

Original Article

Quantifying Perceptions of Journal-Related Barriers to Research Among Pakistani Postgraduate Medical Professionals: A Preliminary Study*Daalia Mehmood¹, Moaaz Ali² and Ammad Waheed Khan³**1. Department of Community Medicine, King Edward Medical University, Lahore, Pakistan**2. Department of Community Medicine, Avicenna Medical College, Lahore, Pakistan**3. Department of Community Medicine, Shalamar Medical College, Lahore, Pakistan***Abstract:**

Objective: To quantify journal-related barriers to research perceived by postgraduate Pakistani medical professionals while publishing in a medical journal.

Methods: In this analytical cross-sectional study, data were collected between June and September of 2025 via an online questionnaire administered to Pakistani medical post-graduate practitioners using convenience sampling, via professional contacts and social media. The questionnaire quantified barriers to submission processes, review processes, financial aspects, access restrictions, and support needs. Descriptive statistics and Spearman's rank correlation, one-way ANOVA, Mann-Whitney U test, and independent-sample t-test were used to analyse the data, with a statistical significance level of $p < 0.05$.

Results: Fifty-four practitioners participated (74.1% male; mean age 36.4 years); 38.9% had < 2 years' post-qualification experience, and 77.8% were based in Pakistan. Publication fee was perceived as the biggest barrier ($M = 3.93$), followed by access restrictions ($M = 3.70$) and review delays ($M = 3.63$). Barrier perception score negatively correlated with number of publications. ($r_s = -0.42$, $p < 0.01$). Early-career professionals reported greater formatting difficulties ($M = 3.95$ vs. 2.63 ; $p = 0.002$). Fast review, fee waivers, and mentorship were most requested.

Conclusion: This preliminary study shows that Pakistani postgraduate medical professionals may face several barriers to publishing in journals. These may include the cost of publication, inaccessibility, and slow review times. Respondents with greater publication experience reported lower barrier perception scores, indicating the need for support at the beginning of a career. A fast review process, funding, structured mentorship and statistical assistance were the most sought after support.

Keywords: Journal-related barriers; Publication barriers; Submission barriers; Pakistan; Postgraduate medical professionals; Low-middle income countries

How to cite: Mehmood D, Ali M, Khan AW. Quantifying Perceptions of Journal-Related Barriers to Research Among Pakistani Postgraduate Medical Professionals: A Preliminary Study. J Univ Physicians Surg Pak (JUPSP). 2026; 20–26.

Corresponding Author: Ammad Waheed Khan: Email: ammadwaheedkhan@live.com

Introduction

Research publication is one of the key pillars of academic medicine, disseminating scientific information, promoting clinical practice, and advancing the profession.¹ In low- and middle-income countries (LMICs) such as Pakistan, research publication is crucial for career progression, as well as both national and international recognition. Even though Pakistani doctors produce significant clinical research, they remain underrepresented in international journals.² Further, postgraduate trainees and

qualified professionals face difficulties with publication.³

These challenges have been identified as scientific writing proficiency, limited access to latest literature, insufficient mentorship, excessive workloads and clinical roles, and limited institutional resources.⁴ In one study, although there were positive feelings toward research, only 12.8 percent of respondents published a manuscript and less than 5 percent published more than one article. The key obstacles to publication were a lack of research

training, facilities, and limited writing skills, correlating strongly with less prior publication experience.⁵ Studies from South Asia show that healthcare professionals often struggle with manuscript preparation, journal requirements, and peer-review processes.⁶

A unique subset is the journal-related barriers, including complicated rules, a lack of knowledge of submission systems, a lengthy review process, and frequent rejection.⁷ Despite improved accessibility due to open access publishing, high article processing charges limit publication opportunities for researchers in LMICs. African and Middle Eastern studies showed that publication fees are among the most frequently cited obstacles.⁸ Moreover, similar studies conducted in developing countries have also reported longer review times, as well as reviewer bias, as barriers.⁹

Few publications are available on the subject targeting specifically postgraduate medical professionals from Pakistan. This preliminary study was conducted to address this knowledge gap. The primary objective of this study was to quantify the perception of journal-related barriers among Pakistani postgraduate medical professionals.

This introduction is based on a targeted literature review of studies examining publication barriers in LMICs, with emphasis on South Asia and Pakistan.

Methodology

This was an analytical, cross-sectional study. We used a structured, self-administered online questionnaire via Google forms. Due to the dispersed nature of the target population, non-probability convenience and snowball sampling were used. A sample size of 220 participants was calculated using an expected proportion of 17.5%.

