Letter to Editor

Why Iran's Medical Databases Fall Short: A Call for Reform in Iranian Ophthalmology

Ahmad Shojaei [1], MD; Farsad Noorizadeh *[2], MD

1. Basir Eye Health Research Center, Iran University of Medical Sciences, Tehran, Iran.
2. Students' Scientific Research Center, Tehran University of Medical Sciences, Tehran , Iran.

***Corresponding Author:** Farsad Noorizadeh
E-mail: farsadnoorizadeh@gmail.com

Reliable, well-structured medical databases underpin evidence-based practice, clinical research, and health policy. International platforms such as PubMed, Scopus, and Web of Science enable efficient data synthesis, systematic reviews, and trend analysis. In Iran, national databases including SID (Scientific Information Database), Magiran, and IranMedex were established to index domestic scientific output. Despite initial promise, these platforms currently lack the efficiency, accuracy, and interoperability needed for high-quality ophthalmic research[1].

Iranian ophthalmologists have made notable contributions in areas such as refractive surgery, glaucoma, and corneal disorders. However, deficiencies in national databases limit the visibility, reproducibility, and clinical translation of local studies. This editorial highlights key structural issues and proposes targeted reforms.

Key Limitations

1. Inadequate Quality Control

Many Iranian databases prioritize volume over rigor, indexing content from journals with variable peer-review standards. Unlike PubMed's selective inclusion criteria, domestic platforms often accept publications based primarily on ISSN presence. This leads to inclusion of studies with methodological weaknesses, small samples, or insufficient statistical power. Researchers conducting systematic reviews on topics like herpetic keratitis must manually verify each record, undermining database utility[2].

2. Lack of Standardization and Interoperability

The databases operate in silos with inconsistent metadata, search algorithms, and keyword systems. Full adoption of Medical Subject Headings (MeSH) is limited, and integration with DOIs (via Crossref) or ORCID remains incomplete. Searches for conditions such as retinopathy of prematurity yield fragmented, non-overlapping results across platforms, making reproducible literature retrieval difficult—essential for high-level evidence synthesis[1].

3. Technical and Linguistic Constraints

Slow interfaces, limited export formats (e.g., RIS or BibTeX), and incomplete

coverage of English-language articles by Iranian authors hinder usability. High-quality ophthalmic research is frequently published in English for broader reach, yet it is often poorly indexed domestically. This reduces local discoverability, citation impact, and opportunities for international indexing in Scopus or PubMed Central [3].

Consequences for Ophthalmology

These shortcomings compromise evidence-based clinical care. Ophthalmologists managing complex cases (e.g., refractory glaucoma or corneal disease) lack quick access to reliable local data reflecting Iranian demographics, genetics, and healthcare contexts. Researchers spend excessive time navigating fragmented sources, while systematic reviews relying solely on domestic data become impractical. Nationally, this obscures Iran's research output, reduces citations, and limits global collaboration [4].

Recommendations

Reform requires coordinated national action:

- Form a consortium led by the Ministry of Health and major universities (e.g., Tehran, Shahid Beheshti, Iran University of Medical Sciences) to create a unified platform adopting MeSH, DOIs, and ORCID. Models like KoreaMed and SciELO demonstrate clear gains in visibility and quality [5].
- Implement strict minimum standards for journal inclusion, with annual evaluation by independent experts focusing on peer review, conflict-of-interest disclosure, and ethical approvals.
- Upgrade technical infrastructure for faster searches, standard exports, full English-language indexing, and pathways for integration with PubMed Central.

This journal urges the ophthalmic community to advocate for these changes through collective engagement with policymakers. Efficient national databases are essential infrastructure for evidence-based ophthalmology. By prioritizing standardization, quality control, and interoperability, Iran can better showcase its research strengths and improve patient outcomes.

Authors ORCIDs

Ahmad Shojaei:
https://orcid.org/0000-0002-3109-6979
Farsad Noorizadeh:
https://orcid.org/0000-0003-3393-6369

References

1. Sadeghi, H., & Okhovati, M.. Recall and precision of iranmedex, magiran and sid (scientific information database) databases for retrieval of scholarly information in the field of pharmacy. Health Information Management.2014; 11(4): 435-42.
2. Bastian H, Glasziou P, Chalmers I. Seventy-five trials and eleven systematic reviews a day: how will we ever keep up? PLoS Med. 2010;7(9):e1000326.
3. Merat, S. H., KHATIBZADEH, S., Mesgarpour, B., & Malekzadeh, R. A survey of the current status of web-based databases . Archives of Iranian Medicine.2009; 12(3):271-8.
4. Mansoori, P.. Evolution of Iran's health research system over the past 50 years: a narrative review. Journal of global health. 2018;8(2), 020703.
5. Packer, A. L. The SciELO Open Access: a gold way from the south. Canadian Journal of Higher Education, 2009;39(3):111-26.