather it designates respect for the dignity inherent in the person. This understanding of autonomy provides the basis for the argument that a person should not be used as a means to an end.

2 Thomas Mautner (ed.) "Ethics" in *The Penguin Dictionary of Philosophy*, (London: Penguin Books, 2000), 181.

3 Godfrey Ozumba, *A Course Text on Ethics*, (Lagos: Obaroh and Ogbinaka Publishers Limited, 2001), 25.

4 Ibid., 20.

Meta-ethics juxtaposes with normative ethics that studies ethical actions by investigating the questions that arise when we consider how we ought to act. It is the "rational inquiry into, or a theory of the standards of right and wrong, good and bad, in respect of character and conduct, which ought to be accepted by a class of individuals".⁵ It examines the standards for rightness and wrongness of action and concerned with the correctness or incorrectness to hold a particular moral belief. Ethical theories under normative ethics do not describe how people think or behave, rather, they prescribe how people ought to think and behave. It formulates the codes of conduct for human moral behaviour and how human character is to be evaluated.

Other branches of ethics include; descriptive ethics, which studies the beliefs and practices of a social group, an empirical investigation of people's moral beliefs. It is concerned with what proportions of people believe in the wrongness or rightness of a particular moral action. It deals with questions like. And applied ethics, which is the philosophical examination, from the moral perspective, of particular issues in private and public life that pertain to moral judgments. It applies philosophical methods to detect the morally correct course of an action in various fields of human life and endeavour. For instance, bioethics is the aspect of applied ethics that deals with the correct approach to matters like euthanasia, while environmental ethics, another aspect of applied ethics, deals with questions of the duties of whistle-blowers to the public instead of being loyalist of their employers.

The four divisions of ethics ask questions concerning morality from four different perspectives. While meta-ethics would ask, "What does 'right' even mean?" Normative ethics would ask, "How should people act?" And descriptive ethics would ask, "What do people think is right?" Applied ethics would ask, "How do we put moral knowledge into practice?" Enquiry into possible responses to these questions ensure that ethicists touch on the various aspects of the

5 Thomas Mautner, "Ethics," 180.

morality of human conduct in their relation to one another and society in general.

Research Ethics

Research in medicine is very important and significant because it serves the good of the human person. Given this significance, it is worrisome, if that which is to serve the good of humanity, devalues or harms and degenerates the very sacredness of human life, which it is meant to uphold, protect and upgrade. It is to check the possible abuse of research findings and breakthroughs, or even the processes of research that ethics in research or research ethics becomes an imperative.

Research ethics is the application of fundamental ethical principles to issues involving scientific research. It provides the guidelines for the responsible conduct of biomedical research, as well as educate and monitor scientists conducting research, in order to ensure a high ethical standard.⁶ Three core objectives guide discussions in the field of research ethics:

- i. The objective to protect human participants in human subjects' research.
- ii. The need to ensure that research is conducted in a way that serves the interests of individuals, groups and/or society as a whole.
- iii. The need to examine specific research activities and projects for their ethical soundness, looking at issues such as the management of risk, protection of confidentiality and the process of informed consent.⁷

6 Daniel Serrão, "Ethics of Experimental Research in Human: Principles and Guidelines," in Juan De Dios and Elio Sgrecci (eds), *Ethics of Biomedical Research in a Christian Vision*, Proceedings of the 9th Assembly of the Pontifical Academy for Life (Vatican City, February 24-26 2003) 191-199. Also see, www.danielserrao.com

7 Nancy Walton, *What is Research Ethics?* www.researchethics.ca (Accessed May 30, 2011).

The first formal consideration of the rights of research came about as a result of the atrocities committed on Jews and other racial and ethnic minority groups in Nazi concentration camps during World War II. Hence, some ethicists describe the history of research involving human subjects as a "progress propelled by scandal".⁸ To prosecute the accused Nazi doctors, a set of research ethics principles to guide the conduct of human experimentation was developed and subsequently referred to as the "Nuremberg Code".

The Nuremberg Code paved the way for other guidelines, like the Declaration of Helsinki (DoH), which is a statement of ethical principles for medical research that involves human subjects.⁹ As a set of ethical principles regarding human experimentation developed for the medical community by the World Medical Association (WMA), it is WMA's best-known policy statement on human research ethics.¹⁰ It outlines the basic ethical principles for conducting biomedical research and specifies guidelines for physicians and those who give medical care on how they are to conduct research within a clinical setting. The DoH improves on the Nuremberg Code by advancing guidelines specifically designed to address the unique vulnerabilities of human subjects to participate in clinical research projects. The Nuremberg Code deals only with persons capable of giving informed consent. The DoH takes a step further by advocating that Legally Authorised Representative (LAR) could give consent on behalf of persons who are not capable of giving informed consent. Therefore, it allows persons not capable of giving consent to participate as human subjects in biomedical research.