The survey was online and a link was shared in professional medical groups, on social media (Facebook, WhatsApp, LinkedIn), and on institutional email lists and data collected from June to September 2025.

Participants included Pakistani medical doctors who were either currently enrolled in a postgraduate training program or had completed one such as MD, MS, FCPS, MRCP, FRCS, MPH, MPhil, PhD, or equivalent. No minimum years of experience were required. All participants were engaged in or intend to engage

in, research and publication activities and had given informed consent.

The exclusion criteria included postgraduate qualifications not based on MBBS degree, incomplete questionnaires (more than 20% missing data), duplicate responses, and late responses.

The questionnaire consisted of 20 questions across six domains: demographic and professional background; submission and editorial barriers; peer review barriers; access and financial barriers; support and resource needs; and publication motivations.

It included variables like age, gender, years of experience since completing a postgraduate degree, current place of work and country of work, and number of published articles.

The participants were also asked about their familiarity with publishing requirements. This was assessed on a 5-point scale (1=Not familiar at all, 2=slightly, 3=moderately, 4=very, 5=Extremely familiar).

Barrier perception scores were assessed using domain-specific 5-point Likert scales, with higher scores indicating greater perceived challenge from the barrier (Table 1).

Table 1: Journal related barriers questionnaire

Submission and editorial process
How challenging do you find journal-specific formatting requirements?
1=Not challenging/2=Slightly challenging/3=Moderately challenging/4=Very challenging/5=Extremely challenging
How difficult is it to identify the most appropriate journal for your research?
1=Very easy/2=Easy/3=Moderate/4=Difficult/5=Very difficult
How problematic are journal word limit constraints for your research communication?
1=Not problematic/2=Slightly problematic/3=Moderately problematic/4=Very problematic/5=Extremely problematic
Review process
How often do you experience inconsistent or unclear reviewer feedback?
1=Never/2=Rarely/3=Sometimes/4=Often/5=Always
How significant are long review timelines as a barrier to your publication goals?
1=Not significant/2=Slightly significant/3=Moderately significant/4=Very significant/5=Extremely significant
How much do negative or inappropriate reviewer comments affect your publishing experience?
1=Not at all/2=Slightly/3=Moderately/4=Significantly/5=Extremely

Access and financial barriers
How much do publication fees (including open access fees) limit your ability to publish?
1=Not at all/2=Slightly/3=Moderately/4=Significantly/5=Extremely
How problematic are journal access restrictions (subscriptions, institutional requirements) for your research?
1=Not problematic/2=Slightly problematic/3=Moderately problematic/4=Very problematic/5=Extremely problematic
Support and resources
How much do you need statistical or methodological support during the publication process?
1=No need/2=Little need/3=Moderate need/4=High need/5=Extreme need
How challenging is the overall manuscript submission and resubmission process?
1=Very easy/2=Easy/3=Moderate/4=Difficult/5=Very difficult

Finally, the participants were asked what type of medical research they primarily conduct, what their primary motivation is for publishing research, and what additional support would help them publish.

The questionnaire was developed based upon a comprehensive literature review and consultation with senior medical researchers and journal editors. Three subject-matter experts were used to assess content validity; two were community medicine professors and one a public health expert. All the content validators had experience of more than 10 years as an editor in chief in different journals. Ten medical professionals not included in the final sample were pilot-tested, and the sources were revised to increase clarity and relevance.

The responses were electronically recorded using Google forms, and then exported to Microsoft Excel to clean the data, i.e., filter for duplicates, missing data, and inconsistencies. A statistical test was conducted using the SPSS version 25. Demographic variables and barrier perception scores were summarized using descriptive statistics. Shapiro-Wilk Test was run to check the normality of data which led us to non-parametric tests. Spearman rank correlation, Mann-Whitney U test, independent samples t-test and chi-square tests were used as suitable inferential tests. The significance level was set at $p < 0.05$.

Results

This survey had a response rate of 54/220 (24.54%). As this is a preliminary study, the

sample size was not intended to be representative but to provide initial quantification. The demographic traits of the respondents are shown in Table 2 and Figure 1.



Figure 1: Demographic Characteristics of Study Participants - the 4-panel composite showing (A) age, (B) gender, (C) experience, and (D) publication record (N=54).

