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James Musovya, Raphael Mutiso, Luciah Jonah, Nicholas Kwinga, Zachary Ombasa, Emma Nthei, Loise Mwangi, Gilbert Nguutu, Redempta Mutisya, Urbanus Mutiso Muthusi and Luciana Kaloki



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[1]James Musovya, [2]Raphael Mutiso, [3]Luciah Jonah, [4]Nicholas Kwinga, [5]Zachary Ombasa, [6]Emma Nthei, [7]Loise Mwangi, [8]Gilbert Nguutu, [9]Redempta Mutisya, [10]Urbanus Mutiso Muthusi, [11]Luciana Kaloki

[1/2/6/7/10/11]Lecturer, Department of Nursing, Kenya Medical Training College, Makindu Campus

[3/4/5/8/9]Lecturer, Department of Clinical Medicine, Kenya Medical Training College, Makindu Campus

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Abstract

Purpose: The aim of this study was to examine students' and faculty members' preferences for print and electronic resources and the factors influencing their resource choices in Kenya Medical Training College (KMTC) libraries.

Methodology: A descriptive cross-sectional quantitative study was conducted among students and faculty in nine selected Kenya Medical Training College (KMTC) campuses. A multistage sampling technique was used to select the study sites, with proportionate sampling employed for students and a census conducted for all available lecturers. Data were collected using a structured questionnaire and analyzed using IBM SPSS Statistics Version 27. Descriptive statistics, including frequencies and percentages, were used to preferred resource formats, preferred online databases, and the factors influencing resource choice. Findings were presented using tables and figures.

Findings: The study concluded that students and faculty at KMTC did not demonstrate an exclusive preference for either print or electronic resources. Instead, resource preference is determined by the nature of the learning task and the perceived advantages of each resource format. While electronic resources are increasingly preferred because of their accessibility, convenience, and flexibility, print resources continue to play an important role in supporting intensive reading and academic learning.

Unique Contribution to Theory, Practice and Policy: The study recommended that KMTC should continue investing in both print and electronic library resources to sustain a balanced hybrid library environment that accommodates diverse user preferences.

Keywords: *Print Resources, Resource Preference, Kenya Medical Training College*

JEL Codes: *D83, I21, I23*

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INTRODUCTION

The emergence of digital technologies has transformed academic libraries from predominantly print-based repositories into hybrid information environments that provide both print and electronic resources. Students and faculty can now choose the format that best supports their teaching, learning and research needs. Electronic resources offer remote accessibility, rapid retrieval and access to current scholarly publications, while print resources continue to be valued for readability, ease of annotation and suitability for prolonged study. This coexistence has shifted the focus of academic libraries from simply providing resources to understanding users' preferences and aligning collections with their information needs (Yebowaah & Plockey, 2017).

The COVID-19 pandemic accelerated this shift. Restrictions on physical access moved most academic reading online, yet a study of UK students found that their preference for print persisted even as nearly all their reading took place in electronic format. The same students reported reading less of their assigned material and experiencing fatigue from prolonged screen use (Secker & Tilley, 2022). Evidence from sub-Saharan African health institutions shows a similar pattern of growing reliance on electronic resources. In a study at the University of Ghana's College of Health Sciences Library, most users were aware of the library's electronic resources and used sources such as PubMed, ScienceDirect and Google. Acceptance of these resources was shaped by perceived usefulness and by the challenges users faced in accessing them (Ankamah et al., 2022). Studies in Nigerian health sciences colleges, however, have reported low awareness and infrequent use of electronic resources, constrained by inadequate computers, unreliable power and slow internet (Osinulu, 2020). These findings suggest that resource choice depends on users' characteristics, infrastructure and learning context, and that earlier evidence of the advantages of each format (Clark et al., 2018) needs to be tested in post-pandemic and local settings.

Format choice in health professions education is further shaped by the nature of the discipline. Competency-based curricula require learners to acquire and demonstrate clinical skills, not just recall content. Learners therefore draw on a distinctive mix of resources: anatomical and histological atlases, where image quality and the ability to compare and annotate plates favour print [citation needed]; quick-reference drug formularies consulted during clinical placements [citation needed]; clinical practice guidelines and treatment protocols, which are revised frequently and are best accessed in current electronic form [citation needed]; and point-of-care databases and mobile applications used at the bedside, where speed and portability matter most [citation needed]. Format preferences in health education are therefore likely to differ by task and setting, and findings from general humanities and social science populations cannot be assumed to apply.

