

## Publication in Medical Education Scientific Area: A Challenging Journey in Disseminating Scientific Writing in Health Profession Education

Hikmawati Nurokhmanti<sup>1\*</sup>, Luthfi Saiful Arif<sup>3</sup>, Silvia Mustika Sari<sup>2</sup>, Widyandana<sup>1</sup>, Mora Claramita<sup>1</sup>

<sup>1</sup>Department of Medical Education and Bioethics, Faculty of Medicine-Public Health-Nursing, Gadjah Mada University, Yogyakarta, Indonesia

<sup>2</sup>Faculty of Medicine, Universitas Jendral Achmad Yani, Jawa Barat, Indonesia

<sup>3</sup>Medical Education Center, Indonesia Medical Education and Research Institute, Faculty of Medicine, Universitas Indonesia. DKI Jakarta, Indonesia

Submitted: 24 May 2024, Final Revision: 3 December 2024, Accepted: 4 December 2024

### ABSTRACT

**Background:** Publications in the medical education field need more attention. It was shown by the MERSQI data score that there is no significant difference between medical education publications in the US (Society of General Internal Medicine, 44,4%) and Turkish (Turkish National Medical Education Congresses and Symposia, 11,3%) in 2014/2015. Therefore, specific strategies should be implemented to raise the quality and quantity of publications in the medical education area. With this recommendation, the number of publications in the medical education area is expected to increase.

**Gaps:** In a study on the quality of publication in Turkish National Medical Education Congresses and Symposia, there is a significant difference in MERSQI score between unpublished (oral/poster presentation) and published papers.<sup>1</sup> It is indicated that the quality of scientific papers needs to be increased. While in Indonesia, no further study is related to the quantity and quality of published papers. It is assumed that publication problems in the medical education field stem from the quality of scientific papers and could relate to Indonesian scholars' false publication strategy.

**Recommendation:** The quality of scientific publications in Indonesia needs an improvement strategy that should be implemented in every scientific institution in Indonesia, starting from the master's degree level. The increasing proportion of research and any supporting material is expected to increase publication with high-quality research. The following recommendation is about the strategy of publishing the paper, which begins with selecting the fit or right scientific journal, followed by increasing scholar adherence to the journal's requirements.

**Keywords:** medical education, publication, challenges, scientific paper quality, scientific paper quantity

### ABSTRAK

**Latar Belakang:** Publikasi dibidang pendidikan kedokteran membutuhkan perhatian lebih yang ditunjukkan oleh data skor *Medical Education Research Study Quality Instrument* yang tidak berbeda signifikan antara studi yang dilakukan area *United States-Society of General Internal Medicine* dan area Turki- *Turkish National Medical Education Congresses and Symposia* ditahun 2014/2015. Oleh karena itu dibutuhkan sebuah strategi khusus untuk meningkatkan kualitas dan kuantitas dari publikasi di bidang pendidikan kedokteran. Dengan rekomendasi ini, publikasi di bidang pendidikan kedokteran khususnya di Indonesia diharapkan meningkat.

\*corresponding author, contact: drhikma@ugm.ac.id

**Celah:** Pada studi terhadap kualitas publikasi di seminar *Turkish National Medical Education Congresses and Symposia* didapatkan perbedaan signifikan skor MERSQI antara oral/poster dengan tulisan yang resmi terpublikasi. Hal tersebut mengindikasikan bahwa kualitas tulisan ilmiah masih perlu ditingkatkan, sedangkan di Indonesia, belum ada studi yang menganalisis lebih jauh terkait dengan permasalahan publikasi di bidang pendidikan kedokteran. Selain permasalahan kualitas tulisan ilmiah, asumsi selanjutnya adalah adanya permasalahan pada strategi publikasi ilmiah dari peneliti Indonesia.

**Rekomendasi:** Peningkatan kualitas ilmiah di Indonesia membutuhkan strategi perbaikan terstruktur yang perlu diimplementasikan di setiap lembaga/institusi keilmuan, pendidikan strata magister di Indonesia. Untuk perbaikan di pendidikan strata magister di Indonesia, peningkatan proporsi riset dan strategi pendukung riset pada level magister akan meningkatkan publikasi dengan kualitas ilmiah yang baik. Kemudian rekomendasi selanjutnya adalah terkait dengan teknik atau strategi ilmiah yang tepat untuk publikasi yang dimulai dari pemilihan jurnal yang tepat, dan adherence terhadap permintaan jurnal yang dituju.

