Importance of Research in Medical Education

Dipti Magan*, PhD

Assistant Professor, Department of Physiology, Government Medical College, Sector-32, Chandigarh

Abstract

Research in medical education aims to provide a platform for our understanding of learning, teaching, and assessments in medicine. This can be achieved through improving research skills and quality of training in medical education and fosters the continued development of researchers and also to medical faculties, which can be extended to medical students.

Keywords: MEDICAL RESEARCH, SKILLS, TRAINING, MEDICAL EDUCATORS, FACULTY DEVELOPMENT

Journal of Medical Education **Summer 2018; 17(3):197-199**

Introduction

Research in the field of health care profession aims to test the efficacy and outcomes of innovative public health interventions. In 1910, Abrahm Flexner, a research scholar at the Carnegie Foundation, supported the concept of research towards improving patient care, but he did not believe that research itself was a worthy goal. Limited studies were done on medical education until the mid-1950s. The actual beginning of the concept of research in medical education started in the late 1950s with the ancient Greeks' methods, which introduced the practice of observation and reasoning regarding disease (1, 2). Later on, many organizations concerned with medical education were formed but they mainly focused on resources, funding and other executive functions. Previously, medical education research was conducted on the basis of descriptive studies but currently, it has shifted to more evidence-based studies on the educational system. In addition, the participation of medical faculty in conducting research plays a crucial role in ensuring that the medical education research is applied in educational practice (2, 3).

***Corresponding author:** Dipti Magan, PhD;
Assistant Professor,
Department of Physiology,
GMCH-32, Chandigarh
Email: diptimagan@gmail.com

Major Research Areas in Medical Education

The Medical Education Research program focuses on three major research areas in medical education that include Technology-based learning (TBL); Interventions and Innovations in Teaching; Scientific-based program and involvement of medical students (UGs, PGs, PhD, and other research scholars).

Technology-Based Learning

Medical education is changing rapidly and is influenced by various factors such as the changing health care environment, the changing role of the physician, altered societal expectations, rapidly changing medical science, and the diversity of pedagogical techniques. There are many technology-based learning methods (4) available and currently being used in medical education that include Computer-assisted Learning, Mobile Devices, Digital Games, Simulation methods and many more. The educational goals of using technology in medical education include the enhancement of basic knowledge acquisition

and psychomotor skills; improving decision making tasks and skill coordination, practicing for critical events, and learning team training.

Interventions and Innovations in Teaching

Medical education was chiefly involved with the acquisition of knowledge. New and imaginative approaches to the ways in which students learn have now become the central theme in the medical curriculum for better assessment of their skills, attitudes, and behavior (5). However, innovation in teaching and learning has now become an area of research and of principle focus to improve the performance of students and faculty, and make the evidence-based curriculum more efficient. This can be achieved by introducing and evaluating new concepts such as blended learning and team-based learning programs that will help to improve current curriculum.

Scientific-Based Learning Program

This focuses on academic skills, scientific training and engagement of undergraduates, post-graduates, and research scholars in biomedical research. Scientific engagement refers to an attitude of students towards science which results in active participation in research projects (6). This engagement in research can be modeled, internalized, practiced, and develop to a certain extent. This engagement aims to improve the academic skills and attitude of all students and to encourage those students with over-average academic ambitions and potential to develop their academic skills further by voluntary courses and participation in high level medical research projects. In this research program, motivation and engagement, clinical reasoning and scientific output of students are being carried out.

Advantages of Research in Medical Education

Taking part in Medical Education Research not only promotes valuable insight into *teaching* and *learning* methods but also leads to generation of *innovative ideas* for education systems. This can only be achieved when medical students are *investing* in the process of improving the educational programs by showing their *dedication* in developing and completing a research project and the readiness to participate fully in an academic activity. At the end of any educational program, *feedback program*, *feedback is* essential for imparting education both for the medical students and medical faculty. This will help to improve the *curriculum vitae* (CV) of the medical students and make them more *competitive* for educational leadership positions, such as curriculum committee chair, clerkship director, residency program director and beyond. Currently, medicine as a career is constantly evolving those employed. This activity will help the medical student truly succeed in an *academic* or evidence-based *research* oriented career (7).

Engagement in Medical Education Research

Involvement in Medical Education occurs by conducting medical education *research projects*. For this, it is very important to develop a *research question, define study outcomes*, and *identify study designs* and *methods*. *Innovative ideas* in research project emerge from mindfully participating in everyday experience with others. To create a research question, by indulging themselves in ongoing educational innovations at their respective institutions, collaborate with junior/senior partner in ongoing medical education research projects and build up relationships with others who are doing medical education research (1, 7).

In Medical Education Research it is very important to demonstrate our *ability to commit* to a started project and that increases the *self-awareness* regarding our available time and

level of effort. Other most important thing to consider is the *time* to do research during medical school. For this, beginning to look for a *research mentor* about 6 months in advance of when student want to begin research in a reasonable timeline to ensure that student are prepared. At last, there are wide varieties of indexed medical journals available to submit manuscripts.

Future Directions

Quality of research should be increased by conducting qualitative with new-technology based studies that will provide the medical professionals to think differently about any complicated problem or social issue. There is a need to create a balance between research that has practical relevance and research of high scientific quality which further clarifies which interventions will works well under which conditions.

Conclusion

The research in medical education is a growing body of knowledge about the process and outcome of medical education. The real development in medical education will only result when we combine the better understanding of basic science with the innovative interventions.

Acknowledgement

I am grateful for inputs by Dr Anita S. Malhotra and many others who contributed to the discussion.

Conflict of Interest: None Declared.

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