Table 2: Demographic Characteristics of Study Participants (N=54)

		Number	Percentages
Gender	Male	40	74.07
	Female	14	25.93
Age Group	25-30 years	6	11.11
	31-35 years	15	27.78
	36-40 years	14	25.93
	41-45 years	7	12.96
	46-50 years	4	7.41
	Above 50 years	8	14.81
Experience	Less than 2 years	21	38.89
	2-5 years	4	7.41
	6-10 years	10	18.52
	11-15 years	6	11.11
	More than 15 years	8	14.81
Publications	0	12	22.22
	1-3	17	31.48
	4-10	11	20.37
	11-20	8	14.81

		Number	Percentages
	More than 20	4	7.41

The majority of respondents worked in public hospitals (n=23, 42.6%), followed by private hospitals (n=14, 25.9%) and medical colleges/universities (n=10, 18.5%). A few worked in a combined clinical and academic setting (n=3, 5.6%), while four respondents did not provide data. Most respondents (n=42, 77.8%) were working in Pakistan, while the remaining were working in countries such as Saudi Arabia (n=6), Malaysia (n=2), the United Arab Emirates (n=1), Maldives (n=1), Oman (n=1), and Ireland (n=1). Although most respondents were based in Pakistan, a small number were working in non-LMIC countries. This subgroup was too small for comparative analysis. Five participants did not mention about experience and two did not mention about their number of publications.

The evaluation of respondents' knowledge of international medical journal requirements demonstrated significant variation in awareness. The familiarity score had a mean of 2.72 (SD=1.23). The distribution was as follows: 7 respondents (12.96%) were not at all familiar with journal requirements, 16 (29.63%) were slightly familiar, 16 (29.63%) were moderately familiar, 10 (18.52%) were very familiar and 5 (9.26%) were extremely familiar.

Statistics for all barrier categories are presented in Table 3.

Table 3: Journal-Related Barrier Perception Scores (N=54)

No	Barriers	Mean	SD
1	Publication Fees	3.93	1.12
2	Access Restrictions	3.70	1.08
3	Review Timelines	3.63	0.89
4	Statistical Support Need	3.48	1.15
5	Formatting Requirements	3.46	1.09
6	Submission Process	3.41	0.92
7	Journal Selection	3.37	0.98
8	Reviewer Comments	3.28	1.05
9	Reviewer Feedback Quality	3.24	0.87
10	Word Limit Constraints	2.96	0.98

Publication fees, followed by access restrictions and review timeline, were the top three barriers perceived by the participants. Statistical support needs, formatting requirements, submission

process, and journal selection followed these. While reviewer comments and feedback quality had low scores, word-limit constraint had the lowest score demonstrating that it was perceived as the barrier that least affected the participants.

A radar chart of the barrier perception scores is presented in Figure 2. The top six areas were evaluated: Publication Fees, Access Restrictions, Review Timelines, Formatting Requirements, Statistical Support, and Submission Process. The chart shows a relatively symmetrical distribution of the level of barrier perception scores across all barriers, indicating a similar difficulty perceived in each area. Publication Fees and access restriction appear to have a slightly higher barrier perception score, however, the polygonal form suggests that no single barrier significantly dominates.

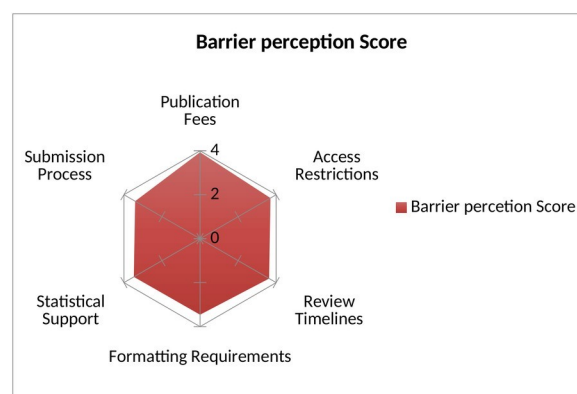


Figure 2: Top Six Most Significant Barriers to Publication perceived by participants. Radar chart showing the relative perception scores of the six highest-ranked barriers perceived by Pakistani medical professionals.

Barrier perception scores were considerably higher among participants with no publications compared to those with more than ten publications. The Mann-Whitney U test indicated significant differences between these groups in perceived barrier scores related to publication fees (U=178.5, p=0.012), formatting requirements (U=165.3, p=0.008), and the need for statistical support (U=156.7, p=0.005) (Figure 3).