8 Lori Alvino, "Who's watching the watchdogs? Responding to the Erosion of Research Ethics by Enforcing Promises," *Columbia Law Review*, Vol.103 (2003): 893-924.

9 World Medical Association Declaration of Helsinki, "Ethical Principles for Medical Research Involving Human Subjects," in *JAMA*, Vol.310, No.20, November 27, 2013. See also, Jay Katz, *Experimentation with Human Subjects* (New York: Russell Sage Foundation, 1972): 312-313.

10 See "Declaration of Helsinki," www.wma.net

Research ethics does not allow the use of humans as materials to test run research findings. This is clearly reflected, for instance in the Nigeria Codes of Health Research Ethics (NCHRE) developed by the Federal Ministry of Health of Nigeria in 2007. It seeks "to ensure the protection of human participants in scientific research to the highest ethical standard that is possible".¹¹

Understanding Ethical Principles

Ethical principles are general norms that provide the basic justification for the particular ethical prescriptions and evaluations of human actions. Some fundamental ethical principles in biomedical discourse are:

- i. **Informed Consent:** A fundamental and thoughtful process to ensure respect for human subjects and to ensure that their initial and continuing participation in studies is an informed, voluntary act. It is the knowledge of, and consent to a particular form of treatment before the treatment is administered. It consist in three elements, namely: decision-making capacity, disclosure, understanding and voluntariness.¹²
- ii. **Respect for Persons:** This is the principle of human dignity. It demands that individuals should be treated as autonomous agents and that persons with diminished autonomy should be protected. Autonomy here refers to the personal liberty of action in which the individual determines his/her course of action in accordance with a plan of his or her choice. It involves: (i) the capacity to

11 National Code of Health Research Ethics, Federal Ministry of Health, August 2007.

12 "Permissible Medical Experiments," in *Trials of War Crimes before the Nuremberg Military Tribunals under Control Council Law*, Vol. 2, No. 10: Nuremberg, October 1946 – April 1949. Washington, DC: 181-182. See also David Rothman, "The Ethics of Research Involving Human Subjects: Facing the 21st Century," in *New England Journal of Medicine*, No. 336, 1997: 882-883. www.nejm.org

deliberate about a plan of action, that is, one must be capable of examining alternatives and distinguishing between them. (ii) The capacity to put one's plan into action. An autonomous person is an individual capable of deliberating about personal goals and acting under the direction of such deliberation.¹³

- iii. **Beneficence:** The principle of beneficence requires that individuals are treated in ways that are ethical by respecting their decisions and protecting them from harm. It is the effort to secure their well-being by doing what is right and medically helpful. It is an obligation in biomedical discourse. The two general rules for expressing beneficence are: (i) do no harm and (ii) maximise possible benefits and minimize possible harm. The negative expression of this principle is the duty of non-maleficence in which the doctor avoids any act or treatment that would harm the patient.¹⁴
- iv. **Justice:** This is a complex ethical principle whose meaning range from fair treatment of individuals to the equitable allocation of healthcare funds and resources.¹⁵ It is the "equitable distribution of benefits and burdens to individuals in social institutions, and how the rights of various individuals are realised".¹⁶ In research ethics, it refers to a fair selection process of research participants. That scientists conducting clinical research ideally distribute the risks and benefits involved in recruiting volunteers who participate in clinical trials. It provides the guidelines that scientific objectives should be the determining factor in

13 Belmont Report on The National Commission for the Protection of the Biomedical and Behavioural Subject of Research, April 18, 1979.

14 Albert Josen, Robert Veatch and LeRoy Walters, (eds.), *Source Books in Bioethics: A Documentary History*, (Washington: Georgetown University Press, 1998): 24.

15 Fred Feinsod and Cathy Wagner, "The Ethical Principle of Justice: The Purveyor of Equality" in *ALTC*, Vol.16, No.1, January 2008. www.managedhealthcareco.

