DEBATE

Recognition of Systematic Reviews is Vital for Scientific and Clinical Practice

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INTRODUCTION

The conduct of research and research publications in medical journals in Pakistan has been a source of major concern. A number of obstacles in achieving excellence in scientific research and publications have been identified. It has rightly been pointed out that none of the medical journals in Pakistan have been listed for the Impact Factor (IF).[1,2] This may be due to various problems plaguing medical research in Pakistan, which may be very difficult to resolve in view of the limited available resources, particularly in terms of lack of adequate institutional, trained manpower and financial resources required for conducting original research studies in a developing country like Pakistan.

However, a serious issue: the lack of quality review articles submitted and published in Pakistan medical journals - can be better dealt with. Readers of the medical journals in Pakistan may have noticed a declining trend in the publication of good quality review articles. It is ironic to note that although quality review articles do not require immense resources for the conduct of an original clinical study, they are less often undertaken by scientists in Pakistan. This, however, does not imply that review articles involve less work or less scientific rigor in adding to the scientific knowledge pool but existing systems in Pakistan disallow members of the scientific community to engage in the publishing review articles.

A major reason for the lack of good review articles in recent years is the fact that the Pakistan Medical and Dental Council (PMDC) has not given any recognition to the review articles, while considering the publications of faculty members for promotion in teaching institutions.[3] It is understandable if the faculty members are not going to get the recognition for their review articles, they are unlikely to write review articles. The decision by PMDC to disregard review articles for any credit has been the subject of much debate[4] and is long-overdue for revision. The PMDC decision may have been the result of poor quality review articles published in most journals in the past which unfortunately represented the CPR format i.e. cut, paste, review – the latter being a direct violation to plagiarism rules. Unfortunately, the PMDC decision of not recognizing review articles for credit has had serious, deleterious and unintended consequences. This has serious implications towards scientific research methods in general and in particular to evidence-based medical practice in Pakistan.

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PAKISTAN MEDICAL JOURNALS CONSTRAINTS

The lack of good quality review articles is proving to be a major obstruction in allowing medical journals published in Pakistan from being listed in the Science Citation Index. In fact, the Impact Factor (IF) of journals could be enhanced by publishing more review articles.[1] The journals which publish reviews are usually cited more, the crucial determinant of the IF. Quite a few regularly publishing Pakistani biomedical journals are now working towards their inclusion in the ISI database.[1,2,5]

Quality reviews are also important for presenting synthesis of evidence for busy clinicians. These also help the researchers to develop good scientific writing skills. It is ironic to note, however, that the journals in Pakistan are unlikely to get the quality review articles for publication in view of the PMDC decision on not recognizing review articles towards any credit in the career structure of teaching faculty members. This is a rectifiable dilemma faced by the journal editors in Pakistan.

FACULTY DEVELOPMENT CONSTRAINTS

The PMDC rule is not only proving to be a major hurdle for the medical journals for the recognition they deserve but more seriously it is also hampering the development of systematic reviews, which is highly detrimental to the training and research in Pakistan. We will argue in this article that the systematic reviews are different from the narrative review articles and should be considered at par with original scientific articles by the PMDC.

Two recent editorials in the Journal of College of

Physicians and Surgeons Pakistan (JCPSP) highlighted the significance of systematic review for medical practice in Pakistan.[6,7] Systematic reviews involve analysis of data according to predetermined search and analysis criteria. They are now regarded to be as important as or even more so than original studies, and certainly better than poorly conceived and incorrectly designed studies.[2] Unlike narrative reviews, published in most journals, systematic reviews follow a predetermined methodology for identifying the relevant studies, which is driven by a well-thought and need based research question; assessment of their quality and analysis, and interpretation of their data resulting in a summarized conclusion. As an example, the Cochrane Systematic Reviews, involve the following process for reviewing articles to answer a scientific question:

1. Developing a well-defined question: The reviewer has to clearly define the patient population, the intervention, the comparator (placebo or active drug) and the outcomes for the review.
2. Approval of the protocol: Once a topic is selected, reviewers are asked to develop a protocol for conducting the systematic review. This is reviewed by two independent peer reviewers before the title can finally be registered with the Cochrane collaboration.
3. The search for primary studies according to the protocol just described: The accumulated citations are independently reviewed by two reviewers to reduce subjectivity in the study selection and the likelihood of missing any relevant studies.
4. Quality assessment and data extraction: The assessment of the quality of the data in primary studies included in systematic reviews is usually performed independently by two reviewers according to a predetermined criteria outlined in the protocol.
5. Meta analysis and synthesis of the pooled data.
6. Peer review of systematic reviews: The review is finally reviewed by two peer reviewers before final acceptance by the Cochrane Database of Systematic Reviews for the Cochrane library. (For details please visit the website www.cochrane.org).