Kenya Medical Training College (KMTC) has invested in both print and electronic library resources to support competency-based health professions education across its constituent campuses. As the College expands its hybrid collections, understanding which formats students and faculty prefer, and what influences those choices, is essential if library investments are to match users' teaching and learning requirements. However, empirical evidence on resource preferences and the determinants of resource choice within KMTC libraries remains limited. This study therefore examined the print and electronic resources preferred by students and faculty and the factors influencing their resource choices in selected KMTC libraries.

Problem Statement

Academic libraries are expected to develop collections that reflect the information needs and preferences of their users in order to support teaching, learning and research effectively. As institutions invest in both print and electronic resources, understanding which formats students and faculty prefer, and why, is essential for informed collection development and the efficient allocation of limited library resources.

Kenya Medical Training College (KMTC) has made substantial investments in print and electronic library collections across its constituent campuses. Institutional observations, however, suggest that these resources may not be used as intended. At Makindu Campus, for example, library attendance records showed only 15–30 daily users out of about 1,100 students and faculty, and some students completed their programmes without borrowing a single library book (KMTC, 2021).

Low physical attendance and limited borrowing do not, on their own, show that users reject particular formats. Students and faculty may be using electronic resources remotely without entering the library, and such use is not captured by gate counts or circulation records. Others may stay away because of constraints unrelated to format, such as limited seating, unreliable Wi-Fi, inadequate computer access or inconvenient opening hours. These possibilities mean it is unclear whether the current collections match users' preferences, or whether attendance reflects other barriers. Without evidence that separates format preference from the factors influencing resource choice, collection development at KMTC risks being guided by assumptions and by indicators that capture only physical use.

Previous studies have identified accessibility, convenience, technological competence, ease of reading and purpose of information seeking as key determinants of resource choice (Halloumeh & Jirjees, 2016; Pather, 2004; Clark et al., 2018). However, most of this work was conducted in universities outside Kenya and has not examined middle-level health training institutions, and little empirical evidence exists on what shapes students' and faculty members' choice between print and electronic resources in KMTC libraries. This study therefore examined the resources preferred by students and faculty and the factors influencing their choice of print or electronic formats in selected KMTC libraries, to provide evidence for user-centred collection development and library service planning.

Conceptual Framework

Relationship between independent variable (Factors Influencing Resource Choice) and dependent variable (Preference for resource format).

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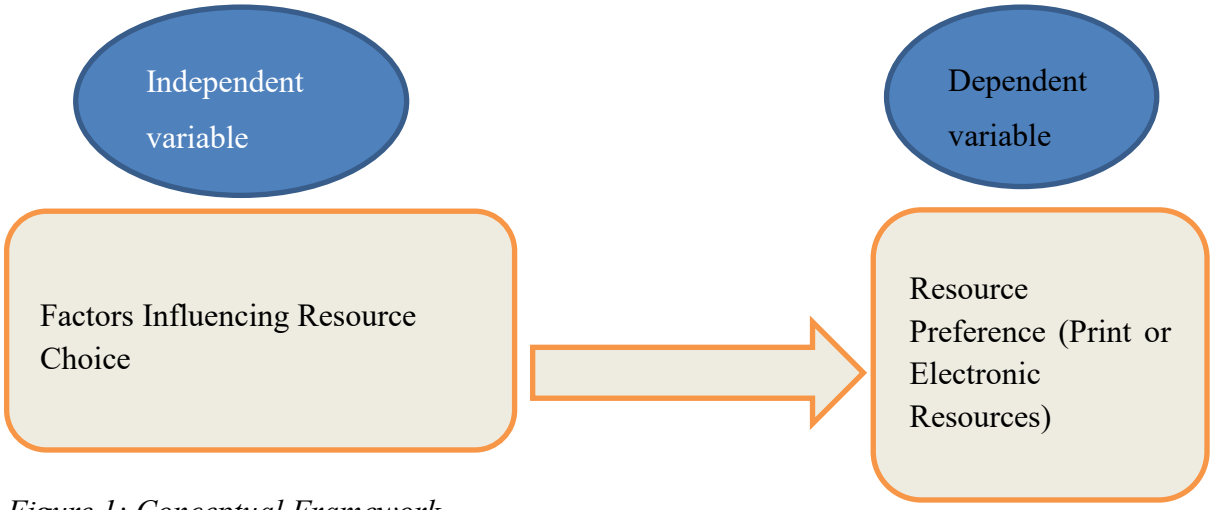


