

Research publications and education in Pakistani medical universities: Avoiding predatory journals and improving the quality of research

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A country's higher education depends on the role of organizations and institutions in improving the quality of research. While the Higher Education Commission (HEC) is struggling enough to promote research environment in the universities by spending billions of rupees, output from them stays low. As recently reported, the government released around 91 billion rupees to the HEC in order to promote and improve the state of research and higher education in the country.¹ Moreover, it is expected that the HEC will utilize 2.2 billion rupees over the next three to four years to promote research in health and medical sciences in the country.² Also, the HEC tries few attractive approaches for promoting research in the country such as National Research Programme for Universities, National Awards for Outstanding Researchers, and providing access to research through the HEC digital library. Despite this, Pakistani universities show low performance in the World University Rankings as there were only 7 Pakistani institutions among the top 980 universities.³

A nation's progress is directly proportional to the progress of its higher education institutions, and it is considerable to think that why higher education institutions of Pakistan do not perform well as compared to rest of the world even after getting plenty of funds from the HEC? One of the main reasons is the preference of quantity over the quality by HEC and Pakistani universities.⁴ The universities force faculty to publish research articles without taking into account, the outlet for publication. Such practices are linked with promotions and pay increments corresponding to the number of articles published, irrespective of the journal where they were published.⁴ The condition of another organization, the Pakistan Medical & Dental Council (PMDC) is even worse. The policies laid down by the national organizations like HEC and PMDC are flawed and restrictive to the promotion of research in the country. For example, the faculty appointment and promotion criteria by both the organizations do not require even a single publication till

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the post of Assistant Professor. For being promoted to an Associate Professor and Professor, the required number of publications is very easygoing.^{5,6} This too, does not consider the quality of work, which is reflected by the publishing journal and number of citations. PMDC has further contributed to the declining state of higher education in the country by allowing MPhil-MBBS scholars to be raised to the level of a full professor.⁷ This rule implemented by the PMDC is totally against the recently introduced policy of HEC for faculty appointment and is of course, below the international standards.⁸ Likewise, the College of Physicians and Surgeons Pakistan (CPSP) displays "Guidelines for Synopsis and Dissertation writing", "Queries Related To Approval Of Supervisor", and "Queries Related To Synopsis & Dissertations" on their website but it does not discuss anything on journal selection.⁹⁻¹¹ CPSP encourages postgraduate trainees (CP SP Notification No. Secy/Notif- I/CPSP/03/2027-A, dated July 15th, 2003) to choose to submit two papers in lieu of their theses/dissertations to either of the four Index Medicus or NLM indexed journals and/or five PMDC indexed journals.^{9,11} This appears restrictive to publish in Pakistani journals only and reflects inability of postgraduate trainees to publish in international journals. In addition, CPSP ignores the research expertise which is evident from its policy about approval of the supervisors. To clarify this further, CPSP states "As per CPSP policy it is mandatory that applicant at least holds the position of Assistant Professor to be approved by CPSP as a supervisor for training of the post graduate candidates". For being an Assistant Professor, no publications are required as per the PMDC and HEC criteria, and in this case, they (supervisors) may or may not have experience in scientific writing and publishing.¹⁰ This is definitely unfair to the postgraduate students and they are more likely to suffer due to such erroneous policies. Moreover, due to improper use of funds, the quality of research journals in Pakistan also does not improve.¹²

As of now, PMDC indexes 72 medical journals (<http://www.pmdc.org.pk/Home/IndexedPakistanofJournals/tabid/148/Default.aspx>). Moreover, PMDC credits only original articles while other categories do not qualify to help in faculty appointment and promotion. This notion

Table: Resources for journal selection.

