

AI Adoption in Medical Libraries: A Study on SDMH's Use of Ovid Discovery AI and Its Impact on Evidence-Based Medicine

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Abstract

The role of Artificial Intelligence (AI) in transforming medical libraries is increasingly significant as these libraries evolve to become intelligent, responsive hubs for knowledge dissemination. This paper explores the adoption of AI tools at Santokba Durlabhji Memorial Hospital (SDMH) Medical Library, focusing on the integration of Ovid Discovery AI, a cutting-edge tool designed to enhance literature search accuracy, summarize content, and provide context-aware recommendations. Using a mixed-methods approach, the study includes a survey of 75 respondents from key hospital groups (consultants, postgraduate students, and residents), a case study of SDMH's AI adoption, and an analysis of global literature on AI in medical libraries. Key findings suggest that postgraduate students exhibit the highest levels of AI awareness (~85%), with consultants showing moderate familiarity (~72%), and residents/nurses demonstrating lower awareness (~60%). The use of Ovid Discovery AI has led to improved efficiency and accuracy in literature searches, providing personalized learning experiences and better evidence retrieval. However, challenges such as resistance to technological change, concerns about ethical implications, and the need for continuous training remain. In addition to the current successes, the future of AI in medical libraries is explored, emphasizing the integration of AI with clinical decision support systems, the use of predictive analytics for collection management, and the role of librarians as facilitators and ethical gatekeepers. The paper concludes with recommendations for improving AI adoption at SDMH, such as expanding training programs, establishing governance policies, and fostering international collaborations to ensure responsible and trajectory of AI in medical libraries, positioning them as critical components in the advancement of evidence-based medicine and patient care.

Keywords: Artificial Intelligence, Medical Libraries, Ovid Discovery AI, Smart Libraries, SDMH, AI Literacy, Ethics, Evidence-Based Medicine

INTRODUCTION

Medical libraries have long been vital sources of knowledge, providing access to academic literature, journals, books, and other essential resources. Traditionally, their role has been centered on curating vast collections of information, making it available to clinicians, researchers, and students. However,

with the rapid evolution of technological advancements, particularly in Artificial Intelligence (AI) and the Internet of Things (IoT), medical libraries are undergoing a dramatic transformation. These libraries are now embracing AI technologies to enhance not only information retrieval but also the overall user experience, enabling the seamless access and interaction with vast amounts of health-related knowledge [1]. AI technologies, such as Natural Language Processing (NLP), semantic search engines, and generative AI, have shown great potential in making medical libraries smarter. These

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innovations have led to the development of AI-driven search engines, automated content summarization, and personalized learning experiences that are transforming how medical professionals, researchers, and students access and interact with knowledge. Tools such as Ovid Discovery AI at SDMH Medical Library are designed to leverage these AI capabilities to make literature searches more accurate, efficient, and contextually relevant [2].

While the advantages of AI in medical libraries are clear, the adoption of these tools also presents numerous challenges. Issues such as data privacy, algorithmic bias, user resistance, and the lack of familiarity with AI technologies remain significant barriers. Moreover, the implementation of AI tools requires medical libraries to rethink their operational models and reassess their role within academic and clinical institutions. These challenges, however, are not insurmountable. With continued investment in training programs, awareness campaigns, and cross-sector collaborations, medical libraries can overcome these hurdles and harness the full potential of AI technologies.

The adoption of AI in medical libraries, particularly at Santokba Durlabhji Memorial Hospital (SDMH), serves as a case study for exploring these transformations. This paper will examine SDMH's adoption of AI-driven tools such as Ovid Discovery AI and its integration into the library's existing infrastructure. It will also delve into the future implications of AI in medical libraries and healthcare, including the integration of AI with clinical decision-making systems, predictive analytics, and personalized education. The paper will highlight how these technologies can not only improve the efficiency of literature searches but also contribute to the broader goals of evidence-based medicine, patient safety, and continuous professional development for healthcare professionals.