Figure 1: Conceptual Framework

Empirical Review

Users' preferences for print and electronic resources have attracted considerable attention as academic libraries increasingly maintain hybrid collections. Previous studies indicate that both formats continue to play complementary roles in supporting teaching, learning and research, with users selecting resources based on their perceived strengths rather than treating one format as a replacement for the other (Blummer & Kenton, 2021). To synthesize the evidence, the findings below are grouped under the three constructs of this study's conceptual framework: individual and demographic factors, technological infrastructure factors, and academic and task-based factors.

Individual and demographic factors. Users' own characteristics shape which format they choose. Technological competence, information retrieval skills and familiarity with digital systems have been identified as determinants of resource choice, as have health concerns related to screen use (Iqbal et al., 2021; Cumaoglu et al., 2013). Habits and comfort with reading on screen matter too. Even when almost all academic reading moved online during the COVID-19 pandemic, students in one UK study still preferred print, and many reported reading less of their assigned material and feeling more tired from screen use (Secker & Tilley, 2022). In health sciences settings, awareness of what is available and perceptions of usefulness influence whether electronic resources are used at all (Ankamah et al., 2022).

Technological infrastructure factors. Whether electronic resources can be used depends on the infrastructure and access conditions around them. Computer ownership and accessibility are recognized as determinants of format choice (Iqbal et al., 2021; Cumaoglu et al., 2013). Evidence from health training institutions in Africa points the same way. Among students at a Nigerian college of health sciences, use of electronic resources was low and was constrained by inadequate computers, irregular power supply and slow internet (Osinulu, 2020). Electronic resources are valued for full-text searching, ease of access, availability and browsing capabilities (Toor et al., 2021), but those benefits are realized only where the infrastructure to reach them exists.

The purpose of information seeking and the nature of the reading task also determine format. Print resources remain important for readability, portability, familiarity and suitability for prolonged reading, whereas electronic resources are favored for quick access and searching

(Toor et al., 2021). Purpose of information seeking has also been identified as a key influence on resource choice (Cumaoglu et al., 2013). These findings suggest that preference depends on the context in which information is sought, rather than on the availability of a single format.

Although previous studies have identified factors associated with preferences for print and electronic resources, relatively little is known about how these factors operate together within middle-level health training institutions, where hybrid collections support competency-based education. This study therefore examined students' and faculty members' preferences for print and electronic resources and the factors influencing their choices, grouped under individual, technological and academic factors, in selected Kenya Medical Training College libraries.

METHODOLOGY

The study employed a descriptive cross-sectional design using a quantitative approach to examine students' and faculty members' preferences for print and electronic resources and the factors influencing their resource choices in Kenya Medical Training College (KMTC) libraries. The study was conducted in nine selected KMTC campuses drawn from the College's 71 constituent campuses distributed across Kenya. The study population comprised students and lecturers utilizing library services in the selected campuses, while those unwilling or unable to participate were excluded. A multistage sampling procedure was used to select the study participants. The 71 KMTC campuses were first clustered into eight geographical regions, from which three regions (Upper Eastern, Central, and Nairobi) were selected through simple random sampling. Within the selected regions, nine campuses (Nairobi, Machakos, Oloitoktok, Nyeri, Murang'a, Gatundu, Meru, Embu, and Kitui) were purposively selected based on the availability of established libraries, ICT laboratories, resident librarians, and ICT officers. The student sample size was determined using Fisher et al.'s (1998) formula, yielding an initial sample of 384 respondents at a 95% confidence level, assuming a 50% prevalence and a 5% margin of error. The sample was adjusted using a design effect and increased by 10% to account for non-response, resulting in a final sample of 637 students. The student sample was proportionately allocated across the selected campuses according to student population and further stratified by programme of study and level of training. A census of all available lecturers in the selected campuses was conducted.