It is obvious from the above stated methodological process that a systematic review is entirely different from a narrative review. Being involved in writing systematic reviews provides a highly valuable training opportunity to researchers, academicians and clinicians. Developing skills to ask and formulate a relevant clinical question is the essence of systematic reviews. Similarly, the skills involved in identification, critical appraisal and analyses of the studies are essential for a proper systematic review. These are the skills required for designing and carrying out high quality research. Properly done systematic reviews should help to develop good quality research in the country and enable clinicians to practice evidence-based medicine.

SYSTEMATIC REVIEWS

Increasingly, systematic reviews are becoming an important source of evidence, not only in the prevention and treatment of disease but also on important policy and public health matters as these reviews are recognised as the highest level of evidence in evidence-based medicine. There are numerous examples of the changes in treatment guidelines and practice as a result of evidence produced through the systematic reviews.[6] It is estimated that around 3000 systematic reviews are published each year by the biomedical journals.[8] The Science Citation Index has recently recognized systematic reviews published by the Cochrane collaboration, which means that these reviews will have an Impact Factor assigned to them. In fact, Universities in UK and other developed countries are now granting highest academic qualifications such as PhD on the basis of scholarly work done in the form of systematic reviews.

The importance of systematic reviews can be gauged by the fact that recently Lancet decided not to publish any clinical trial without a direct reference to a systematic review or meta analysis. Either, authors will have to cite a systematic review published earlier or they have to conduct their own systematic review before embarking on clinical trials. The Lancet (2005) stated.

> "Unnecessary 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. Those who say that systematic reviews and meta-analyses are not "proper research" are wrong. It is clinical trials done in the absence of such reviews and meta-analyses that are scientifically and ethically. improper, investigators and organisations who undertake and coordinate reviews and meta-analyses now need the funding and recognition they deserve, if public trust in biomedical research is to be maintained and resources used in an effective way."[9]

As systematic reviews are highly rated in evidence-based medicine and clinical practice, they have significant impact on health care management and health care policy decisions. If, health professionals in Pakistan are not trained to do systematic reviews and do not engage in writing the systematic reviews, they will have less opportunities to influence health care management and health care policy decisions at national level and will also miss out on international scientific recognition. More importantly they might have less or no contribution to the knowledge base of the international scientific community.

The Cochrane collaboration provides training and mentoring for systematic reviews for the reviewers whose titles are registered with the organization. This is a very valuable experience and if systematic reviews are

not recognised nor encouraged by the PMDC, a valuable training opportunity will be lost for all eager researchers in the country.

Systematic reviews are recognised and highly valued in many developing countries. An example is India, where there are 160 people listed in the Cochrane database as contributors, writing for different entities of the Cochrane collaboration. There are also five editors for different review groups based in India. India is the first low income country to purchase national access to this evidence-based information resource for its entire population. This initiative was supported by the Indian Council of Medical Research (ICMR). Under the license obtained by the ICMR, anyone in India with a computer will be able to access a wealth of scientific information through the Cochrane Library that contains over 4,000 systematic reviews. India has done a great service to its scientific community and is sure to reap its consequences in terms of informed decisions taken for health care practice planning and policy development in the country, that would benefit the entire nation in the years to come.

SUGGESTED SOLUTION

Medical educators, academicians and researchers in Pakistan would naturally be reluctant to conduct systematic reviews if these are not recognized by Pakistan Medical and Dental Council. It will not only have deleterious consequences for the medical journals as discussed earlier but also for the future of medical research, training and evidence-based practice in Pakistan. It is, therefore, crucial that the systematic reviews be recognized at par with original articles by the PMDC. If the PMDC has apprehensions that this rule may be misused as it has happened previously with review articles, it is possible to restrict the recognition only for systematic reviews published in journals which are indexed in MEDLINE. A similar rule has been promulgated and is currently in use by the CPSP in terms of papers published in lieu of dissertation and that these papers need to be published in the journals indexed in MEDLINE.

In view of the importance of the systematic reviews, it can be foreseen that Pakistan medical journals will have high citation rates not only in Pakistan but also internationally. This will indeed help to raise the profile of the local medical journals internationally thus helping them to achieve the well-deserved recognition with good Impact Factor scores. In some cases, systematic reviews of evidence produced locally may be more important and relevant to the local setting than that which is available from developed countries. Unless, we are able to review the evidence, which has been produced locally in a systematic way, we may not be able to apply valid evidence in our practice.

Proper recognition of systematic reviews as a scholarly pursuit is long overdue in Pakistan. The editors of scientific journals, academic institutions, researchers and clinicians need to recognize the importance of systematic reviews of the scientific literature; support its recognition in the scientific community; engage in writing systematic reviews to relevant need based clinical questions and advocate for its recognition by the PMDC, for the ultimate benefit of the people of Pakistan.

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