As AI technologies continue to evolve, the future of medical libraries appears bright, with the potential to not only enhance information retrieval but also play a significant role in the clinical decision-making process. Medical libraries of the future will act as intelligent knowledge hubs, facilitating real-time access to accurate evidence and enabling personalized learning environments [3]. To ensure the sustainable and ethical use of AI in medical libraries, it is essential to continue fostering collaborations between librarians, healthcare professionals, AI developers, and policymakers.

LITERATURE REVIEW

Recent studies have highlighted the increasing role of AI in medical libraries, where AI-based tools have been pivotal in improving literature searches, content summarization, and clinical decision-making. AI-powered search tools such as Ovid Discovery AI are transforming traditional library practices by enhancing the precision and relevance of search results. Such studies have shown that AI can reduce the time required for literature review, while also increasing the accuracy of identified articles by offering contextual results. The application of AI in medical libraries is part of a broader trend of digital transformation across healthcare sectors. The Study reviewed the role of AI systems like ChatGPT in enhancing library services, including multilingual support for literature discovery and personalized recommendations for researchers [4]. This aligns with findings from global medical institutions that are integrating AI for content duration, library automation, and personalized services. However, the adoption of AI in medical libraries is not without challenges. Ethical considerations regarding data privacy, the potential for bias in AI algorithms, and the reluctance to adopt new technologies among healthcare professionals remain significant barriers. The literature stresses that ongoing training for library staff and users is crucial to ensure that AI tools are used ethically and effectively [5].

Objectives

- To investigate how AI tools are employed in SDMH Medical Library.
- To measure user awareness and concerns regarding AI among different groups.
- To compare SDMH's implementation with global trends.
- To propose recommendations for sustainable and ethical AI adoption.

Methodology

This study adopts a mixed-methods approach to examine the adoption of AI tools in SDMH Medical Library. The research was conducted in three phases:

1. *Survey Design and Data Collection*: A structured survey was distributed among 75 participants, including consultants, postgraduate students (PGs), and residents/nurses, to assess their awareness, usage, and concerns regarding AI in medical libraries. The survey included both quantitative questions (e.g., AI awareness percentage, tool usage statistics) and qualitative questions (e.g., concerns about AI's role in decision-making, ethical considerations). The sample size was selected to ensure representation across key user groups within the hospital, each of which interacts with the library's resources differently.
2. *Case Study Analysis*: A detailed case study of SDMH's adoption of Ovid Discovery AI and its integration into the library's operations was undertaken. This included an analysis of the implementation process, challenges faced, and feedback from library staff and users. The case study also examined the role of the SDMH Online Resources Portal, which integrates AI-enhanced search features to improve access to digital resources.
3. *Literature Review and Feedback Analysis*: A comprehensive review of the literature from 2022 to 2025 was conducted to provide context for SDMH's AI initiatives. This review focused on studies that discussed the role of AI in medical libraries, including its applications in information retrieval, training, and ethical considerations. Additionally, feedback from AI training sessions and workshops conducted at SDMH was collected and analyzed to gauge the effectiveness of the library's training programs. The data was analyzed using descriptive statistics to quantify AI awareness and tool usage across groups, while thematic analysis was used to extract key concerns and suggestions from qualitative responses. This combination of methods allows for a comprehensive understanding of AI adoption at SDMH and provides insights into best practices and areas for improvement.

AI ADOPTION AT SDMH MEDICAL LIBRARY

Ovid Discovery AI

Ovid Discovery AI provides semantic search, AI-generated summaries, MeSH-based biomedical facets, AI-powered suggestions, and secure cloud hosting. This has transformed SDMH Medical Library into a reliable, fast, and context-aware knowledge hub.

SDMH Online Resources Portal

The SDMH Online Resources Portal offers unified access to subscribed journals, e-books, and open-access sources, integrated with AI-enhanced search features.