Quantitative data were collected using a structured electronic questionnaire administered through SurveyMonkey to students and lecturers. The questionnaire captured respondents' demographic characteristics, preferred print and electronic resource formats, preferred online databases, and the factors influencing their preference for print or electronic resources. Completed questionnaires were checked for completeness, coded, and analyzed using IBM SPSS Statistics Version 27. Descriptive statistics, including frequencies and percentages, were used to preferred resource formats, preferred online databases, and the factors influencing resource choice. Findings were presented using tables and figures. Ethical approval was obtained from the KMTC College Research and Ethics Review Committee (CRERC), an independent institutional ethics review committee, and the National Commission for Science, Technology and Innovation (NACOSTI). Digital informed consent was obtained from all participants before completion of the online questionnaire. Confidentiality was maintained by anonymizing participants' identities and ensuring that the data collected were used solely for the purposes of this study.

RESULTS

A total of 835 respondents participated in the study, comprising 783 students and 52 faculty members drawn from nine KMTC campuses. The majority of respondents were below 25 years and were enrolled in Nursing and Clinical Medicine programmes.

Factors Influencing Preference for Print and Electronic Resources

Respondents identified several factors influencing their preference for print and electronic library resources. Among users of print resources, the most frequently cited reasons were convenience and portability (49.3% - 328), ease of reading compared to computers (39.7% - 264) and the perceived high quality of print materials (17.6% - 117). These findings suggest that users continue to value the physical characteristics of printed materials, particularly for sustained reading and study.

For electronic resources, convenience of portability was also the leading reasons for preference (45.4% - 349), followed by ease of reading using computers and mobile phones (30.7% - 236), higher-quality graphics and photographs (27.6% - 212), and the ability to access resources remotely (24.6%, 189). Overall, convenience emerged as the dominant factor influencing resource choice across both formats, although respondents associated each format with distinct advantages.

Table 1: Factors Influencing Preference for Print and Electronic Resources

	Count	Column N %
Reasons for usage of print resources		
High quality	117	17.6%
Easy to read print than computer	264	39.7%
Convenient and portable	328	49.3%
Reasons for the use of electronic resources		
They have higher-quality graphics and photos.	212	27.6%
It is easy to read from the computer and phone.	236	30.7%
They are more convenient since they are portable.	349	45.4%
Available remotely.	189	24.6%

Preferred Resource Formats for Theoretical and Practical Learning

Figure 1 illustrates the preferences for e-resources and print resources in both theoretical and practical learning. In theoretical learning, there is a nearly equal distribution, with E-resources (35.1%, 279) being slightly more preferred than print resources (31.3%, n=249). The remaining respondents indicated that they used both resource formats interchangeably, demonstrating that neither format completely replaced the other in supporting classroom learning. In contrast, for practical learning sessions, a majority of students (37.8%, n=277) expressed a preference for using both electronic and print resources. Individually, E-resources remained the dominant choice for practical learning (31.8%, n=233), compared to print resources (26.5%, n=194). These findings suggest that users do not perceive print and electronic resources as competing alternatives but rather as complementary resources that support different learning activities.

