

Inclusion of Research Methodology as a Major Subject in the Curriculum of Medical Studies in Pakistan

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Modern practice of medicine has evolved from intuitions and personal rationales to evidence based medicine (EBM). EBM demands a clinician to remain up to date with new developments, and to justify his/her decisions of clinical practice based on available evidence about the topic of interest. Research, critical thinking and literature search are part and parcel of EBM. A clinician should have a basic insight of research methodology and literature search even if they are not directly involved in a research project.¹ Advancements in electronic media, digital libraries and online databases have made access to literature more easy and feasible. A competent physician of 21st century should have complete understanding about these aspects of modern medicine.

In developed countries (UK, Canada, USA) research methodology and writing a thesis is an essential component during medical under graduation.² Medical students research projects (MSRP) have a crucial role in teaching principles of scientific reasoning and research methodology to medical undergraduates. Experience of research and writing a thesis during under graduation can improve the research skills of medical students, which in turn can improve their performance as a clinician, as a post graduate student and as a supervisor in future.³ In developing South Asian countries, MSRP's have never been included as an essential component of medical curriculum.³

In Pakistan, the medical curriculum followed by the major medical universities is the one inherited by the British system at the time of partition.⁴ No reforms have been made to keep our medical curriculum updated as per the modern world. Lack of participation in research, problem based learning, and developing skills of critical thinking are among the major issues in debate related to our current medical curriculum.⁴ In the present curriculum, medical students are required to complete a research project during their 4th year of medical school. This project is usually carried out in the form of groups of 10-15 students. However formal assessment for this project at the end of 4th year is not carried out, and majority of the students do

not learn much from this activity. In a study conducted out at Aga Khan University, Karachi, Pakistan, which compared conventional versus problem based learning curriculum, it was observed that medical students have limited information about research. The students who are involved in problem based learning have more positive attitude toward research than those involved in lecture based conventional learning.⁵

With growing competition for post graduate training jobs, research at undergraduate level is becoming even more important as it gives a scale or criteria for merit based admissions. Medical students who have scientific publications and have experience of conducting research at undergraduate level are given benefit when they apply for admission in post graduate training programmes.

All postgraduate programmes (Basic & Clinical) offered by Medical Universities (M.Phil., MD, MS, MDS) and College of Physicians and Surgeons of Pakistan (CPSP) (FCPS), have an essential component of thesis or dissertation writing for award of post graduate qualification.⁶ For writing a postgraduate degree thesis or dissertation, a candidate is required to have a sound knowledge of research methodology and literature search. Because of lack of training about research methodology in medical school, majority of the postgraduate trainees find it difficult to design their research question, and complete their dissertation in due time.⁶ It is a common practice by majority of the postgraduate (PG) students to have their dissertation written by professional writers. A large number of PG's also have inattentive attitude regarding plagiarism. A few also not consider it as a type of cheating.⁷ Training of medical students about research methodology and writing at undergraduate level, can also help them to design their postgraduate course research question in a more comprehensive manner. It can also train them about ethics of scientific writing and plagiarism.⁷

Research by a student is also dependent on national research activity.⁸ Currently in Pakistan, there is a limited research infrastructure. Also, medical research has been a low priority area for the Pakistan Government. Pakistan Medical Research Council (PMRC) was established with the main aim to promote medical research in the country. Pakistan Journal of Medical Research was launched in 1958

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which is still not indexed in PubMed.⁸

In 'Flexner report' 1910, it was pointed out that medical care is dependent on medical education admissions and educational standards. This report also emphasises on the importance of medical research and identifies the problems related to medical education in USA and Canada. This report leads to wide scale advancement in medical research in USA. Pakistan needs to have its own version of Flexner report to identify the problems related to medical research and education.⁹ In order to cope with the modern practice of medicine, there is need to include research methodology as a mandatory part of undergraduate medical curriculum. In this regard, it is important to solve the problems most students face, to make incentives available for them, and mentors to guide them about their queries.¹⁰ At the post graduate level, CPSP, and Higher Education Commission (HEC) are attempting to advance great quality exploration through necessary workshops. Similar work is also required at undergraduate level.

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