Training & Awareness Programs

The SDMH Medical Library has placed strong emphasis on training and awareness as a critical driver for AI adoption. Regular workshops, hands-on sessions, and live demonstrations have been conducted for consultants, residents, and students on AI tools, Ovid search, and ethical implications. Recent programs have included AI-based learning modules, interactive case studies, and chatbot-assisted training support. These initiatives not only improved participants' search skills but also increased their confidence in using AI responsibly. The library also introduced online awareness campaigns using the SDMH Portal, where micro learning videos, AI-generated infographics, and automated email tips were shared. Feedback surveys highlighted that more than 80% of participants found AI-assisted awareness material engaging and easy to understand. Moving forward, AI-driven personalized learning pathways are being planned to tailor training to different user groups, ensuring long-term sustainability of AI literacy.

Findings & Analysis

The survey results reveal several interesting trends in the adoption of AI tools at SDMH Medical Library. In Table 1, The 75 participants in the survey showed varying degrees of AI awareness, with postgraduate students (PGs) demonstrating the highest awareness (85%). This can be attributed to their ongoing academic activities and exposure to AI tools in their studies. Consultants, on the other hand,

showed moderate awareness (72%), while residents and nurses exhibited the lowest awareness at 60% as shown in Figure 1. The use of Ovid Discovery AI among PGs was the highest (80%), with many citing it as an invaluable tool for literature searches. In Figure 2, The consultants also showed moderate usage (68%), although a notable portion expressed concerns regarding the reliance on AI for clinical decision-making, with 30% expressing fears about AI replacing their clinical judgment. Residents showed the lowest usage (55%), with many indicating a need for more hands-on training and familiarization with the tool. In terms of AI's impact on efficiency, more than 70% of PGs and consultants reported that Ovid AI had significantly reduced the time spent on literature searches. The AI-generated summaries and contextual results also contributed to a deeper understanding of medical literature. However, challenges were also highlighted, particularly concerns about AI's accuracy and the need for constant training to stay updated with new tools and features.

In addition, Figure 3 illustrates the level of fear or concern regarding AI among different respondent groups. It is observed that nurses and residents show the highest level of concern (40%), followed by consultants (30%) and postgraduate students (25%), indicating varying degrees of trust and acceptance of AI tools. Figure 4 further represents the comparative usage of Ovid Discovery AI across different categories, reaffirming that postgraduate students are the most frequent users, followed by consultants and residents.

Similarly, Figure 5 highlights the overall AI awareness levels among respondents, clearly demonstrating that postgraduate students have the highest awareness, while residents and nurses require more focused training and exposure.

Table 1. AI Awareness and usage among respondents (n=75).

Category	Respondents	AI Awareness (%)	Ovid usage (%)	Fear of AI (%)
Consultants	25	72	68	30
PG Students	35	85	80	25
Nurses/Residents	15	60	55	40