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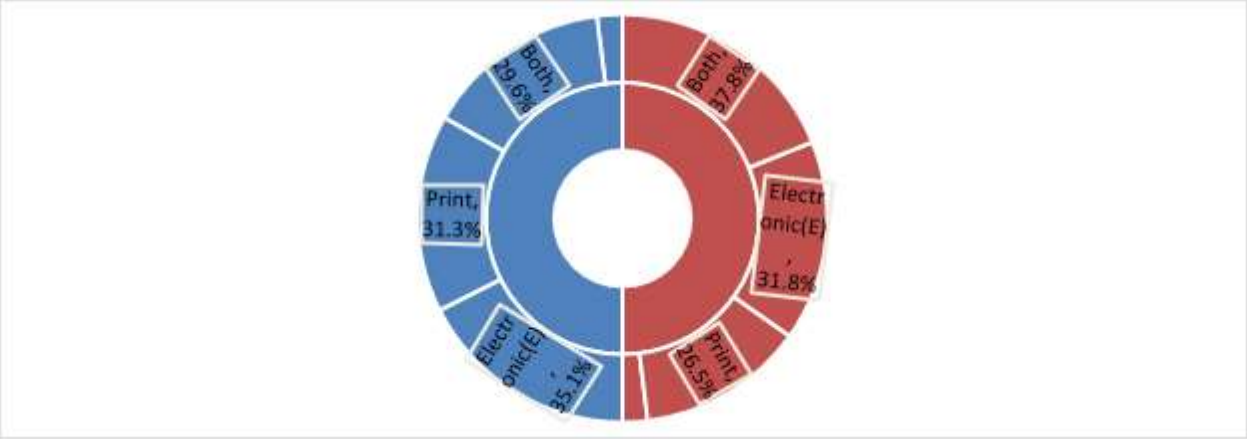


Figure 1: Library Resource Preferences in Theoretical and Practical Learning

Preference for Online Databases

Most respondents reported using online databases to support their academic activities. Approximately 85% (684/807) of students and 85.1% (40/47) of lecturers indicated that they accessed online databases for teaching and learning purposes.

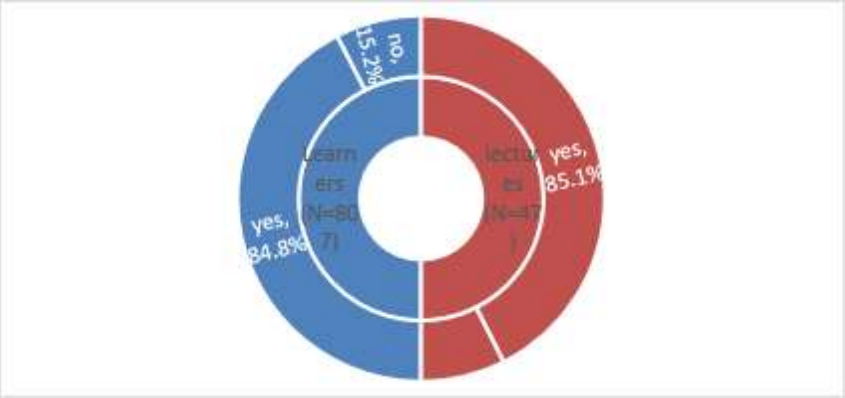


Figure 2: Preference for Online Databases among Learners and Lecturers

Among students, PDF Drive was by far the most preferred database, utilized by 84.0% (613) of respondents, followed by Oxford Reference Online (15.5%, 114). Faculty members demonstrated a similar pattern, with PDF Drive remaining the most preferred database (73.0%, 27), followed by HINARI (26.3%, 10) and African Journals (23.7%, 9). The dominance of PDF Drive among both respondent groups suggests a strong preference for freely accessible electronic information resources compared with subscription-based databases.