16 Ibid.

choosing members of which communities meet the criteria for inclusion in research. This would in turn ensure the most equitable distribution of the risks and benefits of the research. What constitutes "just standard" is a perplexing issue. For instance, one of the questions that arise here has to do with who ought to receive the benefit of research or a certain technology and bear its burden, that is, "fairness in distribution" or what is "deserved." Injustice would occur when some benefits a person is entitled to are denied without good reason or when burden is imposed unduly. Another conception of justice is that equals should be treated equally. This however, requires explication given the problematic nature of explaining who is equal and who is unequal.¹⁷

The Roles of Ethics in Biomedical Research

Ethics is important in biomedical research because it provides the standard for rational justifications for our moral actions. The conflicts of interests, the disagreements about what constitutes the bases of right and wrong, and the misconceptions in our ethical judgements are mitigated, if not totally resolved, with the intervention of ethics. Here, ethics is the rule-giving umpire. It fashions out an acceptable framework for appraising moral judgements and allocating blames and praises for our moral actions. An example of how ethics does this is reflected in the Hippocratic Oath that states, "... first of all, do no harm".¹⁸ The DoH clearly states that, "in medical research on human subjects, considerations relating to the well being of human subject should take precedence over the interest of science".¹⁹

17 Thomas Shannon, *An Introduction to Bioethics* (New Jersey: Paulist Press, 1997), *Text on Ethics*, 27.

18 Godfrey Ozumba, 20.

19 World Medical Association Declaration of Helsinki.

Ethics in biomedical research explicates different issues that are of interest to diverse group of people.²⁰ For example, the issue of the moral status of the human embryo, whether it is just a human life or a human person with rights; whether it should be produced and used in stem cell research or whether it should be thawed, and various other moral issues associated with its manipulation. In the same vein, truth telling generates similar disagreements. For instance, are there circumstances when some degree of lying is required or is deception within certain circumstances acceptable in biomedical research? Ethics analyses issues of this nature by interrogating the depths of moral/ethical intricacies which characterise our different ends, to reach a morally upright decision.

Ethics in biomedical research equally examines the complexities involved in moral responsibility and the concept of freedom.²¹ For instance, it attempts to answer questions like: When is a moral agent responsible for his/her actions? Are humans, as moral agents, totally free? Are human actions predetermined?

Ethics validates research by ensuring that research conforms to prescribed ethical codes and principles.²² Without guidelines, biomedical research would be arbitrary and therefore, rationally unacceptable. The involvement of human subjects necessarily requires biomedical research to follow ethical principles and codes that justifies it. In addition to this, ethical norms promote the aims of research such as knowledge, truth and avoidance of error. For example, ethical norms prohibit exploitation of research subjects, deception, fabrication and falsification of data, etc.

Research, whether biomedical or researches in other fields, sometimes involves cooperation and coordination among many different professionals from various disciplines and institutions. It

20 Godfrey Ozumba, *Text on Ethics*, 21.

21 Ibid, 22.

22 David Resnik, "What is Ethics in Research and Why is it Important?" in *University of Arizona Program in Research Integrity Education Monthly Newsletter*, Vol.8, No. 8 (August 1, 2008), www.researchgate.net, (Accessed April 25, 2011).

therefore, requires that certain ethical standards are maintained so as to promote the values that are essential to collaborative work. These values include: trust, accountability, mutual respect, fairness, *et cetera*. For example, the guidelines for authorship, copyright and patenting policies, data sharing policies and confidentiality rules in peer review, are designed to protect intellectual integrity and intellectual property in research and to encourage collaboration. This ensures that credit is given to whom it is due, as well as prevents intellectual theft of ideas or disclosing ideas prematurely.²³

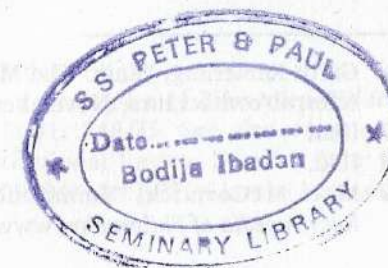
Ethical norms ensure that researchers are accountable to the public. For example, the federal policies of the Nigeria Code of Health Research Ethics on research misconduct, conflicts of interest, human subject protections, and animal care and use, are put in place in order to ensure that researchers using public fund are accountable to the public. This helps to boost public support for research because corporations and individuals are more inclined to fund research projects if they have confidence in the quality and integrity of the research and are guaranteed of accountability.²⁴

Ethical norms promote a number of other important moral and social values. These include: responsibility, human rights, animal welfare, and compliance with the law, health and safety. To allow ethical lapses in biomedical research would be to expose the human and animal subjects to significant harm. For example, a researcher who fabricates data in a clinical trial would very likely harm the patient even to the point of death. Same would be a researcher who fails to abide by regulations and guidelines relating to radiation or biological safety, such a researcher would jeopardize, not only his/her personal health and safety, but that of his/her subject, staff, or students.²⁵ To this end, the Kantian categorical imperative, which is the central philosophical concept in his deontological ethics, comes to focus.