**Kata Kunci:** pendidikan kedokteran, publikasi, *challenges*, kualitas tulisan ilmiah, kuantitas tulisan ilmiah

### PRACTICE POINTS

- The publication starts with an excellent scientific quality paper underlined by the scholar's scientific ability.
- Publishing a scientific paper starts with selecting a targeted journal and scholarly adherence to the journal's requirements.
- In medical education, there are several high-impact journals with various levels of quality (Q1-Q4) and publish rates. For the selection process, consider the journal with an "aimed/targeted" audience and up-to-date issues from the "aimed/targeted" journal.
- Choose the best publication journal depending on the quality level of the scientific paper. If it is rejected, then, minimally, good feedback will be received by the research team.
- Fulfilling the journal's requirements, please carefully read all the journal's requirements and guidelines. Adhering to each instruction will facilitate the publication smoothly.
- Be reasonable with the feedback from the reviewers; they are people who are concerned with science and unpaid. Respond to the reviewer with politeness and high appreciation.

### INTRODUCTION

Scientifically publishing information in medical education is quite challenging. Starting from managing the quality of the scientific paper, then it moves to how to share or publish the scientific paper. Struggling with a scientific paper would not continue with an empty basket, and at least a medical teacher/scholar will receive a significant impact on their credibility and reputation in their field, especially in medical education. Sharing their expertise with a

broader audience through publication will establish their expertise besides disseminating valuable information. Consequently, this will regard their career advancement opportunities, recognition, and collaboration with other scholars in the medical education community. Besides, it could directly impact educational quality and indirectly impact health care services by influencing health care practices and policies and providing better-qualified health care providers.<sup>1,2</sup>

### **GAPS IN THE INDONESIAN CONTEXT**

Since 2016, Indonesian scholar productivity has increased, a good sign of economic development.<sup>3</sup> Nevertheless, maintaining knowledge production is another challenge that should be nurtured and developed. Some determinant factors impact how researchers produce new knowledge through a publication, such as internal or external motivation to publish.<sup>3</sup> An externally driven researcher will respond to the designed system with performance-based incentives such as symbolic rewards, peer recognition, and revelation of performance rank. While internally driven researchers might not respond to all those designed systems with performance-based incentives. Moreover, a researcher is already struggling with limited resources and conflicting demands in our low-middle-income country. Therefore, a wise scientific system that considers local conditions should be established through good policy from scientific leaders.

There is a prosperous opportunity for publication in medical education science, especially in the science application field, since Indonesia has a vast population with various cultures and ethnicities. Sharing this rich information will enrich the root science of medical education.<sup>4</sup> Nevertheless, this will be directly impacted by the safe and supportive environment for each researcher to conduct research, build their knowledge frame, and report/share their work. Therefore, a safe and supportive environment should be nourished in each scientific institution, which, in turn, will increase researchers' productivity. Defined support should be established within each scientific environment, including precise information on the focus of research interest in specific scientific fields for each institution, grants, and a well-established mentoring system.

As a common baseline of a publication, research in medical education should be based on good science and conducted with a good quality of research.<sup>4,5</sup> Based on a 2008 - 2010 study on Indonesian medical publications, it was shown that only 29% of the publications were based on original research, with 21% having good reporting style and 15% having good research quality.<sup>6</sup> Specific to medical

education, there are challenges in researching the science's scope and the deontology of the science. Therefore, research can fall into two categories: practical and theoretical.<sup>7</sup> Determining the quality of scientific research starts with establishing a good research question and selecting the proper methods for answering the research questions. Shortly, there are three domain types of research: qualitative, quantitative, and mixed methods. Each domain has advantages and disadvantages, which should be considered according to the science's ontology and deontology. Nevertheless, each domain of research type has its criteria for what could be named good research. For example, proper qualitative research should meet good validity, authenticity, confirmability, credibility, criticality, dependability, integrity, and transferability.<sup>8,9,10</sup> Quantitative research focuses more on its generalisability, validity, reliability, and replicability.<sup>9</sup>

### **IAM-HPE RECOMMENDATIONS**

After building good research, before thinking of publication, a scholar should answer these inquiry questions about publications' goals: What is the purpose of the publication? What is the desired outcome or impact of the publication? What would be the main message or theme of the publication? Who is the target audience? What sources will be used to gather information for the publication? Which distribution or shared strategy will be advantaged through publication? What tone or style should be used in the publication? All of those answers will guide the scholar/researcher in making a good impact on publication.

