ETHICS IN RESEARCH

Research is the pillar of knowledge, and it constitutes an integral part of progress.

Ethics are broadly the set of rules, written and unwritten, that govern our expectations of our own and others' behaviour.

Research ethics is a core aspect of the research work and the foundation of research design.
Research ethics are the set of ethics that govern how scientific and other research is performed at research institutions such as universities, and how it is disseminated.

When most people think of research ethics, they think about issues that arise when research involves human or animal subjects.

While these issues are indeed a key part of research ethics, there are also wider issues about standards of conduct. These include the importance of publishing findings in a transparent way, not plagiarising others' work, and not falsifying work.

Importance of Research Ethics

Research ethics are important for a number of reasons.

*They promote the aims of research, such as expanding knowledge.

*They support the values required for collaborative work, such as mutual respect and fairness. This is essential because scientific research depends on collaboration between researchers and groups.

*They mean that researchers can be held accountable for their actions. Many researchers are supported by public money, and regulations on conflicts of interest, misconduct, and research involving humans or animals are necessary to ensure that money is spent appropriately.

*They ensure that the public can trust research. For people to support and fund research, they have to be confident in it.

*They support important social and moral values, such as the principle of doing no harm to others.

ETHICAL ISSUES IN RESEARCH

Study design and ethics approval

Good research should be well adjusted, well-planned, appropriately designed, and ethically approved. To conduct research to a lower standard may constitute misconduct. This may appear to be a stringent criterion, but it highlights the basic requirement of a researcher to conduct a research responsibly. To achieve this, a research protocol should be developed and adhered to. It must be carefully agreed to by all contributors and collaborators, and the precise roles of each team member should be spelled out early, including matters of authorship and publications. Research should seek to answer specific questions, rather than just collect data.

The research proposal should discuss potential ethical issues pertaining to the research. The researchers should pay special attention to vulnerable subjects to avoid breech of ethical codes (e.g. children, prisoners, pregnant women, mentally challenged, educationally and economically disadvantaged). Consent should be explained and obtained from the subjects or guardians, and steps should be taken to ensure confidentiality of information provided by the subjects.

Data analysis

It is the responsibility of the researcher to analyse the data appropriately. Although inappropriate analysis does not necessarily

amount to misconduct, intentional omission of result may cause misinterpretation and mislead the readers. Fabrication and falsification of data do constitute misconduct.

To ensure appropriate data analysis, all sources and methods used to obtain and analyse data should be fully disclosed. Failure to do so may lead the readers to misinterpret the results without considering possibility of the study being underpowered. The discussion section of a paper should mention any issues of bias, and explain how they have been dealt with in the design and interpretation of the study.

Authorship

There is no universally agreed definition of authorship. It is generally agreed that an author should have made substantial contribution to the intellectual content, including conceptualising and designing the study; acquiring, analysing and interpreting the data. The author should also take responsibility to certify that the manuscript represents valid work and take public responsibility for the work. Finally, an author is usually involved in drafting or revising the manuscript, as well as approving the submitted manuscript. Data collection, editing of grammar and language, and other routine works by itself, do not deserve an authorship.

It is crucial to decide early on in the planning of a research who will be credited as authors, as contributors, and who will be acknowledged. It is also advisable to read carefully the "Advice to Authors" of the target journal which may serve as a guide to the issue of authorship.

Conflicts of interest

This happens when researchers have interests that are not fully apparent and that may influence their judgments on what is

published. These conflicts include personal, commercial, political, academic or financial interest. Financial interests may include employment, research funding, stock or share ownership, payment for lecture or travel, consultancies and company support for staff.

Such interests, where relevant, should be discussed in the early stage of research. The researchers need to take extra effort to ensure that their conflicts of interest do not influence the methodology and outcome of the research. It would be useful to consult an independent researcher, or Ethics Committee, on this issue if in doubt. When publishing, these conflicts of interest should be declared to editors, and readers will judge for themselves whether the research findings are trustworthy.

Redundant publication and plagiarism

Redundant publication occurs when two or more papers, without full cross reference, share the same hypothesis, data, discussion points, or conclusions. However, previous publication of an abstract during the proceedings of meetings does not preclude subsequent submission for publication, but full disclosure should be made at the time of submission. This is also known as self-plagiarism. In the increasing competitive environment where appointments, promotions and grant applications are strongly influenced by publication record, researchers are under intense pressure to publish, and a growing minority is seeking to bump up their CV through dishonest means.

On the other hand, plagiarism ranges from unreferenced use of others' published and unpublished ideas, including research grant applications to submission under "new" authorship of a complete paper, sometimes in different language.

Therefore, it is important to disclose all sources of information, and if large amount of other people's written or illustrative materials is to be used, permission must be sought.

Research Methods

We know there are numerous research methods. However, when it comes to ethical considerations, some key questions can help us find the right approach for our studies.

i. Which methods most effectively fit the aims of your research?

ii. What are the strengths and restrictions of a particular method?

iii. Are there potential risks when using a particular research method?