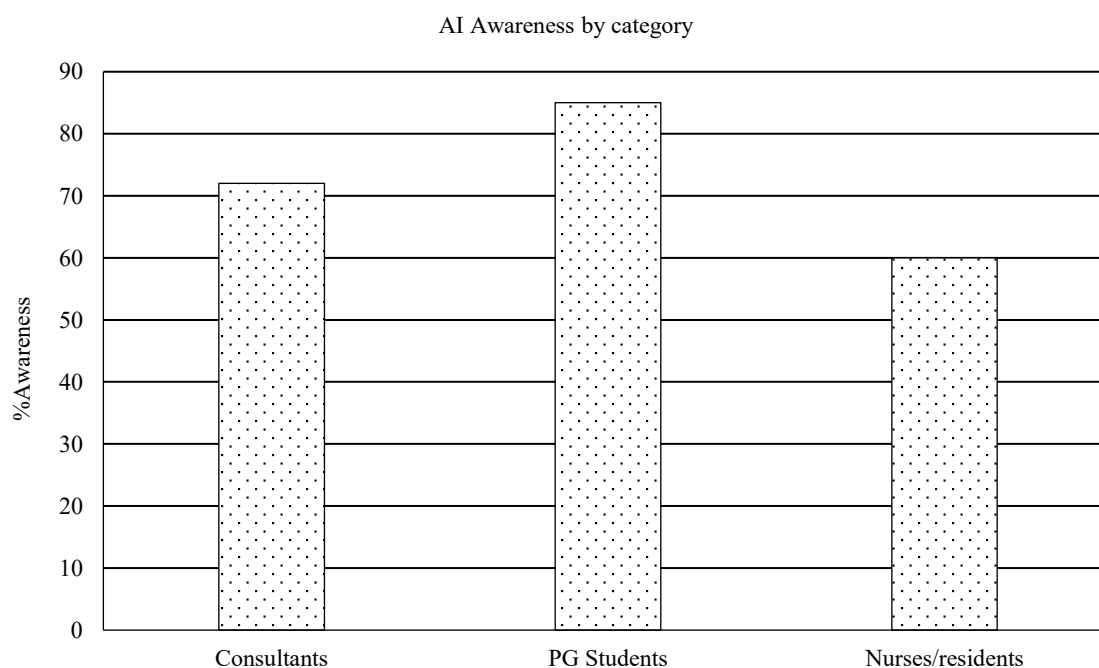


Figure 1. AI Awareness by category.

Interpretation: PG students showed the highest awareness and usage. Consultants were moderate,

with some expressing concerns. Residents/nurses had lower awareness, highlighting the need for more training. Furthermore, consultants expressed reservations about relying on AI for disease diagnosis. While they appreciated AI in literature searches and summarization, they emphasized that clinical judgment cannot be replaced, reflecting a global concern regarding over-reliance on AI in medical decision-making.

In addition, advanced AI literacy programs are being explored at SDMH, including AI simulation-based training, integration of AI tools into regular CME (Continuing Medical Education), and collaborations with technology providers. International best practices show that AI literacy in health sciences requires continuous updates, hands-on practice, and alignment with ethics guidelines. This model is now being considered for future SDMH training modules.

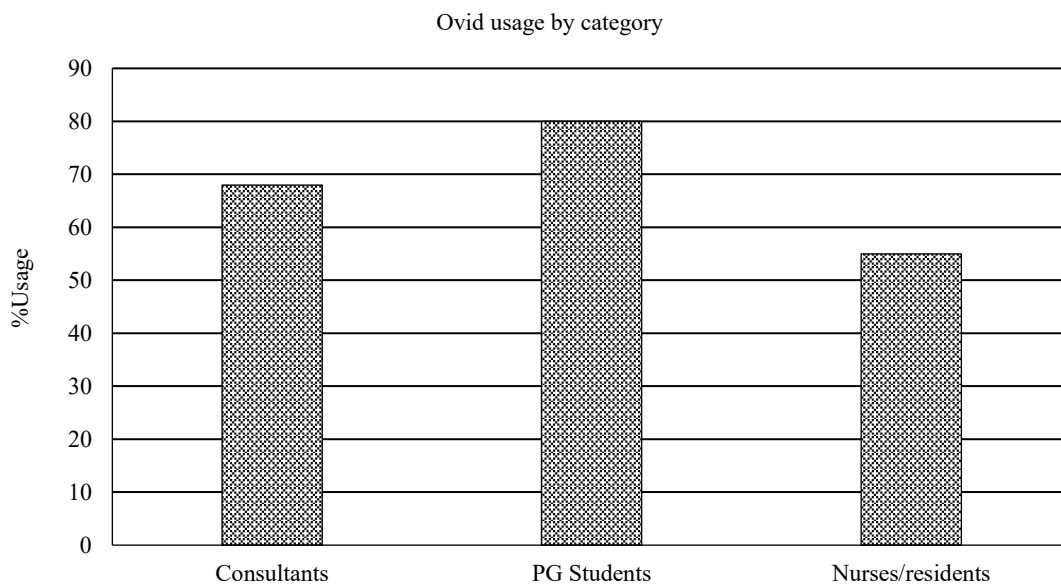


Figure 2. Ovid usage by category.

