Research Article

A Study on E-Resources available in Medical Colleges and research centers Libraries in India with special reference to Uttar Pradesh

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Abstract: The study in this paper offers a thorough examination of the accessibility and use of electronic resources (e-resources) in medical college and research center libraries throughout India, with an emphasis on the state of Uttar Pradesh. The study evaluates the state of e-resource collections today, the access strategies used, and the difficulties libraries encounter while acquiring and managing these digital assets. The study intends to shed light on the value of electronic resources in medical research and teaching, as well as the tactics needed to increase their usability and accessibility in these settings.

Keywords: E-resources, Medical libraries, Research centers, Digital information resource,electronic books, Online databases, Information access, ICT in libraries.

1. INTRODUCTION

Information has replaced money in our modern age, which is defined by an unheard-of flood of data and a constant interchange of knowledge. [1] It is the foundation of our global interconnectedness, the source of innovation, and the lifeblood of decision-making. Information is more than just data; it's how we make sense of the complexity of our existence, interact with one another, and traverse it. The ways we access, organize, and use knowledge have changed significantly over time, from ancient scrolls and libraries to the limitless expanse of the internet.[2]

Information is fundamentally a means of conveying knowledge and meaning. It acts as a link between our inquiries and responses, issues and fixes, and knowledge and curiosity. It gives us the ability to look back on the past, influence the present, and think ahead. It serves as both the building block for creativity and the force behind scientific progression, technological development, and societal advancement.[3]

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Information dynamics permeate all facets of human life and are not exclusive to any one industry or field. Information is the cornerstone of academic study and research, fostering the search for the truth and the growth of critical thinking. [4]It drives customer behavior, shapes market trends, and directs corporate strategies. Information serves as the foundation for policy, judgment, and accountability in governance.

However, the overwhelming amount of knowledge has two sides. It has a lot of potential, but it also has a lot of difficulties. The challenge of sorting through a flood of data to obtain useful knowledge has emerged as a key issue. A critical and discerning approach to information intake is required given the proliferation of fake news, misinformation, and information overload.

The context for our study is this complex interaction between society and information. We will investigate the concept of information and all of its forms, sources, and channels as we set out on this adventure. We will explore the methods used for distributing, storing, safeguarding, and utilizing information. [5]We will also look at how the information landscape has changed as a result of the digital revolution, changing how we access and distribute knowledge.

We hope to learn more about the function of knowledge in our lives, its capacity for change, and the obligations it sets on us as stewards of knowledge through this investigation. Our trip through the information world promises to illuminate its enormous impact on our society, culture, and future while also presenting us with a challenge to adjust, acquire new skills, and navigate the limitless information sea that is all around us.[6]

Medical colleges' and research centers' libraries offer e-resources

The manner that researchers, students, and healthcare professionals access and use information has changed because to the availability of electronic resources (e-resources) in libraries at medical colleges and research institutes. These electronic resources cover a wide spectrum of digital content that helps with medical research, clinical practice, and teaching. The following are some typical e-resource categories found in medical libraries:

Medical libraries offer access to a wide range of electronic publications that span a variety of medical specializations. The most recent case reports, clinical recommendations, and research findings are published in these publications. [7]E-journals frequently offer features like full-text articles and complex search options, as well as the ability for users to access current content online and explore archives.

E-books: A large selection of medical textbooks, reference materials, and clinical handbooks are available as electronic books (or e-books) for medical professionals and students. E-books are available on a variety of platforms and might be a more affordable option than paper books.

Online databases: Access to a wide collection of research articles, clinical trials, systematic reviews, and more is possible through databases like PubMed, MEDLINE, Embase, and Scopus. These databases enable users to keep up with the most recent medical literature and provide extensive search capabilities.[8]

Clinical Decision Support Tools: Access to clinical decision support tools like UpToDate and DynaMed is available through many medical libraries. These sites provide information backed by research and aid medical professionals in making wise clinical judgments.

Medical imaging databases may be accessible through libraries in healthcare facilities, giving users access to and analysis of medical images including X-rays, MRIs, and CT scans.

Clinical practice guidelines, treatment regimens, and best practice documents are frequently found in electronic resources that

help healthcare professionals provide evidence-based care.[9]

Electronic theses and dissertations (ETDs) are made available by several institutions to aid in research operations. ETDs are important tools for researchers and students.

Online Courses and Tutorials: In order to improve medical education and professional growth, several libraries provide access to online courses, tutorials, and video lectures.

Mobile Apps: Medical mobile apps that offer rapid references, prescription information, clinical calculators, and medical news updates may be accessible through libraries.

Audiovisual Resources: These can be podcasts, multimedia resources, and medical videos that support medical education and training.

Access to clinical trial databases enables researchers to locate ongoing and completed clinical trials in a variety of medical specialties.

