Guest Editorial

Recommendations for improving Quality of Research in Medical Institutes

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Research output from Pakistan is gradually increasing. The "Pakistan Research and Innovation Landscape Report" states that research output from Pakistan has increased three hundred times in the Web of Science Core Collection. Among the disciplines, the largest number was from Clinical Medicine and its Normalized Impact is greater than the World average.[1,2]

This achievement, perhaps, is due to a large number of medical colleges in the country. Pakistan currently has 114 medical colleges which are the fifth largest in the world after India, Brazil, China, and the United States of America. Forty-Four colleges (38%) are public and Seventy colleges (62%) are private.[3]

In undergraduate medical education, research-based skills such as epidemiology and biostatistics are taught theoretically and not practically. Other skills such as topic selection, literature search, data handling, SPSS, and manuscript writing are not taught at most medical colleges as it was never an essential component of the archaic curriculum proposed by the Pakistan Medical & Dental Commission (PMDC) which is decades old and is still being practiced at most medical colleges throughout the country. Furthermore, paper writing and publishing are not a requirement for undergraduate medical students. As a result, the family physician produced in the country has no practical research skills or experience.

In post-graduate medical education, the College of Physicians and Surgeons (CPSP) is the largest training institute for medical doctors. Their graduates are taught research skills in workshops and have to produce a dissertation during their training which is a mandatory requirement for eligibility in the final examination. However, the quality of the manuscript is often not assessed in this system as there is no grade given to the dissertation and there is no defense of the dissertation by examiners. Furthermore, there is no research cell in most medical universities with resident epidemiologist and biostatistician to facilitate post-graduate research.

For the faculty, the promotion criteria formulated by PMDC and HEC mandates a set number of publications for faculty at each level. However, the quality of manuscripts is not specified. These manuscripts are usually published in local journals often of the same university/college. The editors of these journals are often under a lot of pressure to publish due to which focus remains on quantity rather than the quality of research. International publications in impact factor journals require high quality publication which often has higher research costs and also have high publication costs. Most medical universities especially public have no financial incentives for the faculty to encourage international publications.

Editors of most medical journals are senior professors with vast clinical and teaching experience but little or no formal training in medical editing. Also, most of these editors are working in an honorary capacity with no promotion or financial incentives from their institutes. In this regard, the University of Health Sciences Lahore has taken an initiative and started a certificate course in medical editing. In the past two years, it has trained more than eighty medical editors in two batches. This is a step in the right direction and should be initiated by other medical universities as well. The curriculum for these programs should include training in publication ethics, digital publishing on online platforms, maintaining standards in line with the International Committee of Medical Journal Editors (ICMJE)[4] & Committee of Publication Ethics (COPE)[5], Indexing in internationally reputed indexes such as Directory of Open Access Journals (DOAJ)[6], Scopus[7] and Web of Science.[8]

In light of the above observations, it is recommended that,

1. Medical Universities should be increased in the country with more post-graduate programs (MPhil, Ph.D., MD/MS) having a strong emphasis on research.

2. Medical Universities should have a dedicated Research Unit with a Director, Associate/Assistant Directors, Epidemiologists, and Statisticians to facilitate faculty in developing research.

3. A new standardized undergraduate curriculum should be formulated by Pakistan Medical Commission (PMC) containing protracted time for research skills taught by the research unit including epidemiology, biostatistics, topic selection, literature search, data handling, SPSS, and manuscript writing. Also, at least one published research should be a mandatory requirement for eligibility for the final exam.

4. Post Graduate medical programs must grade the dissertation/thesis and include it in the final marks/GPA to ensure quality of research. Defense of thesis/dissertation after internal and external review should also be mandatory.

5. Colleges and universities should fund at least fifty percent of the research and publication cost for international impact factor research.

6. Editors of medical journals should have financial incentives for their services and they should be given preference in promotional criteria.

7. Formal training programs for medical editors should be done by Higher Education Commissions (federal and provincial) as well as by medical universities.

References

1. Web of Science Group. Available at: https://discover.clarivate.com/pakistanresearchreport2020.

2. Mughal, A. M. & Khurram, M. Publishing Medical Research in Pakistan; Challenges and the Way Forward. J. Rawalpindi Med. Coll. 24, 1–2 (2020).

3. Medical Colleges and Doctors in Pakistan - too many or too few? Available at: https://nation.com.pk/21-Sep-2019/medical-colleges-and-doctors-in-pakistan-too-many-or-too-few.

4. ICMJE | Home. Available at: http://www.icmje.org/.

5. COPE: Committee on Publication Ethics | Promoting integrity in scholarly research and its publication. Available at: https://publicationethics.org/.

6. Directory of Open Access Journals – DOAJ. Available at: https://doaj.org/.

7. Scopus preview - Scopus - Welcome to Scopus. Available at: https://www.scopus.com/home.uri.

8. Web of Science Master Journal List - WoS MJL by Clarivate. Available at: https://mjl.clarivate.com/home.