How to publish could be started by following steps: write content that is rich in information, up-to-date, and engages the audience; use "right" manners language by checking - and revising grammatical and spelling errors; use eye-catching titles and presenting fascinating abstracts; choose the "right" publishing platform or methods, receive feedback from the reviewers mindfully and respond appreciatively.

Afterwards, making a collaborative manuscript faces challenges in determining the authorship. However, the team leader should be responsible for the whole process and determining the manuscript's authorship.

The leader usually is the corresponding author and main lead of the manuscript. For the leader, individual contribution to work should be evaluated at the end of work before the publication process starts. Before deciding the authorship, leaders should confirm the individual's expertise in the subject matter. After expert confirmation of the authorship, the leader should check for any acknowledgement or disclosure provided by the author. If all of these steps are taken, the leader could start selecting the best aimed/targeted journal with an excellent opportunity for publication, followed by scamming the journal's language and writing requirements.

In the journal selection process, some factors should be considered:

- Relevance - ensure the targeted journal fits with the topics and the scope of the research
- Audience - ensure the journal's reader is suited to the message that will be delivered.
- Impact factors - search and check the journal impact factors that will determine the publication's influence and reputation in the academic community.
- Publication speed - to ensure the "right" time information for your audience
- Submission guideline - read and note carefully the journal's requirements for submission to avoid unnecessary delays or rejections.

There are numerous reputable journals in medical education areas: Medical Education, Advances in Health Sciences Education, Teaching and Learning in Medicine, Medical Teachers, International Journal of Medical Education, and Journal of Graduate Medical Education. The short information regarding the publication journal is provided on SJR web (<http://www.scimagojr.com/journalrank.php>). This web page will provide information on the journal homepage, platform, publication speed, and the quality of the journal (based on the journal reviews' system). However, the information should be taken cautiously since the web has its time frame.

Considering the publication values for career development, one thing that should be checked before trusting the journal for publication is whether the journal is predatory or not.<sup>11,12</sup> The

predatory journal harms the scholar by creating a confusing and negative academic environment. For young scholars, it could directly impact their careers since the ownership of the article could be lost.<sup>13,14</sup>

The predatory journal usually requires high article processing costs with fast publication time without any peer review and proper editing process. The predatory journal also provides falsified information on its cover, such as false impact factors, indexing, and editorial board members who seem credible. Therefore, some signs could be used to determine whether the journal is predatory or not:

- Check the journal's website for spelling and grammar errors and a lack of clear contact information or editorial board.
- Check the article processing cost (APC) of the journal; it should follow the standard of the journal's quality since good quality journals will need a "source" to manage their standardized quality.
- Check the journal's quality through colleagues or using specific resources like DOAJ, or think, check, and submit.
- Check the journal's previous article for its quality, improperly citing, or lack of peer review.
- Last, be aware of unsolicited emails inviting you to submit work to an unfamiliar journal

Maintaining adherence to journals' requirements is challenging. Resilience, defined as an ability to bounce back from any negative experience, is very individualistic and should consider 5C factors to move on, i.e. human capital, social capital, physical capital, financial capital, and natural capital.<sup>15</sup> In our setting, human capital, such as a scholar's physics capability, and social capital, such as social support, will have more impact among those 5Cs. Each capital should be managed accordingly to boost energy and bounce back. The ultimate thing that should be considered is reviewers' feedback, which is pearls representing others' minds when looking for flaws or mistakes in the manuscript. Shortly afterwards, they give feedback according to what they have received based on what is written in the manuscript and as a reaction to make it more straightforward. Therefore, one tip that could be done is to avoid the manuscript and reviewer feedback a couple of times

until the research team is ready to accept the input; then, return to re-read and revise the manuscript.

