RESEARCH ETHICS

The term ‘research ethics’ may be used to describe a broad range of principles and practices regarding the ethical conduct of research. The principles and practices of research ethics have become firmly established through advances in biomedical research and bioethics scholarship. Research ethics may be referred to as doing what is morally and legally right in research. They are actually norms for conduct that distinguish between right and wrong, and acceptable and unacceptable behaviour.

According to The Research Excellence Framework, 2014, research is "a process of investigation leading to new insights, effectively shared.” Research is a multi-stage process. Ethics are central to the research process. Researchers need to take care of various ethical issues at different levels of this process. The reality is there can be ethical concerns at every step of the research process (Bickman& Rog, 2009). According to Resnik (1998) research ethics are the common denominator for researchers’ relations with respondents and colleagues. Researchers have to take the sole responsibility for the ethical conduct of their own research. In simple terms, we can say that ethics are researcher's responsibility. First and the foremost responsibility of a researcher is to take care of the safety, dignity, rights and well-being of the participants. Researchers have to take care of various other issues at different stages of the research process. Both the researcher and participants have an important role to play. Objectives in research ethics are -

1. The first and broadest objective is to protect human participants.

2. The second objective is to ensure that research is conducted in a way that serves interests of individuals, groups and/or society as a whole.

3. Finally, the third objective is 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.

Different types of research methods need a different set of ethical guidelines. To make it easy to understand, let’s divide the research ethics simply into two groups; -

i. Research-Participant Ethics and

ii. General Ethics.

. The following are general summary of some ethical principals that various codes address:-

1. **Honesty:** Strive for honesty in all scientific communications. Honestly report data, results, methods and procedures, and publication status. Do not fabricate, falsify, or misrepresent data. Do not deceive colleagues, granting agencies, or the public**.**

2. **Objectivity:** Strive to avoid bias in experimental design, data analysis, data interpretation, peer review, personnel decisions, grant writing, expert testimony, and other aspects of research where objectivity is expected or required. Avoid or

minimize bias or self-deception. Disclose personal or financial interests that may affect research.

3. **Integrity:** Keep promises and agreements; act with sincerity; strive for consistency of thought and action.

4. **Carefulness:** Avoid careless errors and negligence; carefully and critically examine your own work and the work of your peers. Keep good records of research activities, such as data collection, research design, and correspondence with agencies or journals.

5. **Openness:** Share data, results, ideas, tools, resources. Be open to criticism and new ideas.

6. **Respect for Intellectual Property:** Honor patents, copyrights, and other forms of intellectual property. Do not use unpublished data, methods, or results without permission. Give credit where credit is due. Give proper acknowledgement or credit for all contributions to research. Never plagiarize.

7. **Confidentiality:** Protect confidential communications, such as papers or grants submitted for publication, personnel records, trade or military secrets, and patient records.

8. **Responsible Publication:** Publish in order to advance research and scholarship, not to advance just your own career. Avoid wasteful and duplicative publication.

9. **Responsible Mentoring:** Help to educate, mentor, and advise students. Promote their welfare and allow them to make their own decisions.

10. **Respect for colleagues:** Respect your colleagues and treat them fairly.

11. **Social Responsibility:** Strive to promote social good and prevent or mitigate social harms through research, public education, and advocacy.

12. **Non-Discrimination:** Avoid discrimination against colleagues or students on the basis of sex, race, ethnicity, or other factors that are not related to their scientific competence and integrity.

13. **Competence:** Maintain and improve your own professional competence and expertise through lifelong education and learning; take steps to promote competence in science as a whole.

14. **Legality:** Know and obey relevant laws and institutional and governmental policies.

15. Animal Care: Show proper respect and care for animals when using them in research. Do not conduct unnecessary or poorly designed animal experiments.

16. Human Subjects Protection: When conducting research on human subjects minimize harms and risks and maximize benefits; respect human dignity, privacy, and autonomy; take special precautions with vulnerable populations; and strive to distribute the benefits and burdens of research fairly.

17. There are many other activities that do not define as "misconduct" but which are still regarded by most researchers as unethical. These are called "other deviations" from acceptable research practices and include:

• Publishing the same paper in two different journals without telling the editors

• Submitting the same paper to different journals without telling the editors

• Not informing a collaborator of your intent to file a patent in order to make sure that you are the sole inventor

• Including a colleague as an author on a paper in return for a favour even though the colleague did not make a serious contribution to the paper

• Discussing with your colleagues confidential data from a paper that you are reviewing for a journal

• Trimming outliers from a data set without discussing your reasons in paper

• Using an inappropriate statistical technique in order to enhance the significance of your research