Resources ^{17, 19, 20}	Website
Blacklists of journals and publishers	
Beall's blog (archived copies)	https://web.archive.org/web/20170112125427/https://scholarlyoa.com/publishers/
Whitelists of journals and publishers	
1. PubMed/MEDLINE	https://www.nlm.nih.gov/bsd/serfile_addedinfo.html or https://www.ncbi.nlm.nih.gov/labs/journals/ or https://www.ncbi.nlm.nih.gov/nlmcatalog/journals https://doaj.org/search
2. Directory of Open Access Journals (DOAJ)	http://oaspa.org/membership/members/
3. Open Access Scholarly Publishers Association (OASPA)	http://www.stm-assoc.org/membership/our-members/
4. International Association of STM Publishers	http://www.icmje.org/journals-following-the-icmje-recommendations/
5. International Committee of Medical Journal Editors (ICMJE)	http://publicationethics.org/members/journals/?f[0]=bundle%3Ajournal
6. Committee on Publication Ethics (COPE)	http://ip-science.thomsonreuters.com/mjl/
7. Master Journal List of Clarivate Analytics	https://publons.com/journal/?order_by=reviews
8. Publons	http://endnote.com/product-details/manuscript-matcher
9. EndNote™ Journal Matching	
Additional resources for journal selection	
1. Journal selectors	
a) Edanz Journal Selector	https://www.edanzediting.com/journal-selector
b) Elsevier Journal Finder	http://journalfinder.elsevier.com/
c) Springer Journal Suggester	http://journalsuggester.springer.com
d) Find the right journal - BioMed Central	https://www.biomedcentral.com/getpublished/find-the-right-journal
e) JANE-journal author name estimator	
e) Journal Guide by Research Square	http://jane.biosemantics.org/ https://www.journalguide.com/
2. Think Check Submit Campaign	http://www.thinkchecksubmit.org/
3. WAME Statement on identifying predatory journals	http://www.wame.org/identifying-predatory-or-pseudo-journals
4. Open Access Journal Quality Indicators	https://www.gvsu.edu/library/sc/open-access-journal-quality-indicators-5.htm
5. Jocalyn Clark: How to avoid predatory journals — a five point plan	http://blogs.bmj.com/bmj/2015/01/19/jocalyn-clark-how-to-avoid-predatory-journals-a-five-point-plan/
6. AuthorAID Online Course in Research Writing	http://www.authoraid.info/en/events/details/210/
7. For impact factor	
a) Journal Citation Reports (JCR)	http://wokinfo.com/products_tools/analytical/jcr/
b) Elsevier CiteScore	https://journalmetrics.scopus.com/

declines the importance of other categories of articles such as short reports, brief communications, opinions and viewpoints, letters, and editorials published by reputable national and international journals. Also, the credit is limited to the first three authors only, this means that the contribution by rest of the authors amounts to nothing! Likewise, the criteria for recognition of journals is very lenient by the PMDC. They don't even bother to correct the spellings in their documents. For instance, in the draft on criteria for journal recognition by PMDC, it was mentioned that "Reference should be following VENCHOR'S style", instead of Vancouver's style. On the other hand, HEC has somewhat better criteria with 58 health science journals registered in it (<http://www.hec.gov.pk/english/services/faculty/SSAH/Documents/Journals/Health%20Sciences%20Journals.pdf>). Moreover, only 1 pharmaceutical and 3 medical journals have been able to achieve an impact factor so far, out of

the 12 scientific journals from Pakistan, and none of the journals published by medical universities has yet been able to acquire an impact factor.^{12,13} Additionally, only three medical journals from Pakistan are indexed in PubMed/Medline.¹³ This reflects the low level of improvement in the quality of research in Pakistan while the neighbouring countries like India and Iran show relatively better performance than Pakistan.¹²

With these lenient and inaccurately defined policies of HEC and PMDC, doctors from medical universities are unable to publish sufficient quality of work in international journals. Journal selection has always remained a big issue for the researchers from the developing world. Specially, in the rapidly growing arena of scientific publishing where it is very difficult to differentiate between legitimacy and predation, the selection of a journal should be done with caution. In fact,

researchers of developing countries are more likely to publish in dubious and fraudulent journals due to lack of sufficient training and skills.¹⁴ Speaking specifically of Pakistani context, micro- and macro-level education for journal selection appears insufficient. For instance, the HEC releases the list of journals approved by it but it does not publish a list of blacklisted journals. It does not even display guidelines for avoiding predatory journals. Unfortunately, most of the universities across the nation also do not bother about the publication outlet, and do not contribute sufficiently to the education on journal selection except a few that have displayed guidelines on avoiding fraudulent journals but they too appear to be outdated.^{15,16} Unlike, many universities of the world display guidelines for avoiding predatory and fraudulent journals.