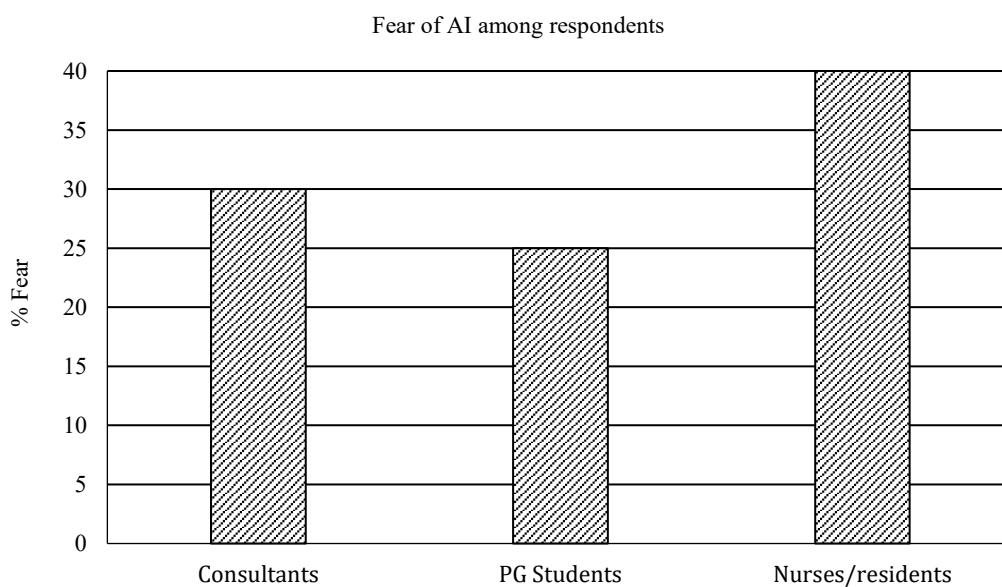


Figure 3. Fear of AI among respondents.

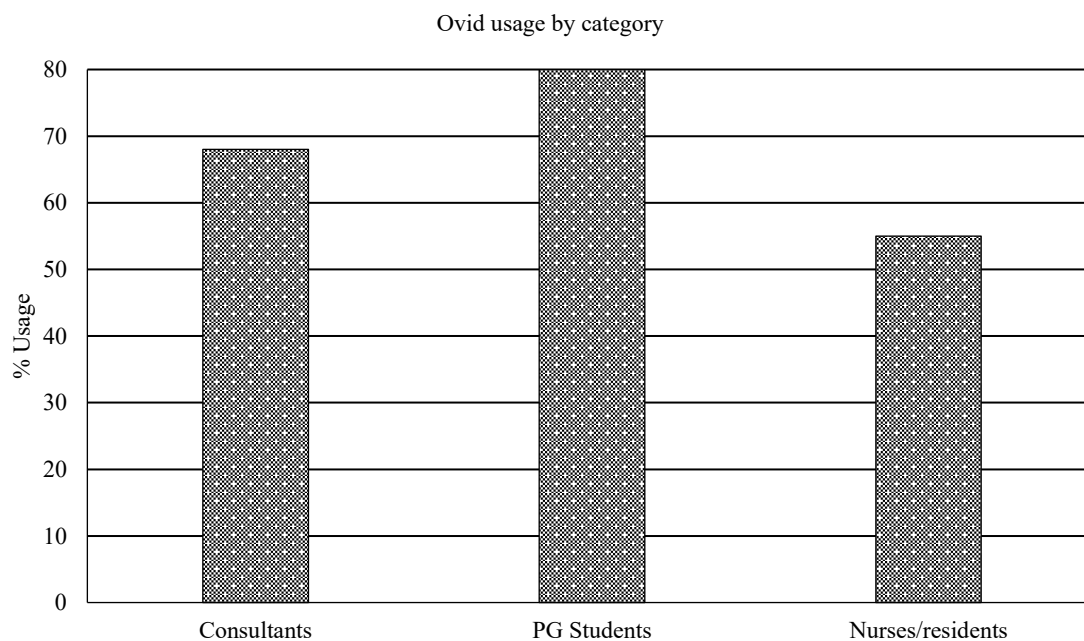


Figure 4. Ovid usage by category.

