

# REQUIREMENT OF RESEARCH AS A LEARNING TOOL IN MEDICAL EDUCATION - LESS IS MORE

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The importance of research in providing evidence based solutions can't be overemphasized. Therefore almost all curricula both in under and postgraduate medical training have some components of training in research. This varies from teaching in statistics and epidemiology to writing a dissertation based on original data. In qualifications such as M.Phil or Ph.D, the requirement of original research work is understandable but it is of questionable value in clinical qualifications such as FCPS. To the best of authors' knowledge the comparable qualifications like MRCP or FRCS do not require original research work. The requirement of dissertation based on original research work may be desirable for promoting research in the country but its value as a tool to enhance training in research is questionable. It is important that we are clear about the learning objectives, assessment methods and how this will contribute to the development of student when we are using any learning tool. As far as I am aware these have not been defined clearly for a dissertation or similar requirement in most medical qualifications. It is time to examine the value of dissertation or similar tools in medical education.

The problem is not merely that of educational value. Good research demands a carefully formulated research question, an appropriate study design, skilful execution, analysis and interpretation of data. These steps, undoubtedly help to gain the skills required in research. But it also requires good supervision. Without proper supervision, the trainees are unlikely to learn research, worse still, they may acquire wrong skills and attitude.

There are over 10000 trainees for the training programmes of the College of Physicians and Surgeons. The number of supervisors is severely limited<sup>1</sup>, for example, neurology 16, neurosurgery 40, psychiatry 33, general medicine 308 and general surgery 297. It is

very difficult, to provide the clinical supervision to large number of trainees supervision, let alone any research supervision. It must also be realized that for majority of supervisors the research experience is mostly limited to attending a workshop or two and conducting a study, mostly for their own dissertation during FCPS training.

This also begs the question whether any research supervision skills are imparted in the current mandatory workshops for supervisors. This however, is a separate question and needs to be addressed in the literature.

I have taken the FCPS training programme as an example, the problem unfortunately is widespread. Lately some Medical Colleges have included research as one of the requirement for their undergraduate programmes. Again there are no objectives or learning outcomes for such an activity and supervision arrangements are even less clear. This requirement is perhaps more to enhance the 'prestige' of the institution, than to do with the medical education. Even many universities, which have much better resources are now facing the consequences of rapidly expanded research degrees programmes in the last decade. There is anecdotal evidence of that rapidly expanding M Phil and PhD programmes with increasing number of students is resulting in deficient research skills, probably as a results of inadequate supervision<sup>2,3</sup>.

The question must be asked whether training in research can be provided using other educational and learning methods. How the students can acquire the knowledge and skills involved in understanding and conducting the research. This is crucial, as learning these skills is vital for health care. The answer to this question would depend on the objective of the qualification and accompanying training programme. In qualifications such as MPhil and PhD carrying out original research would be essential, although increasingly systematic

reviews and meta-analysis are considered enough to fulfil requirements for these degrees. In other training programmes, such as fellowship or membership of the Royal College or CPSP, the knowledge and skills for research can be gained without conducting the original research studies, as the prime objectives of these training programmes is to prepare the students for safe clinical practice.

A sound understanding of research is needed to appreciate the value of research as it applies in the clinical practice. Plainly speaking, the trainee who has successfully completed training for these qualifications needs to understand statistical and epidemiological knowledge, as it applies to clinical studies. This, for example, means that they are able to understand and critically appraise RCTs and how these are designed.

These learning objectives would not necessarily require conducting the original studies and submitting a dissertation. The teaching methodologies employed in small or large groups can achieve this. A very useful way to learn the essential concepts in research is the critical appraisal of research. I have argued elsewhere<sup>2-4</sup> that critical appraisal of research must be come part of curricula in the Fellowship programme. I also suggested an alternative to dissertation more than a decade ago<sup>4</sup>. The critical appraisal of research and its evaluation in the examination (in the form of MCQs, SEQs or even TOACS) will ensure that the trainee has acquired the essential knowledge in epidemiology and statistics as it applied to clinical studies.

Finally, I would like to dispel the impression that requirements to conduct the original research does not do any harm and may help a significant number of trainees, if not all in learning at least some research skills. Poorly designed research with little or no supervision is harmful, as was stated by Lancet (2005) sometimes back "Un-

necessary and badly presented clinical research injures volunteers and patients as surely as any other form of bad medicine, as well as wasting resources and abusing the trust placed in investigators by their trial participants<sup>5</sup>. Most importantly, perhaps this has the potential to discourage young energetic trainees from conducting any research, if they are left to wrestle with research studies on their own and burdened with clinical work and the requirement of postgraduate training.

In essence, when it comes to learning and conducting research, less is more. Carefully planned, well designed fewer studies conducted under the expert supervision are likely to make much better impact than hundreds of mostly descriptive studies, as have been the case so far. This will have much better impact on research, services and the training as a whole. So the less is likely to have more impact, which is the real measure of the research success.

## REFERENCES

1. Naeem F, Ayub M. Can Pakistani health system afford the luxury of medical research. JSZMC Vol 1: 71-73. Available at [http://www.jszmc.com/Files\\_pdf/jszmc2010/Vo-1No3\\_1.pdf](http://www.jszmc.com/Files_pdf/jszmc2010/Vo-1No3_1.pdf).
2. Farooq S. Critical Evaluation of Research- Introduction to an Essential Skill in Training. J Coll Physicians Surg Pak 1996; 6 (3): 165-7.
3. <http://www.dawn.com/news/1221057/enough-Ph.Ds-thank-you>.
4. Farooq S. An alternative for dissertation. J Coll Physicians Surg Pak 1999; 9: 456-8.
5. Young C, Horton R. Putting clinical trials into context. Lancet 2005; 366:107-8.