There is a mix of whitelists and blacklists available online but developing world researchers seem unaware and under-educated to them, which stays to be the more likely cause of their victimization by fraudulent journals and publishers.^{14,17} Of course, whitelists are relatively more reliable due to lack of bias, yet the blacklisted journals and publishers on Beall's blog raise a signal of caution to the authors before submitting their work to a journal.¹⁴ Fraudulent journals may be categorized into predatory and hijacked journals. The former publish papers for money and abuse the open access model while the latter, steal the identity of legitimate journals and set up a counterfeit website to betray researchers. Their number has tremendously grown from few to thousands in the previous half decade.^{12,17,18} These journals use fake metrics to disorientate authors with limited training and skills on journal selection.¹⁷ Surprisingly, victims of fraudulent journals are not just the inexperienced, early-career and naive researchers, even experienced researchers from Pakistan have been reported to publish in predatory journals.¹⁶ In this situation, there is a set of resources that should be used by Pakistani researchers, universities, and organizations regulating and monitoring higher education in the country, to help reaching a decision to select a legitimate journal for publishing research [Table].^{17,19,20} This will be helpful in avoiding fraudulent journals and useful for obtaining fruitful outcomes. National organizations like HEC and PMDC, CPSP and PMDC alternatively, should take some strict steps to stop the researchers from publishing in fraudulent journals and publishers. They should evaluate their journals based on the current guidelines and criteria suggested in few papers also.^{17,19,21,22} Moreover, these organizations should also consider the suggestions offered by Jawaid SA in his editorial¹² because research is an essential asset of a country, so are the researchers for a

university. Additionally, research contribution from faculty members should be acknowledged and appreciated by university officials in the form of monetary incentives and rewards alike. This approach is common in many international universities (though few national universities also do so), and by doing this, the quality of research would improve. Furthermore, the HEC and PMDC should rethink on the criteria for appointments and promotion as the current criteria would not result in improving research output of the universities. On the other hand, CPSP should rethink on the criteria for research supervisors from Assistant Professors to higher level or based on research experience and expertise. These organizations should also consider inclusion and implementation of research at undergraduate level so that the product coming in the market is equipped with the knowledge and skills required for scientific publishing. Above all, organizations like HEC, CPSP and PMDC should keep monitoring and auditing implication of their policies, and should step forward strictly in improving this lagging area in Pakistan.