23 Ibid.

24 Ibid.

25 Ibid.



Kantian Categorical Imperative and Ethics in Biomedical Research

According to Kant, although by nature, everything acts in accordance with law, only human beings act consciously in accordance with law because they act in obedience to the objective principles that are determined by practical reason.²⁶ Kant acknowledges the fact that human agents have subjective impulses like desires and inclinations that sometimes contradict the dictates of reason but that the claim of reason or that which we consider reasonable, impresses itself upon us as an obligation. By this, he means "a command that we act in a particular way, or an imperative".²⁷ By "imperative" Kant means a proposition that declares a certain action or inaction to be necessary, it could be hypothetical or categorical. It is hypothetical when it is a conditional demand that we perform an action for the sake of another end or purpose. It takes the form of "Do A in order to achieve X". On the other hand, it is categorical when it is an unconditional demand that we perform an action for its own sake. It takes the form of "Do A".²⁸

The Kantian categorical imperative states that, "Act only according to that maxim by which you can at the same time will that it should become a universal law".²⁹ This implies that an individual should consciously determine and act in certain ways that everyone, including him/herself, will always act in accordance to the same general rule in the future. Alternatively, the categorical imperative is formulated thus: "Act in such a way that you treat humanity, whether in your person or in the person of another, always at the same time as an end and never simply as a means". This reformulation emphasises the unique value of human life that makes

26 Garth Kemerling, "Kant: The Moral Order," www.philosophypages.com/referral/contact.htm, November, 2001.

27 Ibid.

28 Ibid.

29 Matt McCormick, "Immanuel Kant: Metaphysics," *The Internet Encyclopedia of Philosophy*, www.iep.utm.edu (Accessed August 16, 2016).

it deserve the most ultimate moral respect.³⁰

Kant's categorical imperative defines the motive that drives International Research Boards (IRBs) and make them a necessity in the face of the fact that biomedical research sometimes uses human subjects as a means to an end, rather than an end in itself. IRB, sometimes referred to as Independent Ethics Committee (IEC), or Ethical Review Board, involves groups of individuals from diverse backgrounds that are formally designated to approve, monitor, and review biomedical and behavioural research involving humans. The primary aim is to protect the rights and welfare of research subjects. Their underlying goals include:

- i. To promote the rights of patients.
- ii. To promote shared decision making between patients (or their surrogates if they are incapacitated in making decisions) and their clinicians.
- iii. To promote fair policies and procedures that maximize the likelihood of achieving good, patient-centred outcomes.
- iv. To enhance the answers to ethical questions through the provision of consultations.³¹

The Kantian categorical imperative is a philosophical formulation that provides the basis and rational justification for the goals and values that the IRB strives to uphold.

Why Some Biomedical Researchers Disregard Ethical Guidelines

Despite the Nuremberg Code, the DoH, and other ethical guidelines that provide clear statements on standards for research with human subjects, we still have cases of unethical research programmes. The

30 Garth Kemerling, "Kant: The Moral Order."

31 Tom Beauchamp and James Childress, *Principles of Biomedical Ethics* (5th ed.), Oxford: University Press, 2001: 348-35. See also, Margaret Moon, "The History and Role of Institutional Review Boards", <http://www.cirtualmentor.ama-assn.org/2009/04/pfor1-0904.html> (Accessed May 28, 2011).

Pfizer Incorporated and the Trovan-Testing Drug Case of 1996 in Nigeria is a case in point. Pfizer tested a new antibiotic by the name trovafloxacin on 100 children during the meningococcal meningitis epidemic in Kano in 1996. Dr. Abdulhamid Isa Dutse, who led the investigating team provided a falsified letter of approval for human trials, which the Nigerian government called the trial of "an illegal trial of unregistered drug".³² The United States Court of Appeal however ruled against Pfizer in favour of the Nigerian victims. This forced Pfizer to opt for an "out of court settlement" to the tune of \$75 million.³³ This in itself acknowledges the guilt and culpability of Pfizer.

Other cases of biomedical research that did not abide by the ethical guidelines regarding research that involves human subjects include among others: The Willowbrook State School, Staten Island, New York, U.S.A. study of hepatitis transmission that went on from 1955 to the early 1970s. The Tuskegee Syphilis Study, the Fernald State School trials where radioactive minerals were used on impaired children and the Jewish Chronic Disease Hospital case in which chronically ill patients were injected with cancer cells to monitor rejection. These are infamous examples of egregiously unethical research designed and conducted long after the ethical guidelines in biomedical research were developed.³⁴

These research programmes that disregard the code of ethics and guidelines regulating biomedical research and consequently harm the human subjects justifies our examination of the role of ethics in biomedical research. Human earthly existence will be

32 Joe Stephens, "Panel Faults Pfizer in '96 Clinical Trial in Nigeria," *The Washington Post*, (May 7, 2006), p. A01. See also, Ibrahim Shuaibu, "How Shekarau Saved Pfizer Victims", June 10, 2009, www.thisdayonline.com/news.php (Accessed June 3, 2011).

