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SHORT COMMUNICATION

Artificial intelligence in thesis writing among allied health sciences students: opportunities, challenges, and ethical considerations

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Abstract

The rapid advancement of Artificial Intelligence (AI) has transformed various aspects of higher education and scientific research. AI-powered tools such as ChatGPT, Gemini, Elicit, Consensus, and Research Rabbit are increasingly being utilized by undergraduate students to facilitate literature searching, idea generation, academic writing, data analysis, and reference management. Among Allied Health Sciences students, thesis writing often represents a significant academic challenge due to limited research experience and scientific writing skills. AI has emerged as a valuable supportive tool capable of enhancing research efficiency and improving the quality of academic outputs. However, concerns regarding academic integrity, reliability of AI-generated content, data privacy, and overreliance on technology have generated considerable debate within the academic community. This short communication discusses the potential benefits, limitations, and ethical considerations associated with AI use in thesis writing among Allied Health Sciences students. It emphasizes that AI should serve as an assistive technology rather than a replacement for critical thinking, scientific reasoning, and original scholarly contributions. Appropriate institutional guidelines and AI literacy training are essential to ensure responsible and ethical utilization of these technologies in academic research.

Keywords: Artificial intelligence • Thesis writing • Allied health sciences • Academic integrity • Research education • Generative AI

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Introduction

Artificial Intelligence (AI) has emerged as one of the most influential technological developments of the twenty-first century, significantly impacting healthcare, education, and scientific research[1]. Recent advances in generative AI have provided students with unprecedented access to tools capable of generating text, summarizing literature, organizing information, and assisting in academic writing [2]. Consequently, AI has become increasingly integrated into higher education environments worldwide .

Within Allied Health Sciences programs, undergraduate students are required to complete research projects or thesis as part of their academic training [3]. Thesis writing is a complex process that demands proficiency in literature review, research methodology, scientific writing, critical analysis, and interpretation of findings. Many students face challenges in these areas due to limited research experience and inadequate exposure to scholarly writing. AI-powered tools have therefore gained popularity as supportive resources that can streamline various stages of the research process [4]. The growing use of AI in academia has sparked discussions regarding its benefits, limitations, and ethical implications. While AI offers opportunities to improve research productivity and accessibility, concerns have been raised regarding plagiarism, fabrication of references, misinformation, and excessive dependence on technology. Therefore, understanding the appropriate role of AI in thesis writing is essential for Allied Health Sciences students and educators [5].

Role of artificial intelligence in thesis writing

AI technologies can support students throughout multiple phases of thesis development. During topic selection, AI-assisted platforms can identify emerging research trends, generate potential research questions, and suggest relevant areas for investigation [6]. Such capabilities may help students refine their research focus and select topics of contemporary significance. The literature review process, often regarded as one of the most time-consuming aspects of thesis writing, can be substantially enhanced through AI-assisted search tools. Applications such as Elicit, Consensus, and Research Rabbit enable rapid identification, screening, and summarization of scientific literature [7]. These tools assist students in locating relevant evidence while reducing the time required for manual searching. Generative AI platforms can also contribute to academic writing by improving grammar, sentence structure, coherence, and readability. Students who struggle with scientific writing may benefit from AI-generated suggestions that enhance the clarity and organization of their work. Additionally, AI can provide guidance regarding research methodology, statistical approaches, and data interpretation, thereby facilitating a deeper understanding of research concepts[3].

For Allied Health Sciences students engaged in evidence-based research, AI can improve access to current scientific

knowledge and support informed decision-making throughout the research process. These capabilities have the potential to enhance both the efficiency and quality of undergraduate research projects.

Benefits of AI utilization in allied health research education

The integration of AI into thesis writing offers several educational advantages. First, it promotes research efficiency by automating repetitive tasks such as literature screening, citation organization, language editing, and document formatting [4]. This allows students to allocate more time to critical analysis and interpretation of findings. Second, AI can serve as a valuable learning resource by simplifying complex concepts and providing explanations tailored to individual learning needs. Students who may lack confidence in research methodology or scientific writing can use AI tools as supplementary educational aids . Third, AI has the potential to reduce barriers to research participation. Students from diverse educational backgrounds may benefit from enhanced access to scientific information and writing support, thereby improving overall research engagement and productivity. Furthermore, AI can facilitate interdisciplinary collaboration by helping students integrate knowledge from multiple healthcare disciplines [5].