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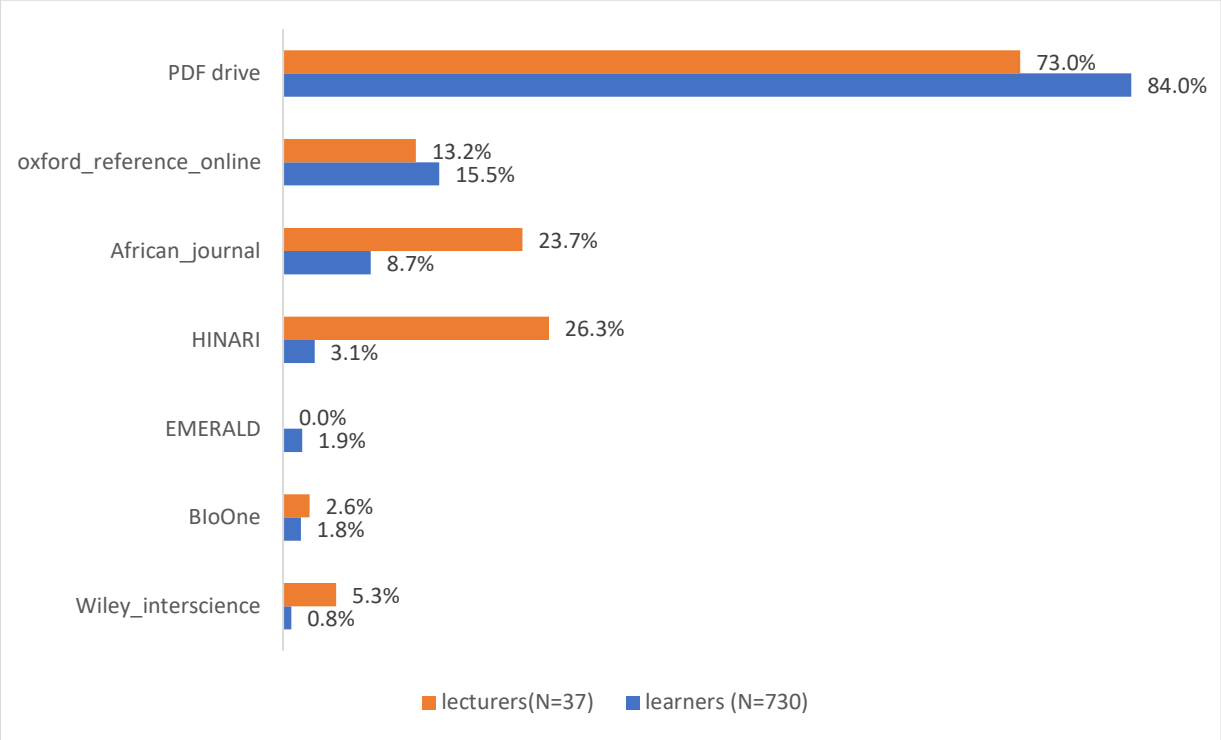


Figure 3: Frequently Used Online Data

SUMMARY, CONCLUSION AND RECOMMENDATIONS

Summary

This study examined students' and faculty members' preferences for print and electronic resources and the factors influencing their resource choices in Kenya Medical Training College (KMTC) libraries. The findings indicate that both print and electronic resources remain important in supporting teaching and learning, with respondents selecting resource formats according to their specific learning requirements. Electronic resources were slightly more preferred for theoretical learning, whereas a combination of print and electronic resources was the preferred option for practical learning, demonstrating that the two formats complement rather than replace each other. The study further established that convenience and portability were the leading factors influencing preference for both print and electronic resources. Respondents preferred print resources because of their ease of reading and perceived quality, while electronic resources were favored for their convenience, remote accessibility, ease of use on computers and mobile devices, and superior graphics. PDF Drive emerged as the most preferred online database among both students and faculty, highlighting users' inclination toward readily accessible electronic information resources.

Conclusion

The study concluded that students and faculty at KMTC did not demonstrate an exclusive preference for either print or electronic resources. Instead, resource preference is determined by the nature of the learning task and the perceived advantages of each resource format. While electronic resources are increasingly preferred because of their accessibility, convenience, and flexibility, print resources continue to play an important role in supporting intensive reading and academic learning. These findings underscore the importance of maintaining hybrid library

collections that integrate both print and electronic resources to meet the diverse information needs of users.

Recommendations

Based on the findings, the study recommends that KMTC should continue investing in both print and electronic library resources to sustain a balanced hybrid library environment that accommodates diverse user preferences. The College should prioritize the acquisition of electronic resources that enhance remote access while maintaining adequate print collections for learning activities that require prolonged reading and reference. In addition, library orientation and user education programmes should emphasize the effective use of both resource formats and promote awareness of the range of electronic databases available to students and faculty. Regular assessments of users' resource preferences should also be undertaken to inform evidence-based collection development and resource allocation.

Suggestions for Further Studies

Future studies should examine how emerging digital technologies and evolving learning environments influence users' preferences for print and electronic resources in higher education institutions. Comparative studies involving public and private medical training institutions would also provide valuable insights into variations in resource preferences across different institutional contexts.

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