Libraries may provide citation management software, such as EndNote or Zotero, to assist users in organizing and citing their research sources.

Software for research and statistics: A few institutions offer access to programs for data visualization, research administration, and statistical analysis.

Remote Access: Many libraries provide customers with the option of accessing electronic resources remotely from any location that has an internet connection.

Depending on criteria including the institution's size, funding, and the particular demands of the medical community it serves, different institutions may have a different variety and availability of e-resources. However, using electronic resources to conduct research, stay up to date on medical knowledge, and provide high-quality healthcare services has become crucial. [10] To satisfy users' present and future demands, medical college libraries must have a well-balanced document collection. Only when the acquisition is planned is it feasible. For libraries to draw in students and help them use e-resources efficiently, they must provide a collection of high standards.

The proposed study's focus is on student preferences for printed books and periodicals, electronic information sources, and patterns of e-resource usage. The other libraries can be added to this. It is possible to do a thorough analysis to determine how technology has affected libraries and usage. The three medical college libraries are the only ones used in the current investigation.

In a study on the use of the Internet by the local Barak Valley population, Sinha (2004) discusses the benefits and uses of the Internet in daily life, its effects on libraries and information services, and other topics. He also explains the purposes and methods of the current survey on the use of the Internet in Barak Valley. The author emphasizes that Internet usage in this area is still in its infancy, so it is crucial to educate locals about its use and the potential it holds for having vast informational resources that can be instantly searched, provided the bare minimum infrastructure for Internet access is available. The survey's findings also highlight the user demographics of various strata, how they access the Internet—whether personally or through Internet cafés, offices, or academic institutions—the different types of connectivity they use to subscribe to Internet accounts, where they conduct their searches online and when they do so, how they use browsers to conduct their searches, and how frequently they access the Internet through Internet cafés. Along with the previously mentioned topics, the paper's conclusion discusses the function of the Internet in libraries and information services, connectivity issues, and some recommendations for increasing Internet usage awareness and acceptance among user communities by arranging short-term training courses through private institutions like Assam University, Regional Engineering College (REC), and computer institutes.[12]

2. MATERIALS AND METHODS

A systematic, closed-ended questionnaire is utilized to gather the data in order to accomplish the study's goals. Descriptive statistical approaches are used to assess the data from questionnaires that have been collected. Through organized surveys, information was gathered from the three college libraries. The organized survey was designed keeping in view the stated goals and included various types of inquiries with the following aspects: kinds of resources, all collection/acquisition of electronic resources, motives behind acquiring/subscribing resources, selection/recommendation of electronic resources, technique and way of buying of resources, promotion of e-resources, challenges related to e-resource growth, and future plans to improve the e-resources development. The three medical college libraries distributed 150 self-administrated questionnaires to their students, who ultimately provided 125 responses. Tables and pie charts are also used to depict data in addition to bar diagrams.

3. RESULTS

Table 1. Perceived level of computer literacy of respondents

Libraries	Average	Above average	Total
King George's Medical University	33	15	48
Jawaharlal Nehru Medical College	23	20	43
LLRM Medical College	19	15	34

The King George's Medical University, Jawaharlal Nehru Medical College, and LLRM Medical College respondents' self-perceived computer literacy is shown in the table, with various numbers of respondents perceiving their computer literacy to be either "Average" or "Above Average." Information about people's levels of digital competency in each institution is provided by this data.

Table 2. Usage of library services

Libraries	No. of respondents	Percentage
King George's Medical University	60	48
Jawaharlal Nehru Medical College	23	18
LLRM Medical College	42	34
Total	125	100

Table 2 lists how frequently the libraries at King George's Medical University, Jawaharlal Nehru Medical College, and LLRM Medical College are used. With a total of 125 respondents, the data shows the number of people who responded and the related rate of library service consumption.

Table 3. Use of type of electronic information resources

e-Resources	King George's Medical University	Jawaharlal Nehru Medical College	LLRM Medical College
e-books	29	41	33
e-Journals	29	41	33
Internet facilities	28	41	33
Online database	23	20	16
CD/DVDs	29	41	33

Table 3 presents the utilization of various electronic information resources in three medical colleges: King George's Medical University, Jawaharlal Nehru Medical College, and LLRM Medical College. The data indicates the number of users for each type of resource, including e-books, e-journals, internet facilities, online databases, and CD/DVDs, demonstrating similar usage patterns across the three institutions.

Table 4. Purpose of using e-resources

Purpose	King George's Medical University	Jawaharlal Nehru Medical College	LLRM Medical College
Subject information	31	10	33
Teaching related	31	31	33
e-journals	27	41	33
To contact professors	23	20	16
To conference	31	31	27
Internet sources	29	41	33

Table 4 lists the objectives for which respondents in three medical institutions—King George's Medical University, Jawaharlal Nehru Medical College, and LLRM Medical College—use electronic resources. The data reveals a range of preferences for using electronic resources, including some common uses like subject data and events related to teaching as well as variances like the use of electronic journals and getting in touch with academics.

