

A Comparative Review of Trends in Nursing and Biomedical Education Research

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ABSTRACT

Research and academic work span a wide range of concepts, with clinical and biomedical researchers recognized globally for their superior performance. The United States, China, and the United Kingdom lead globally, publishing high-indexed medical science research articles. Internationally announced research grants and funding are directed towards biomedical research. In recent years, nursing education has garnered significant global attention. Enhancing nursing education through innovative features and intensifying research efforts by educators and students is critical, thus motivating this research.

Introduction

Research and academic work encompass a broad range of concepts. Globally, clinical and biomedical researchers are recognized for their higher performance. EU countries rank in the top 20 for biomedical research publications [1]. Leading the world in publishing over 8,500 high-indexed medical science research articles are the US, China, and the UK [2]. About 70% of internationally announced research grants and funding are received by biomedical research [3].

In recent years, global attention has been focused on nursing education, and as of 2020, 59% of healthcare workers worldwide are nursing professionals. Out of the 27.9 million medical professionals globally, 19.3 million are professional nurses. In 97% of the 152 countries that train nursing professionals, nurses are educated for a minimum of three years. As the nursing field evolves, the number of nursing students increases [4].

Internationally, medical and nursing education programs rely on textbooks, research materials, and information updated based on the needs of teachers, students, and society. Between 2011-2015, the publication of nursing research in high-indexed journals increased by 43% [5]. Enhancing nursing education, integrating innovative features, and intensifying research work by teachers and students is essential; hence, this research was conducted.

Aim

Compare the research trends in nursing education studies with those in biomedical studies.

Objectives

- Identify research directions.
- Develop recommendations.

Methods

We based our research on PubMed, the United States National Library of Medicine's "Medline" database, collecting information on international nursing and biomedical education studies as secondary sources using "Nursing", "Education", "Biomedical", "Education" four key keywords. The 1000 research articles selected were randomly sampled and analyzed using bibliometric methods with the "Vosviewer" and "Zotero" programs to study the trends and changes in nursing and Biomedical research directions.

Result

A search of the PubMed database using the keywords "Nursing", "Education", "Biomedical", and "Education" revealed a total of 62,677 materials in the field of biomedical education studies from 2014 to 2023, while 122,461 materials were found in the field of nursing education studies. Research and academic work in nursing education have been increasing year by year.

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Between 2014 and 2023, nursing research and academic work have mainly focused on the elderly, depression, nurses, and attitudes (figure-1). Meanwhile, biomedical research and academic work during the same period have focused on types of diseases in the elderly, learning about equipment, artificial intelligence, and medical education (figure-2).

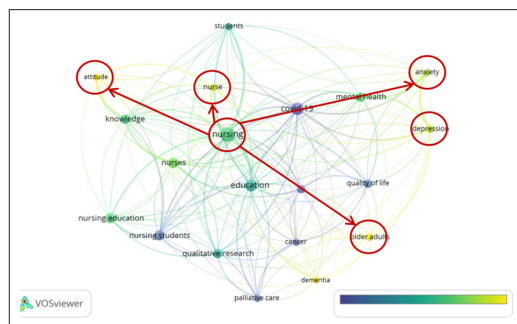


Figure 1: Understanding of Nursing Education Research from 2014-2023.

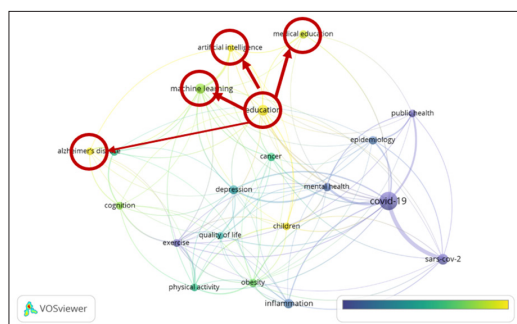


Figure 2: Understanding of Biomedical Education Research from 2014-2023.

Within the scope of the research, it is appropriate to include the following in the nursing education training program. These include:

- Improve the coordination between nursing education programs and other professional programs to support collaborative research and academic work with biomedical studies.
- Optimize the content of nursing education programs to include the ability to find and use research and information in the nursing field, and increase the use of technology.
- Focus on nursing care for the international elderly population.
- Collaborate to train “Good professionals” with knowledge, skills, attitudes, and the ability to implement research- and evidence-based interventions in their field of expertise.

Conclusion

Nursing education studies are rapidly evolving worldwide, focusing on introducing and developing new ideas. Research trends in nursing education have become more independent, resulting in an increase in academic works, research articles, and textbooks in this field. It is essential to effectively integrate

research methods and techniques into the nursing education curriculum and teach the use of technology.

References

1. Benzer A, Pomaroli A, Hauffe H, Schmutzhard E. Geographical analysis of medical publications in 1990. *Lancet*. 1993. 341: 247-247.
2. Numbers highlight US dominance in clinical research. *Nat Med*. Available from: <https://www.nature.com>.
3. Number of grants for biomedical research by funder and recipient in 2020. Available from: <https://www.who.int/observatories/global-observatory-on-health-research-and-development/monitoring/number-of-grants-for-biomedical-research-by-funder-type-of-grant-duration-and-recipients/>
4. Montegricono J, Cornelius J, Downing C, Fradelos EC, Machuca-Contreras F, et al. international nurse education research collaboration during the COVID-19 pandemic: Researchers' perspectives. *Nurse Educ Today*. 2022. 108: 105183.
5. World Health Organization. Global health and ageing. Geneva: WHO. 2021. 9789240003279. Available from: <https://www.who.int/publications/i/item/9789240003279>.
6. Wiley Online Library. Biomedical research after January 2020. Available from: <https://onlinelibrary.wiley.com/action/doSearch?AfterMonth=1&AfterYear=2020>.
7. Active Physicians Who Are International Medical Graduates (IMGs) by Specialty, 2019. Washington (DC): Association of American Medical Colleges. 2020. Available from: <https://www.aamc.org/data-reports/workforce/interactive-data/active-physicians-who-are-international-medical-graduates-imgs-specialty-2019>.
8. Evolution of nursing. Available from: <https://onlinenursing.twu.edu/blog/evolution-of-nursing>.
9. Medical education. Available from: https://en.wikipedia.org/wiki/Medical_education.
10. Modern patterns of medical education. Available from: <https://www.britannica.com/science/medical-education/Modern-patterns-of-medical-education>.
11. MDPI education. *Educ Sci*. 2022. 12: 850.
12. NCBI PMC articles. *Med Educ Online*. 2015. 20: 4630550.
13. BMC medical education articles. *BMC Med Educ*. 2019. 19: 1535.
14. Harvard postgraduate medical education. Available from: <https://postgraduateeducation.hms.harvard.edu/>.
15. Cai M-Y, Wang R-K, Liu Z-H, Chen X-Y, Tan W, et al. Bibliometric analysis of Mongolian medicine and medicinal materials in China since 2000. *J Ethnopharmacol*. 2021. 270: 113810.
16. Ghasemi A, Mirmiran P. Scientific publishing in biomedicine: A brief history of scientific journals. *Int J Prev Med*. 2020. 11: 145.