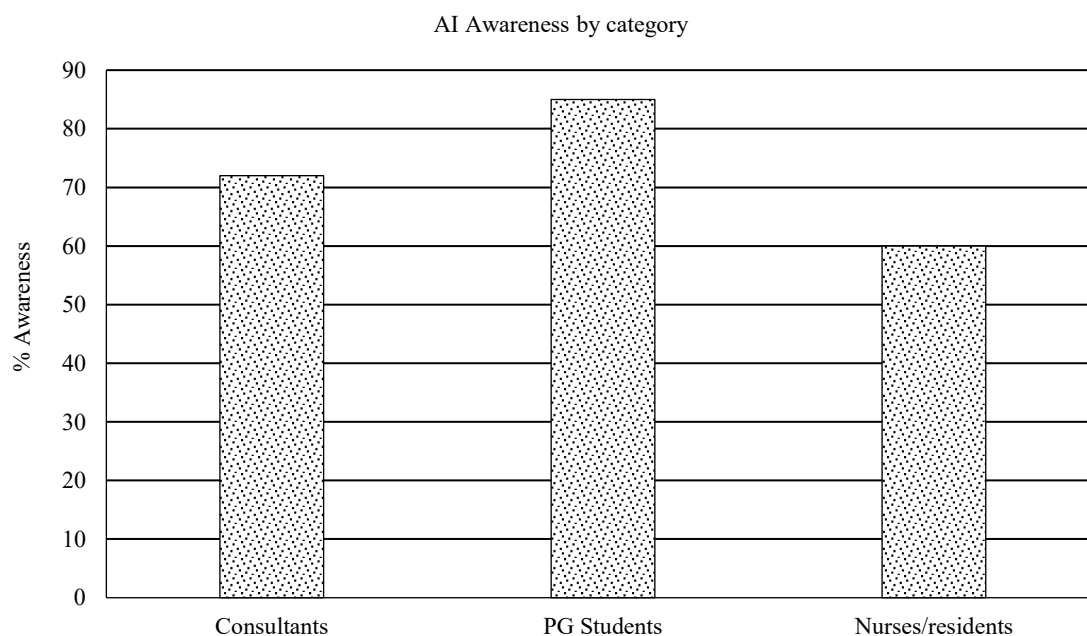


Figure 5. AI Awareness by category.

DISCUSSION

The findings from SDMHS Medical Library mirror global trends in the adoption of AI in medical libraries. The positive outcomes, including increased efficiency in literature searches and enhanced awareness of AI among PG students, suggest that AI has the potential to transform medical libraries into smart knowledge hubs. However, the challenges identified—such as resistance to change, concerns about AI accuracy, and ethical issues—reflect the broader global concerns about AI’s integration into healthcare systems. While AI tools like Ovid Discovery AI have proven to be valuable for literature review and decision support, the reluctance of some users to fully trust AI underscores the importance of human oversight. Medical professionals, particularly consultants, emphasized that while AI can aid

in research, it should never replace human judgment in clinical practice. This aligns with global frameworks that advocate for "augmented intelligence," where AI supports human decision-making but does not replace it.

Recommendations

Based on the findings of this study, several recommendations can be made to enhance AI adoption at SDMH Medical Library:

1. *Expand AI Training Programs:* It is crucial to increase AI literacy among all staff groups, particularly residents and nurses. More tailored workshops and hands-on sessions should be organized to ensure that all users are proficient in using AI tools.
2. *Establish Governance Policies:* Clear governance frameworks should be established to ensure that AI tools are used ethically and transparently. These policies should include guidelines on data privacy, AI bias, and human oversight in decision-making.
3. *Collaborate with External Institutions:* SDMH should collaborate with international institutions and AI developers to share best practices and stay updated on the latest AI advancements in medical libraries.
4. *Regularly Evaluate AI Tools:* Continuous evaluation of AI tools like Ovid Discovery AI should be conducted to assess their effectiveness, identify areas for improvement, and ensure that they meet the needs of users.
5. *Incorporate AI into Clinical Education:* AI literacy should be integrated into medical education programs, ensuring that future healthcare professionals are well-versed in using AI tools responsibly and effectively in their practice.

