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Editorial

NEED FOR INTENSIVE TRAINING ON RESEARCH METHODOLOGY IN MEDICAL EDUCATION

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Research is the search for knowledge, or as any systematic investigation, to establish novel facts, solve new or existing problems, prove new ideas, or develop new theories, usually using a scientific method. The primary purpose for basic research (as opposed to applied research) is discovering, interpreting, and the development of methods and systems for the advancement of human knowledge on a wide variety of scientific matters of our world and the universe. Scientific research relies on the application of the scientific method, a harnessing of curiosity. This research provides scientific information and theories for the explanation of the nature and the properties of the world around us. It makes practical applications possible.

The increased longevity of humans over the past century can be significantly attributed to advances resulting from medical research. Among the major benefits are vaccines for vaccine preventable diseases, insulin for diabetes, antibiotics for treating a host of maladies, life saving drugs, improved treatments for HIV/AIDS, statins and other treatments for atherosclerosis, new surgical techniques such as microsurgery, and increasingly successful treatments for cancer. New, beneficial tests and treatments are expected as a result of the human genome project. Therefore, research has a pivotal role in the field of medicine and public health.

If we look carefully at the curriculum of medical education in India, there is an ample scope to strengthen knowledge and skills of medical students on research methodology. In medical colleges, research is mainly carried out for completing the formality of dissertation during post-graduate studies. Undergraduate medical students are hardly acquainted to research methodology and its application in medicine. There are some justifiable reasons for including research methodology in undergraduate medical education curriculum viz.

1. All the medical students do not seek admission to post-graduate medical courses.
2. Majority of the medical graduates would prefer to do private practice where they have enough opportunity to conduct research studies but do not feel the need to do so and do not have orientation to conduct research study.
3. Those practitioners who opt for government or private jobs in hospitals do not have conducive research atmosphere at their institutes due to set priorities for patient care, administrative work etc.
4. Those in medical colleges and research institutions who are interested in research activity do not have proper direction to carry out research study due to lack of clarity in conducting research study in a systematic manner.
5. Many of the people who deal with research or have produced/ an access to a very good quality data do not know how to document it.
6. Those who are able to document their research do not know how to publish their work.

Therefore, it makes a strong sense to incorporate theoretical and practical training on research methodology followed by evaluation.

Few words for young research enthusiasts:

While planning any research activity young scientists should have vision of delivering a high quality research publication which could be accessed acrossed the globe. This needs meticulous planning and commitment to work hard according to the research protocol. There should be a good balance between the research needs of community and your research priorities/ interests. Once you have

decided a research area, the foremost thing is to decide your research question/s. Thereafter, an extensive review of literature should be done to know similar kind of works done in that area. With this exercise you should get an idea about the strengths and weaknesses of the research studies, unexplored areas, less explored areas etc.

Biostatistics is taught in medical colleges. It should not be forgotten after examinations. It is an important tool for your research work. This is the duty of teachers of Community Medicine and Biostatistics to emphasize importance of application of biostatistics in medical research. Once you frame a study protocol you have to decide the sample size for your study. If you are good at Biostatistics it would be an easier task to estimate sample size.

Designing questionnaire is an uphill task. It is not as easy as it is thought by researchers. Questionnaires should not be loaded with unnecessary / irrelevant questions. The questions should be in line with the study objectives which need to be very clearly mentioned. There should not be any ambiguity in your research question and objectives of your study. Otherwise, researchers would wander in the thick forest of uncertainty without any direction.

Art of documentation of your study findings in very precise words with their minimum use should be developed by the young researchers. Market is flooded with sellers of "Spoken English", but have you come across anytime with an advertisement of classes on "Written English"? For good documentation you need to develop a habit of reading reputed scientific journals, health bulletins, newspapers etc. regularly. You should critically analyze the documents you are going through, and ask yourself how this article could have been written in a much better manner. Also try to learn from the positives from the literature you are studying.

While deriving conclusions from your study one has to be very specific. Arrive at a broad conclusion which does not mention any figures or percentages. Unnecessary details would distract the readers, and message you wish to convey would not be delivered to the readers. Recommendations should be in line with the objectives of the study, and they should not be written as per your belief or perceptions.

It should be borne in mind that if finding of a research work are not published in medical journals, the value of that research for society, country and world remains zero. Thus, the whole effort put in planning that research activity, execution of study, data collection, data compilation, data analysis and report writing goes in vain.

It is appropriate to publish your study finding as early as possible after completion of your work. This is because as time lapses it becomes difficult to recall the things and the delay would lead to loss of momentum. Of course delayed publication of your manuscript considering waiting period for publication makes your article irrelevant for the contemporary need of the knowledge for your fraternity.

You should view research publications as a tool for improving your curriculum vitae as well as a tool for policy change. Because translating research into action is an ultimate fruit we desire from any research.

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