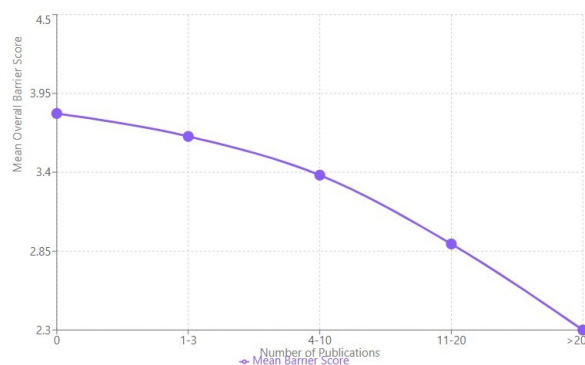


Figure 3: Relationship Between Publication Record and Overall Barrier Perception. Mean barrier scores decrease significantly with increasing Publication experience ($p < 0.001$).

Spearman's Rank correlation was used to test if the publication record had a relationship with barrier perception scores. We found that the number of publications was significantly negatively correlated with perceived difficulty in journal selection ($r_s = -0.42$, $p < 0.01$), suggesting that more experienced researchers do not find it difficult to select the right journals. Also, knowledge of journal requirements had a significant negative correlation with formatting issues ($r_s = -0.51$, $p < 0.001$) and difficulty with the submission process ($r_s = -0.38$, $p < 0.01$).

The most frequently used research designs were cross-sectional studies ($n=23$, 42.6%), case studies/case reports ($n=17$, 31.5%), and clinical trials ($n=14$, 25.9%). Career advancement/promotion requirements ($n=37$, 68.5) and making contributions to medical knowledge ($n=31$, 57.4) were the main reasons for publications.

The responses also showed types of support perceived as most helpful for achieving publication success. These include faster review processes ($n=18$, 33.3%), fee waivers or funding ($n=16$, 29.6%), mentorship of the inexperienced author ($n=15$, 27.8%), better journal selection advice ($n=13$, 24.1%), and statistical consultation ($n=12$, 22.2%).

Discussion

This paper offers a preliminary quantification of the perception of journal related barriers among the Pakistani postgraduate-level medical professionals, with publication fees, limited access to journals and long review processes identified as the greatest barriers to publication success.

The prominence of publication fees aligns with global evidence showing that article processing

charges disproportionately affect researchers in LMICs. In one study, more than 60 percent of the interviewed respondents expressed publication costs as highly or radically impeding. These financial constraints lead to researchers publishing in lower-quality journals.¹¹

The high barrier perception score for restrictions to journal access (mean score 3.70) may point to a poor institutional subscription support in most Pakistani healthcare and academic facilities. Such limited access undermines the quality of research and continues to add to inequality in academic activity.¹²

The long review time (mean score 3.63) is perceived as equally problematic, especially for young professionals. We feel a delay in decision-making may render time-sensitive research useless, disrupt academic promotion mandates, and may lead to a decreased interest in long-term research commitments in an environment where researchers have limited time to complete their tasks without protection. However, these reasons or outcomes need to be studied further.

Barriers also emerged in the technical aspects of publication. The moderate-high perception scores for manuscript formatting requirements (mean score 3.46) and the complexity of the submission process (mean score 3.41) suggest that complying with journal-specific requirements remains difficult, particularly for researchers who are not trained to write scientific manuscripts. This aligns with a previous study in Italy showing that 91% of researchers there require reforms in journal submission and the overall system.¹³

The perceived need for statistical assistance (mean score 3.48) indicates a possible deficiency in training in statistical methods and data analysis among the participants, and a need for statistical support for scholarly publication.

Nonetheless, our study suggests that no single barrier significantly dominates, indicating that journal-related barriers are multifactorial and should be addressed through broad, rather than narrow, institutional and policy-level interventions.

Respondents with greater publication experience reported lower perceived barrier scores, demonstrating a negative relationship between barrier perception score and publication experience. This suggests that as researchers gain experience, journal-related barriers may be perceived as less challenging. For selecting a

journal, manuscript formatting, and submission, respondents with greater publication experience reported finding these tasks less challenging and placed greater emphasis on mentorship and experience.¹⁴ Notably, financial barriers remained among the highest-rated obstacles overall, suggesting that experience alone may not fully mitigate economic constraints.

The most important motivation for publication, observed among most respondents, was career advancement due to the growing pressure on research productivity in academic medicine. This underscores the need for institutions to provide adequate support. Measures such as fast review processes, fee waivers, mentorship, and statistical support were sought after by the respondents. These provide actionable intervention points, which would improve publication success rates for Pakistani medical professionals.

This study is limited by its exploratory design and a relatively small sample size, which decreases the generalizability of the findings and reduces external validity. Also, we did not compare respondents working inside Pakistan with those working abroad; future studies should explore these differences. The results should therefore be interpreted with caution and considered preliminary, serving as a foundation for future large studies. Nevertheless, the findings do suggest that institutions should consider key aspects such as publication costs, access to research resources, mentorship, and statistical support. By addressing these issues one can potentially strengthen research capacity and assist clinician-researchers in navigating the publication process. Furthermore, we have only tried to quantify the perception of journal related barriers related to publication without studying their effect. Future studies should focus on the effects of these barriers and strategies to address them.