Based on previous exposure to the webinars, we would like to recommend the following points:

- A good publication needs an established quality scholar with a solid scientific basis, which could be reached through disseminating epistemology medical education science through master's level education in Indonesia.
- Publication work needs time and dedication from the teachers, starting from selecting the journal, adhering to the style, and coping with the response from peer reviewers by appreciative response.

### ACKNOWLEDGEMENT

We thank the IamHPExplore webinar committee which has provided the opportunity to discuss how to publish a scientific paper in the medical education field.

### COMPETING INTERESTS

The authors do not have a conflict of interest in publishing the material. We hope that this could enrich the existing guidelines for communication training.

### AUTHORS' CONTRIBUTION

*Hikmawati Nurokhmanti* – concept, drafting the manuscript

*Mora Claramita* – review, and edits

*Widyandana* – review, and edits

*Silvia Mustika Sari* – review, and edits

*Luthfi Saiful Arif* – review, and edits

### REFERENCES

1. Sari E, Nteli Chatzioglou G, Aydın ÇY, Sarı F, Tokat T, Gürses İA. Publication rates of congress abstracts is associated with abstract quality: Evaluation of Turkish National Medical Education Congresses and Symposia between 2010 and 2014 using MERSQI. *BMC Med Educ.* 2023; 23(1): 1–8.
2. Sawatsky AP, Beckman TJ, Edakkanambeth Varayil J, Mandrekar JN, Reed DA, Wang AT. Association Between Study Quality and Publication Rates of Medical Education Abstracts Presented at the Society of General Internal Medicine Annual Meeting. *J Gen Intern Med.* 2015; 30(8): 1172–7.
3. Caroline V., Fry, John, L., Shannon, T., Ranking researcher: Evidence from Indonesia. *Research Policy*, 2023. Vol.52, No. 3, <https://doi.org/10.1016/j.respol.2023.104753>.
4. Gottlieb M, Dehon E, Jordan J, Bentley S, Ranney ML, Lee S, et al. Getting published in medical education: Overcoming barriers to scholarly production. *West J Emerg Med.* 2018; 19(1): 1–6.
5. Englesbe M, Markovac J. Teaching Publishing in Medical Education—An Overview [Internet]. *Medical and Scientific Publishing: Author, Editor, and Reviewer Perspectives.* Elsevier; 2017. 1–6 p. Available from: <http://dx.doi.org/10.1016/B978-0-12-809969-8.00001-2>
6. Widyahening IS, Wangge G, Saldi SRF, Lestari BW, Apriani L, Sastroasmoro S, et al. Quality and reporting of publications by Indonesian researchers: A literature survey. *J Evid Based Med.* 2014; 7(3): 163–71.
7. Dolmans DHJM, van der Vleuten CPM. Research in medical education: practical impact on medical training and future challenges. *Tijdschr voor Med Onderwijs.* 2010; 29(1): 3–9.
8. Meyrick J. What is good qualitative research? A first step towards a comprehensive approach to judging rigour/quality. *J Health Psychol.* 2006; 11(5): 799–808.
9. Westerman MA. What counts as “good” quantitative research and what can we say about when to use quantitative and/or qualitative methods? *New Ideas Psychol.* 2006; 24(3): 263–74.
10. Bakioglu A, Kurmaz Z. Quality criteria of research perceived by academics in social sciences at higher education . *US-China Educ Rev.* 2009; 6(3): 1–13.

11. Ferris L., Winker M. Research integrity corner: special issue on predatory journals. *Biochem Medica*. 2017; 27(10): 279–84.
12. Chandra A, Dasgupta S. Predatory Journals: What the Researchers and Authors Should Know. *Am J Med*. 2024, <https://doi.org/10.1016/j.amjmed.2024.02.015>.
13. Shrestha J. Authors beware! Publishing in predatory journals is harmful. *J Agric Nat Resour*. 2020; 3(2): 1–8.
14. Brandts-Longtin O, Lalu MM, Adie EA, Albert MA, Almoli E, Almoli F, et al. Assessing the impact of predatory journals on policy and guidance documents: a cross-sectional study protocol. *BMJ Open*. 2022; 12(4): 10–4.
15. Irfanullah HM. So, what does resilience mean for scholarly publishing? *Learn Publ*. 2021; 34(1): 57–63.