33 Ben Goldacre, *Bad Pharma: How Medicine is Broken and How we can Fix it* (London: Fourth Estate – HarperCollins Publishers, 2012): 117-118.

34 Jefferey Kahn, Anna Mastroianni, and Jeremy Sugarman, (eds), *Beyond Consent: Seeking Justice in Research* (Oxford: University Press, 1998): 49-50.

replete with confusion and chaos without rules and regulations for good moral coexistence. Ethical guidelines in biomedical research are supposed to prevent such confusion and chaos. Unfortunately, some corporate organisations and persons continue to flout and disregard these guidelines. Why exactly do they disregard these ethical guidelines in biomedical research? Some of the reasons may include:

- i. **Corporate Greed:** The considerations to maximise profit by such defaulting organisations and persons is one reason they disregard ethical guidelines in their research. This is obvious in the manner certain multinational corporations carry out exploitative research in developing countries. An example is the Pfizer case in Kano, Nigeria cited above. Pfizer seized the opportunity of the meningitis epidemic outbreak to test the antibiotic; trovafloxacin, which was potentially harmful, on young children. In cases like this, the ethical principles of informed consent, respect for persons and justice are undermined. Consequently, the human subjects who bear the burden of such research, having been used as the "guinea pigs", enjoy no benefits. Even the medications that are produced as the result of such unethical research are usually not available in the market for the subject of the research to benefit from. In cases where they are available, they are beyond their reach as they cannot afford them.
- ii. **The Vulnerable Nature of the Research Subjects:** The vulnerability of research subjects is often times occasioned by poverty, ignorance and lack of, or inaccessible health facility within their reach. These, coupled with the activities of corrupt public agencies, account for exploitation of the human subjects by researchers. Poverty and ignorance are siblings, such that the presence of one in a community makes such a community an easy prey for external threats. The lack of a viable health sector predisposes the masses to exploitation.
- iii. **Compromised Committees on Ethics:** The absence

of genuine, trustworthy ethical committees to act as watch dogs, leaves subjects at the mercy of the researchers. A prejudiced ethical committee, will equally not be able to discharge its duties as it ought to.

Conclusion

Following from the Kantian categorical imperative and the guidelines in the various codes and declarations on ethics in biomedical research, human subjects should never be considered, used or treated as a means to an end. Kant's principle of universalisation that provides the basis on which he developed the notion of the categorical imperative requires that, before performing any particular action, we should ask whether we would consider it desirable for everyone in a similar situation to perform such an action. As Kant argues, rational creatures possess an autonomous self legislative will. Therefore, they can make rules for themselves, direct their actions and consider the consequences of their actions. Rationality confers upon everyone an intrinsic worth and dignity.

The categorical imperative of Kant's principle of universalisation enunciates the furtherance of mutual relationship between the researcher and the human subject of research. It discourages health care personnel from formulating what would breach the veracity and mutual trust entrenched in their professional medical code of conduct, part of which is the necessity of a relationship of trust between doctors and patient.³⁵

Researchers, health care personnel, ethics committees, and all those whose work relate with research on human subjects should continually strive to act for the sake of duty and not according to duty as argued by Kant. To act for the sake of duty is to act out of reverence for the moral law and not because one hopes to gain anything from the action or because one feels like just doing the

35 Rachels James, *The Elements of Moral Philosophy* (New York: McGraw-Hill Inc., 1995): 127-129.

action or because one has a natural inclination to doing such things.³⁶

Therefore, acting according to duty is imperfect duty, while acting for the sake of duty is a perfect duty. The import of Kant's argument is that, we should always discharge our duty as we ought to. The gain of research that is usually anticipated ought to be moderated in tandem, with stipulated ethical codes that guide such research. Researches should never use human subject as a means to an end, no matter the loftiness of the end.

Research is inherently good; it is the abuse of research that is not good. No person should be the object of another person's manipulation in any clinical research; no person should make use of another as a means to an end. Every individual human subject of research should be regarded as an end in itself. Concerns for human dignity and respect for persons should take precedence over those of research technology and social-economic expediency. It is not everything that is scientifically or technologically possible, that is ethically acceptable.

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