Expanded Future Scope & Implications of Ai in Medical Libraries

The future of Artificial Intelligence in medical libraries extends far beyond advanced search and retrieval systems. As healthcare increasingly adopts digital-first and data-driven models, medical libraries are expected to function as intelligent knowledge ecosystems that actively support clinical care, research, education, and policy formulation [6]. AI-driven medical libraries will evolve into decision-support partners rather than passive information repositories [7].

One of the most promising future developments is the integration of AI tools with hospital information systems, including Electronic Health Records (EHRs) and Clinical Decision Support Systems (CDSS) [8]. Such integration can enable contextual literature recommendations based on clinical cases, thereby supporting evidence-based practice at the point of care. Librarians, in collaboration with clinicians and IT professionals, will play a crucial role in ensuring that these AI-driven recommendations are reliable, unbiased, and ethically sound.

Another important future direction is the use of predictive analytics and machine learning in collection development and resource management [9]. AI systems can analyze usage patterns, research trends, and institutional priorities to predict future information needs. This will allow medical libraries to optimize subscriptions, reduce costs, and ensure access to the most relevant and high-impact resources. At SDMH, such predictive models could help align library collections more closely with emerging clinical specialties and research priorities.

The role of librarians is also expected to undergo significant transformation. Medical librarians will increasingly act as AI facilitators, trainers, and ethical gatekeepers, rather than only information custodians [10]. Continuous professional development in AI literacy, data ethics, and algorithmic transparency will become essential. Future training programs may include certification courses in AI for librarians, interdisciplinary workshops with clinicians, and participation in global AI-library networks.

From an educational perspective, AI-enabled libraries can support personalized learning environments [11]. AI-driven platforms can adapt training content based on users' academic level,

specialty, and information-seeking behavior. For example, postgraduate students may receive advanced systematic review support, while residents may benefit from quick evidence summaries and clinical guidelines. Such personalization can significantly enhance learning outcomes and research productivity.

Ethical governance will remain a critical concern in the future. Issues related to data privacy, algorithmic bias, accountability, and transparency must be continuously addressed [12]. Medical libraries will be expected to align AI adoption with international ethical frameworks and institutional policies. Establishing AI governance committees involving librarians, clinicians, legal experts, and administrators can ensure responsible and trustworthy AI use.

In the long term, AI-driven medical libraries have the potential to contribute directly to improved patient care and safety by ensuring timely access to validated evidence. By supporting clinicians with accurate, up-to-date, and context-aware information, libraries can strengthen evidence-based medicine and reduce information overload. SDMH Medical Library, through sustained investment in AI tools, training, and ethical governance, is well-positioned to emerge as a model institution in this evolving landscape.

CONCLUSION

The adoption of Ovid Discovery AI and other AI-enhanced tools at SDMH Medical Library represents a significant step toward transforming the library into a smart, AI-driven knowledge hub. While the initiative has shown positive results, including improved efficiency and increased AI awareness among students, challenges related to trust, ethics, and training remain. Addressing these challenges through comprehensive training programs, robust governance policies, and ongoing collaboration with external institutions will be crucial for the sustainable growth of AI in medical libraries. Looking ahead, SDMH Medical Library's journey towards becoming a fully AI-integrated library will serve as a model for other institutions seeking to leverage AI in healthcare. By ensuring that AI tools are used ethically and effectively, medical libraries can play a pivotal role in supporting evidence-based healthcare, improving patient safety, and advancing the future of clinical decision-making.

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