Conclusion

This preliminary study gives a brief insight about the perception of journal related barriers among postgraduate professionals of Pakistani Origin. Participants considered publication costs, inaccessibility of journals, and long peer-review periods to be the most critical journal-related obstacles to publication. Respondents with greater publication experience reported lower perceived barrier scores. Measures such as a faster review process, funding, mentorship, and statistical support by the institution may help

address journal-related barriers and improve publication outcomes for postgraduate medical professionals.

Declarations

Conflict of interest: None

Patient Consent: Not Applicable

Ethical Approval: Exempt

Funding: No external funding was received.

Author Contributions: All authors contributed to the design, data collection, analysis, manuscript preparation, and final approval.

Data Availability: Data supporting the findings are available from the corresponding author upon reasonable request.

AI Disclosure (if applicable): No artificial intelligence tools were used in the preparation of this manuscript.

References

1. DeHart WB, Griffin E, Sundaram S, Wood BE, Flynn MG. An introduction to reviewing research articles for academic journals. *HCA Healthc J Med*. 2022;3(6):355–362. doi: 10.36518/2689-0216.1325.
2. Afzal A, Saleem H, Iqbal A, Akram A. The barriers to meaningful research in Pakistan and the way forward. *Anaesthesia, Pain & Intensive Care*. 2024;28(3):405–7. doi: 10.35975/apic.v28i3.2477.
3. Brandt C. Clinician's commentary on McEachern et al. *Physiother Can*. 2020;72(1):81–82. doi:10.3138/ptc-2018-0089-cc.
4. Ahmed I, Shifraw T. Challenges of being a researcher in Africa: a narrative synthesis of literature. *Ethiop J Health Dev*. 2019;33(4).
5. Hanafi I, Kassem LH, Hanafi M, Ahmad S, Abbas O, Hajeer MY, et al. Medical Research Conduct and Publication during Higher Education in Syria: Attitudes, Barriers, Practices, and Possible Solutions. *Avicenna J Med*. 2022;12(3):127–137. doi: 10.1055/s-0042-1755387.
6. Lor P. Scholarly publishing and peer review in the Global South: the role of the reviewer. *JLIS.it*. 2023;14(1):10–29. doi: 10.36253/jlis.it-512.
7. Oshiro J, Caubet SL, Viola KE, Huber JM. Going Beyond “Not Enough Time”: Barriers to Preparing Manuscripts for Academic Medical Journals. *Teach Learn Med*. 2020;32(1):71–81. doi: 10.1080/10401334.2019.1659144.
8. Lund BD, Wang T, Shamsi A, Abdullahi J, Awojobi EA, Borgohain DJ, et al. Barriers to scholarly publishing among library and information science researchers: International perspectives. *Information Development*. 2023;39(2):376–89. doi: 10.1177/02666669211052522.
9. McKay A. Publishing experiences of researchers in the developing world: An analysis of submissions to the Review of Development Economics, January 2015 to April 2022. *Rev Dev Econ*. 2024;28(4):1927–46. doi:10.1111/rode.13131.

10. Jain VK, Iyengar KP, Vaishya R. Article processing charge may be a barrier to publishing. *J Clin Orthop Trauma*. 2020;14:14-16. doi:10.1016/j.jcot.2020.10.039.
11. Hyman GY, Wurdeman T, Kumar N, Alty IG, Forbes C, Riviello R, et al. Article processing charges threaten global health equity: Open access is closed science. *medRxiv*. 2024;2024-11. doi: 10.1101/2024.11.22.24317779.
12. Jiang Y, Lerrigo R, Ullah A, Alagappan M, Asch SM, Goodman SN, et al. The high resource impact of reformatting requirements for scientific papers. *PLoS One*. 2019;14(10):e0223976. doi: 10.1371/journal.pone.0223976.
13. Shimray SR. Perceived attitudes, perceptions and barriers towards scholarly publication: A case study of Indian researchers. *DESIDOC J Libr Inf Technol*. 2023;43(02):88-93. doi: 10.14429/djlit.43.2.18574.
14. Yamanel RG, Kumru P, Eser SK, Celayir A. Barriers to writing research papers and getting them published, as perceived by Turkish physicians-a cross sectional study. *Eur Sci Edit*. 2021;47:e69596. doi:10.3897/ese.2021.e69596.