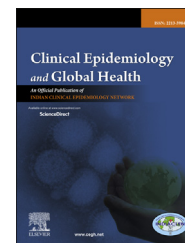


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## Continuing Education

# The significance of research in post-graduate education and ways to facilitate



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## ABSTRACT

The concept of research for the postgraduates, its scope and the debating points in the Indian context are described and discussed in this article. The scope of research as part of postgraduate activity is discussed along with the importance of methodology, followed by the barriers faced in doing good research. After this introductory part, the points for debate are identified and listed as initiation points for discussion. The alternate viewpoints are also described for each discussion point. The suggestions put forth are listed as points for initiating further discussion and debate.

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## 1. Scope for research in the life of a physician

A doctor or a physician plays roles of a clinician, teacher, counselor and family health manager in the community. In the immediate post-independence era, their role as researchers was not adequately emphasized. The Srivastava Committee (1975) popularly known as medical education committee and ICMR- ICSR committee on health status have

made passing references to the importance of research in medical education.<sup>1</sup> The 12th five year plan document on social sector, stresses on the importance of encouraging young researchers and mention about introducing research scholarships at the post graduate level.<sup>2</sup> The national health policy of the Government of India stresses the importance of research.<sup>3</sup> The national health research policy says that the medical education system needs to develop a research culture.<sup>4</sup> Over the last three decades the importance of research

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in all fields of medicine has been increasingly recognized. The nature of research ranges from basic and clinical to field based and applied research and can be preclinical, clinical and Para-clinical or diagnostic, preventive and therapeutic in application. The dichotomies like experimental and observational research and qualitative and quantitative research are mostly methodology related. Operational research, implementation research, inter-disciplinary research and translational research primarily describe the area of its potential impact.

## 2. Scope and significance of postgraduate research

All universities granting postgraduate medical degree as well as the Medical council of India<sup>5</sup> consider research or thesis work as an obligatory requirement, but do not insist on this requirement for postgraduate diploma courses. The fundamental principles of postgraduate medical education have been described in the World Federation of Medical Education document and they clearly mention research competency as a requirement among post-graduates.<sup>6</sup> There is an implicit expectation of their ability for appraisal and utilization of new scientific knowledge to improve clinical practice and scholarly contribution to development and research in the chosen field of medicine. This is expressed as the need for research oriented medical education in India.<sup>7</sup> Everybody agrees that voluminous clinical material is available in the campus of medical colleges and university archives. Our doctors are well known for their clinical expertise. However, the research output from our medical campuses is not remarkable. Most of the postgraduate research remains unpublished (30%) and there is considerable criticism about its quality.<sup>8</sup> The gaps in knowledge of methodology and poor quality of research training at post-graduate level was mentioned in one of the editorials of clinical epidemiology and Global health.<sup>9</sup> The ‘publish or perish’ attitude was critically looked by Paul grant et al.<sup>10</sup> In spite of various initiatives at the institutional and national levels, primary preference to clinical commitment overrides research commitment. Also, for a medical teacher, most of the time is spent on teaching and related activities and research gets no priority in the daily routine. Hence only few medical teachers are able to pursue research diligently.

Every patient coming to the physician is a source of new information. Moreover, intuitive thinking and decision making based on judgment and experience by the physicians generate data which can be equally valuable as that arising from carefully planned observational and experimental studies. Hence careful documentation of clinical information is important and such data should be analyzed to make meaningful conclusions which can improve the management practices and clinical outcomes. The present situation of less supportive environment for research is changing and a rapid momentum has been felt recently in some institutions.<sup>11</sup>

There are various reasons why it is necessary to give attention and emphasis to postgraduate research. Postgraduate training lays a scientific, rational and ethical foundation for practice of medicine in the future. Most of the medical colleges have strengthened infrastructure and taken initiatives to foster postgraduate research. They include

training in research methodology, establishment of institutional research and ethics committees, promoting students and teachers to write research projects and even providing funding for implementing research and presenting the same in conferences and meetings. However, some postgraduates prefer to walk on the trodden path, their mentors and teachers don't find enough time to guide them and strong funding options to support postgraduate research are practically non-existent in the majority of the medical institutions in the country. There is a need for a radical reform in all these areas. Incentivized approach both for students as well as teachers and sizeable funding for postgraduate research might significantly improve the quality and output of postgraduate research. How incentives can be provided is a matter for debate.

### 2.1. Barriers faced in doing research

These are discussed in various references and we do not want to list them again. We only want to share our view point on this.<sup>12–15</sup> Results of research become apparent only after some time and one has to be patient. For the success of research projects, conducive and supportive environment is crucial. Even for formally trained researchers the lack of an enabling environment is identified as the most important problem.<sup>16</sup> Institutions of excellence have better facilities and arrangements for helping researchers. Positive and supportive research environment should become a part of institutional culture and commitment and gets passed on from generation to generation. There is need to have dedicated funding for research and the prevailing rules should also be supportive. It is often noticed that industry supported research and clinical trials get done because they are accompanied by funding support and opportunity for revenue generation for the institution and researchers.

Doctors who do not have a good understanding of mathematics and statistics usually do not have a mathematics background and hence find it difficult to analyze quantitative data. Even in bio-medical sciences, appropriate conclusions and inferences are possible with an optimum experience and expertise in statistical methods. It is sometimes noticed that questionnaires developed for postgraduate studies are very elaborate, but the data presented in the dissertations is often in the form of simple frequency distributions only. The students do not understand how to analyze confounders and report interactions while analyzing causal pathways and associations. One of the contributing factors for this plight is the inability of postgraduate teachers themselves to guide their students in this area due to ignorance in methodology. This significant deficiency needs to be specifically addressed. Medical institutions should offer compulsory foundation courses in research methodology and biostatistics to all postgraduate students and develop dedicated establishments for promoting research.<sup>17</sup>

Although research means many things to many, the basic purpose of bio-medical research is to prevent diseases, promote health, ensure freedom from illness, minimize disabilities and improve physical, psychological and social wellbeing. Whether it is obligatory or voluntary, the purpose of medical research should be suited to the requirements of

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