References

1. Dodhy M. HEC being given Rs. 91 billion for promoting research and higher education. [Online]. 2016 August 18 [Cited 2017 March 14]. Available from: URL: <https://www.techjuice.pk/hec-being-given-rs-91-billion-for-promoting-research-and-higher-education/>.
2. Funding research: HEC targets medical sciences' promotion. [Online]. 2014 October 3 [Cited 2017 March 14]. Available from: URL: <https://tribune.com.pk/story/770459/funding-research-hec-targets-medical-sciences-promotion/>.
3. Raza A. World University Rankings: Only 7 Pakistani institutions among top 980 universities [Online]. 2016 Sep 23 [Cited 2017 March 14]. Available from: URL: <https://www.dawn.com/news/1285647>.
4. Imran A. Why are Pakistani universities not getting in top ranks in world? [Online]. 2016 December 28 [Cited 2017 March 14]. Available from: URL: <https://en.dailypakistan.com.pk/opinion/blog/why-pakistani-universities-are-not-getting-in-top-ranks-in-world/>.
5. Higher Education Commission. Faculty Appointment Criteria. [Online]. 2016 October 17 [Cited 2017 March 14]. Available from: URL: <http://www.hec.gov.pk/english/services/universities/QA/Pages/Faculty-Appointment-Criteria.aspx>.
6. Pakistan Medical & Dental Council. Regulations for the Appointment of Faculty Professorial Staff/Examiners/ Principals /Deans/Administrative staff in undergraduate & Post graduate medical & Dental Institutions of Pakistan 2011 [Online]. 2011 December 22 [Cited 2017 March 14]. Available from: URL: <http://www.pmdc.org.pk/LinkClick.aspx?fileticket=qb8GtLpc2%2BQ%3D&tabid=102&mid=728>.
7. Iqbal MP. What ails medical research in Pakistan? Role of institutions. *Pak J Med Sci* 2015; 31: 1287-9.
8. Akhram Z. Lecturers Are Now Required to Have 18 Years of Education: HEC [Online]. 2017 March 7 [Cited 2017 March 14]. Available from: URL: <https://www.tech.com.pk/2017/03/lecturers-are-now-required-to-have-18-years-of-education-hec.html>.
9. College of Physicians and Surgeons Pakistan. Guidelines for Synopsis and Dissertation writing [Online]. 2017 [Cited 2017 March 16]. Available from: URL:

- <https://www.cpsp.edu.pk/index.php?code=dHJhaW5pbmdfZ3VpZGVsaW5lc3xkaXNzZXJ0YXRpb24ucGhwfDB8MHww>.
10. College of Physicians and Surgeons Pakistan. Queries Related to Approval of Supervisor [Online]. 2017 [Cited 2017 March 16]. Available from: URL: <https://www.cpsp.edu.pk/index.php?code=dHJhaW5pbmdfZ3VpZGVsaW5lc3xzdXBlnZpc29yZS5waHB8MHwwfDA>.
 11. College of Physicians and Surgeons Pakistan. Queries Related to Synopsis & Dissertations [Online]. 2017 [Cited 2017 March 16]. Available from: URL: <https://www.cpsp.edu.pk/index.php?code=dHJhaW5pbmdfZ3VpZGVsaW5lc3xzeW5vcHNpcy5waHB8MHwwfDA>.
 12. Jawaid SA. What ails the Pakistani medical institutions? *Pak J Med Sci* 2015; 31: 747-50.
 13. Mubeen SM, Sheikh M. Publish an original article or perish: only way to promote research in Pakistan. *J Pak Med Assoc* 2017; 67: 154-5.
 14. Memon AR. Beall's List Has Vanished: What Next?. *J Orthop Sports Phys Ther* 2017; 47: 219-23.
 15. The Aga Khan University. Open Access Publishing and Predatory Journals [online]. 2016 [Cited 2017 March 7]. Available from: URL: <https://www.aku.edu/library/Pages/predatory-journals.aspx>.
 16. National University of Medical Sciences. Attention Students and Faculty [Online]. 2016 [Cited 2017 March 7]. Available from: URL: <http://numspak.edu.pk/news-detail/attention-students-and-faculty>.
 17. Memon AR. Predatory journals spamming for publication: what should researchers do?. *Sci Eng Ethics* 2017. [Epub ahead of print].
 18. Memon AR. End of 2016: Can we save research from predators in 2017?. *Sci Eng Ethics* 2017. [Epub ahead of print].
 19. Memon AR. Publish or perish: A sign of caution for authors to avoid predatory journals. *J Pak Med Assoc* 2017; 67: 822-3.
 20. Memon AR. ResearchGate is no longer reliable: leniency towards ghost journals may decrease its impact on the scientific community. *J Pak Med Assoc* 2016; 66: 1643-7.
 21. Dadkhah M, Bianciardi G. Ranking Predatory Journals: Solve the Problem Instead of Removing It!. *Adv Pharm Bull* 2016; 6: 1-4.
 22. Memon AR, Waqas A. Indexing by bibliographic databases of journals published in the developing world. *Sci Eng Ethics* 2017; 23:1-5.
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