4. DISCUSSIONS

These tables' informational content provides a thorough overview of how e-resources are used at King George's Medical University, Jawaharlal Nehru Medical College, and LLRM Medical College, among other medical institutions. [13] Table 1 shows that there are differences in the institutions' self-perceived computer literacy levels. King George's Medical University stands out due to the higher proportion of respondents who rate their computer literacy as "above average," which may indicate a higher degree of digital competency in this institution. This mismatch emphasizes how crucial it is to provide digital literacy programs and support that are specifically designed to fill in any computer literacy gaps and enable all users to efficiently utilize e-resources for study and research. On the other hand, Table 2 indicates differences in the use of library services. [14]The majority of respondents from King George's Medical University use libraries, suggesting a greater utilization of library resources. To maximize resources and outreach initiatives, it is crucial to look deeper into the mechanisms underlying these discrepancies. Enhancing the usability and efficiency of library services at all three universities requires a sophisticated understanding of these issues. The use of various digital sources of information, such as e-books, e-journals, and online databases, on the other hand, exhibits a consistent trend across all three institutions, as shown in Table 3. This consistency points to a widespread need for basic electronic tools in the setting of

medical research and education. This emphasizes the necessity of ongoing investment in and upkeep of these resources in order to maintain access to crucial digital content for academic and scientific endeavors by students and researchers. Table 4 summarizes many reasons for adopting electronic resources, highlighting similarities and differences between institutions. Although "subject information" and "teaching-related" goals are shared priorities, there are some variances to notice, such as King George's Medical University's larger preference for e-journals and Jawaharlal Nehru Medical College's emphasis on "contacting professors." These preferences show that any organization could have different needs for its digital resources. As libraries customize their collection development methods and support services to improve the general standard of instruction and research in these medical institutions, it is crucial that they acknowledge and cater to these special needs. [15] To sum up, these insights are priceless for medical colleges because they will help them allocate resources more effectively and optimize library services to better meet the diverse needs of their students, faculty, and researchers. As a result, the educational and research climate at these institutions will be improved.

5. CONCLUSIONS

The information in the tables offers useful insights into the ways in which King George's Medical University, Jawaharlal Nehru Medical College, and LLRM Medical College use electronic resources, computer literacy levels, library services, and various purposes for doing so. First off, the difference in respondents' self-perceived levels of computer literacy highlights the significance of customizing computer education courses and assistance to fill up any gaps. Although King George's Medical University exhibits a greater perceived degree of computer ability, these disparities shouldn't restrict access to online resources; rather, they should guide targeted initiatives that cater to all users.

Second, the variations in library service usage point to the need for additional research to comprehend the causes of these variations. The three institutions' library services will be more widely accessible and successful as a result of this investigation's optimization of their resources and outreach initiatives. Additionally, the data underscores the necessity for continued investment in and upkeep of these crucial e-resources due to an ongoing demand for them across all institutions. This guarantees that the digital resources needed for educational and scientific endeavors are accessible to students and researchers with confidence. Last but not least, the variety of e-resource uses highlights the institutions' various needs and preferences. It is crucial for libraries to understand and cater their collection development plans and support services to these particular demands. They can improve the general standard of instruction and research at these medical institutions by doing this. In conclusion, these results provide a road map for those organizations to optimize their digital literacy initiatives, library offerings, and resource distribution to accommodate the various demands of their teachers, staff, and researchers. By assuring inclusion, accessibility, and the efficient use of e-resources for all, such customized techniques can considerably improve the learning and study settings in these medical colleges.

Declarations

Availability of Data and Material

The data collected and analyzed during this study are presented within the manuscript in the form of tables and descriptive analysis. The questionnaire-based survey data supporting the findings of this study are available from the corresponding author upon reasonable request for academic and research purposes.

Competing Interests

The authors declare that there are no competing financial or non-financial interests that could have influenced the research work or the preparation of this manuscript.

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Authors' Contributions

Iram Khan conceptualized the study, designed the questionnaire, collected data, performed data analysis, and drafted the manuscript. Rekha Marskole provided academic supervision, contributed to the research design, reviewed the analysis, and critically revised the manuscript. Both authors read and approved the final version of the manuscript.

Ethical Consideration

The study is based on a questionnaire survey and does not involve human experimentation, medical procedures, or sensitive personal data. Participation in the survey was voluntary, and respondents' anonymity and confidentiality were maintained throughout the research process. The study adhered to standard ethical guidelines applicable to social science and library research.

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