Voluntary Participation and Consent

An individual should at no point feel any coercion to participate in a study. This includes any type of persuasion or deception in attempting to gain an individual's trust.

Informed consent states that an individual must give their explicit consent to participate in the study. You can think of consent form as an agreement of trust between the researcher and the participants.

Validity

The research design must address specific research questions. Hence, the conclusions of the study must correlate to the questions posed and the results. Also, research ethics demands that the methods used must relate specifically to the research questions.

Sampling

Sampling is the first step in research design. You will need to explain why you want a particular group of participants. You will have to explain why you left out certain people or groups. In addition, if your sample includes children or special needs individuals, you will have additional requirements to address like parental permission.

Risk of Harm

We should do everything in our power to protect study participants. For this, we should focus on the risk to benefit ratio. If possible risks outweigh the benefits, then we should abandon or redesign the study. Risk of harm also requires us to measure the risk to benefit ratio as the study progresses.

Most ethical codes cover the following areas:

Honesty and Integrity

This means that you need to report your research honestly, and that this applies to your methods (what you did), your data, your results, and whether you have previously published any of it. You should not make up any data, including extrapolating unreasonably from some of your results, or do anything which could be construed as trying to mislead anyone. It is better to undersell than over-exaggerate your findings.

When working with others, you should always keep to any agreements, and act sincerely.

Objectivity

You should aim to avoid bias in any aspect of your research, including design, data analysis, interpretation, and peer review. For example,

you should never recommend as a peer reviewer someone you know, or who you have worked with, and you should try to ensure that no groups are inadvertently excluded from your research. This also means that you need to disclose any personal or financial interests that may affect your research.

Carefulness

Take care in carrying out your research to avoid careless mistakes. You should also review your work carefully and critically to ensure that your results are credible. It is also important to keep full records of your research. If you are asked to act as a peer reviewer, you should take the time to do the job effectively and fully.

Openness

You should always be prepared to share your data and results, along with any new tools that you have developed, when you publish your findings, as this helps to further knowledge and advance science. You should also be open to criticism and new ideas.

Respect for Intellectual Property

You should never plagiarise, or copy, other people's work and try to pass it off as your own. You should always ask for permission before using other people's tools or methods, unpublished data or results. Not doing so is plagiarism. Obviously, you need to respect copyrights and patents, together with other forms of intellectual property, and always acknowledge contributions to your research. If in doubt, acknowledge, to avoid any risk of plagiarism.

Confidentiality

An important ethical principle of research is that the confidentiality of the information supplied by research subjects and the anonymity of respondents must be respected. However, sometimes confidentiality is limited. For example, if a participant is at risk of harm, we must protect them. This might require releasing confidential information.

You should respect anything that has been provided in confidence. You should also follow guidelines on protection of sensitive information such as patient records.

Responsible Publication

You should publish to advance to state of research and knowledge, and not just to advance your career. This means, in essence, that you should not publish anything that is not new, or that duplicates someone else's work.

Legality

You should always be aware of laws and regulations that govern your work, and be sure that you conform to them.

Human Subjects Protection

If your research involves people, you should make sure that you reduce any possible harm to the minimum, and maximise the benefits both to participants and other people.

This means, for example, that you should not expose people to more tests than are strictly necessary to fulfil your research aims. You should always respect human rights, including the right to privacy

and autonomy. You may need to take particular care with vulnerable groups, which include, but are not limited to, children, older people, and those with learning difficulties.

Animal Care

If you are using animals in your research, you should always be sure that your experiments are both necessary and well-designed. You should also show respect for the animals you are using, and make sure that they are properly cared for.

Applying for Ethical Approval

Applications for ethical approval will differ across institutions. Regardless, they focus on the benefits of your research and the risk to benefit ratio concerning participants. Therefore, you need to effectively address both in order to get ethical clearance.

Participants

It is vital that you make it clear that individuals are provided with sufficient information in order to make an informed decision on their participation. In addition, you need to demonstrate that the ethical issues of consent, risk of harm, and confidentiality are clearly defined.

Benefits of the Study

You need to prove to the panel that your work is essential and will yield results that contribute to the scientific community. For this, you should demonstrate the following:

i. The conduct of research guarantees the quality and integrity of results.

ii. The research will be properly distributed.

iii. The aims of the research are clear and the methodology is appropriate.

Integrity

Integrity and transparency are vital in the research. Ethics committees expect you to share any actual or potential conflicts of interest that could affect your work. In addition, you have to be honest and transparent throughout the approval process and the research process.

Conclusion

It is the duty of the researcher to ensure that research is conducted in an ethical and responsible manner from planning to publication. Researchers and authors should familiarise themselves with these principles and follows them strictly. Any potential ethical issues in research and publication should be discussed openly within the research team.

References:

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