Ethical challenges and limitations

Despite its considerable advantages, AI use in thesis writing is accompanied by several challenges and ethical concerns. One major limitation is the potential generation of inaccurate or misleading information. Generative AI models may occasionally produce incorrect facts, misinterpret scientific findings, or create fictitious references . Consequently, students must verify all AI-generated information using reliable scientific sources before incorporating it into academic work. Academic integrity represents another important concern. Excessive reliance on AI-generated content may undermine the development of independent thinking, scientific reasoning, and scholarly writing skills [6, 7]. Educational institutions increasingly emphasize that AI should not be used to replace original intellectual effort or to generate entire sections of academic work without appropriate disclosure. Furthermore, issues related to data privacy and confidentiality require careful consideration, particularly when students input research data into AI platforms. Researchers must ensure compliance with institutional policies and ethical guidelines regarding the handling of sensitive information. Current evidence suggests that AI should be utilized within clearly defined academic boundaries [8]. While AI can effectively assist with literature searching, language refinement, idea generation, and research organization, it should not replace critical thinking, data interpretation, or the student's original scholarly contribution. The responsibility for ensuring the accuracy, authenticity, and ethical integrity of a thesis remains entirely with the student and supervisor[9].

Future perspective

As AI technologies continue to evolve, educational institutions should establish comprehensive guidelines governing their use in academic research. Integrating AI literacy into research methodology courses can help students understand both the capabilities and limitations of these tools. Training programs focusing on responsible AI utilization, critical evaluation of AI-generated outputs, and ethical research practices may further enhance the benefits of AI while minimizing potential risks. Collaboration among educators, researchers, and policymakers will be necessary to develop standardized frameworks that promote the ethical and effective integration of AI into Allied Health Sciences education[10, 11].

Conclusion

Artificial Intelligence is rapidly transforming the landscape of thesis writing among Allied Health Sciences students. By facilitating literature review, academic writing, research planning, and information retrieval, AI has the potential to improve research efficiency and educational outcomes. Nevertheless, these benefits must be balanced against concerns related to academic integrity, misinformation, and overreliance on technology. AI should be regarded as a supportive educational tool rather than a substitute for critical thinking, scientific reasoning, and original scholarly work. Responsible utilization, combined with appropriate institutional guidance and AI literacy training, will be essential to ensure that these technologies enhance rather than diminish the quality and integrity of academic research.

References

1. Tan, M.J.T. and N.M.A.T. Maravilla, *Shaping integrity: why generative artificial intelligence does not have to undermine education.* Frontiers in artificial intelligence, 2024. **7**: p. 1471224.
2. Toledo Tan, M.J. and N.M. Amor Tan Maravilla, *Shaping Integrity: Why Generative Artificial Intelligence Does Not Have to Undermine Education.* arXiv e-prints, 2024: p. arXiv: 2407.19088.
3. Qubtia, M., et al., *Cross-sectional study: Use of natural products for health-associated conditions in Pakistan.* International Journal of Trends in Pharmaceutical and Chemical Research, 2024. **2**(1).
4. Maqbool, T., et al., *Future pharmacy practitioners' insights towards integration of artificial intelligence in healthcare education: preliminary findings from Karachi, Pakistan.* PloS one, 2025. **20**(2): p. e0314045.
5. Sadia, H., et al., *Enhancing medication appropriateness: Insights from the STOPP*

(Screening Tool of Older Persons' Prescriptions) criteria version 3 on prescribing practices among the older adults in Pakistan. Frontiers in Pharmacology, 2025. **16**: p. 1551819.

6. Cheng, A., A. Calhoun, and G. Reedy, *Artificial intelligence-assisted academic writing: recommendations for ethical use.* Advances in Simulation, 2025. **10**(1): p. 22.
7. Schank, R.C., *Where's the AI?* AI magazine, 1991. **12**(4): p. 38-49.
8. Rentier, E.S., *To use or not to use: exploring the ethical implications of using generative AI in academic writing.* AI and Ethics, 2025. **5**(3): p. 3421-3425.
9. Sadia, H., et al., *To prescribe or not to prescribe in the elderly: a qualitative exploration of prescribing dilemmas among Pakistani healthcare providers.* BMJ open, 2025. **15**(4): p. e094545.
10. Maqbool, T., et al., *Fostering climate resilience in healthcare: the role of pharmacy students in understanding and addressing climate change in Karachi, Pakistan.* BMC Public Health, 2026. **26**(1): p. 1543.
11. Thomas, P., et al., *GeneView: a comprehensive semantic search engine for PubMed.* Nucleic acids research, 2012. **40**(W1): p. W585-W591.