



USE AND PREFERENCE OF HEALTH INFORMATION RESOURCE FORMATS AMONG PRE-CLINICAL MEDICAL STUDENTS IN UNIVERSITIES IN OGUN STATE, NIGERIA

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ABSTRACT

This study evaluated the purpose, frequency of use, format preferences, and institutional challenges regarding health information resources among pre-clinical students in Ogun State, Nigeria. Utilizing a descriptive survey research design, a structured questionnaire was deployed across two selected institutions representing the public and private tertiary sectors: Babcock University (BU) and Olabisi Onabanjo University (OOU). Multi-stage sampling was utilized to select 250 pre-clinical students across the departments of Anatomy, Biochemistry, and Physiology, yielding 227 valid responses (90.8% response rate) analyzed via frequency counts, percentages, and mean scores. Findings shows that the primary driver for utilizing health information resources was supporting academic activities ($X = 3.35$). Print media (medical textbooks, ($X = 3.15$); dictionaries, ($X = 3.02$)) dominated everyday frequency of use, while internet resources ($X = 2.53$) emerged as the most preferred format overall. The most severe institutional challenges identified were non-courteous library staff ($X = 2.70$), difficulties in physically retrieving located reading materials ($X = 2.54$), and restricted electronic resource access ($X = 2.54$). The study concluded that, there was a significant dual contribution of resource accessibility and use in driving format preferences. Medical libraries must implement customer service training for personnel, streamline retrieval mechanics, and bolster digital infrastructure to bridge the gap between traditional print availability and student digital preferences.

Keywords: Health Information Utilization; Information Resource Formats; Media Preferences; Pre-clinical Students; Medical Libraries; Ogun State.

Introduction

Universities worldwide bear the core responsibility of conserving, generating, pursuing, promoting, and disseminating knowledge through targeted pedagogy, pure and applied research, and community human resource development. The definitive instrument facilitating this institutional mandate is the university library (Ogunode et al., 2022). Far from being mere storehouses, modern academic libraries provide vital pathways to authoritative, peer-reviewed, and trustworthy academic records (Opele et al, 2015). When higher education cohorts require dependable data, the institutional library remains the premier reference framework (Tzanova, 2020). Within medical education, pre-clinical students defined as medical scholars in their first



to third years of training prior to clinical rotations at teaching hospitals comprise a unique and heavy-user block of library systems (Adepoju & Opele, 2021). Navigating rigorous, terminology-heavy domains like Anatomy, Biochemistry, and Physiology, these students rely immensely on diversified health information resources to build foundational competencies (Oladapo et al, 2021). However, a recurring operational disconnect exists within Nigerian medical libraries. While significant funding is directed toward acquiring clinical collections, minimal empirical attention is paid to investigating or aligning these acquisitions with the specific formats preferred by the student body.

Medical science demands resources that are highly illustrative, current, and instantly authoritative (Oladapo et al., 2021); (Opele et al., 2024). Providing raw access to documents is insufficient if the delivery format does not match the evolving pedagogical requirements of the digital-native student population. The absolute value of any health information resource remains dormant until it is actively mobilized at the point of need (Adebanjo et al., 2024). Knowledge acts as a countermeasure to disease vectors exclusively when put into clinical or educational action. Systematic resource utilization mitigates severe systemic liabilities, including undocumented policy variations, medical errors, poor quality clinical care, and the failure to execute high-value intervention (Opele & Tomori, 2024); (Opele et al., 2021).

Information use serves as a metric for valuing an institution's collection, guiding sustainable collection-development strategies. Within academic environments, libraries exist to lower accessibility barriers and maximize collection exposure (Opele & Adigun, 2023). A highly rich collection is a sunk institutional waste if users face systemic bottlenecks to retrieval. Satisfaction metrics among student cohorts are consistently tied to physical facilities, service efficiency, and the baseline quality of library personnel. Literature have highlighted that while undergraduate cohorts report high satisfaction with traditional print volumes, widespread dissatisfaction persists regarding electronic resource frameworks (Iyanda et al, 2016).

User preferences have shifted dramatically with the advent of digital media (Ojo et al, 2024) While historical cohorts relied primarily on print media for accessibility and perceived authoritative permanence, contemporary medical students increasingly demand speed, ease of use, and convenience, sometimes sacrificing in-depth indexing for digital accessibility. Studies in Nigerian universities demonstrate that the vast majority of medical students derive higher satisfaction from internet searches, though early-stage pre-clinical students continue to lean on standard textbooks to cover extensive curricular blocks in compressed timeframes. Compounding these preferences are systemic constraints. Undergraduate library newcomers are frequently overwhelmed by unstructured information environments. This issue is worsened by absent orientation protocols, obsolete collections, erratic power supplies, poor environmental ventilation, and an overall lack of data-literacy skills among both students and library staff. This study addresses this gap by investigating the intersection of use, preference, and logistical barriers facing pre-clinical cohorts in public and private universities within Ogun State, Nigeria.

Objective of the study

Specifically, this study sought to:

1. determine the purpose of utilizing health information resources in selected universities in Ogun State



2. find out the frequency of use of diverse resource formats in selected universities in Ogun State
3. investigate the format preferences: print vs. non-print media in selected universities in Ogun State
4. find out the perceived institutional challenges inhibiting access and use in selected universities in Ogun State

Methodology

This study adopted a descriptive survey research design utilizing a structured questionnaire instrument. The research was contextualized within Ogun State, Nigeria, purposefully isolating the only two tertiary institutions in the state running fully accredited undergraduate pre-clinical science programs at the time of data collection: Olabisi Onabanjo University, Ago-Iwoye (OOU; representing the public sector) and Babcock University, Ilisan-Remo (BU; representing the private sector).

A multi-stage sampling technique was executed:

Stage 1 (Purposive): Selection of OOU and BU based on pre-clinical program availability.

Stage 2 (Purposive): Isolation of three homogenous foundational medical departments within both institutions: Anatomy, Biochemistry, and Physiology.

Stage 3 (Simple Random Sampling): Selection of 50% of the total enrolled pre-clinical student population across these departments, resulting in a target sample size of 250 respondents.

The research instrument collected demographic profiles, purposes of use, frequency of interaction with information formats, format preferences, and perceived access challenges. A total of 250 copies were distributed, and 227 were retrieved and verified as clean for analysis, yielding a robust 90.8% response rate. Collected datasets were processed using frequency counts, percentages, and mean score ratings (X).

Results and Discussion

Demographic Profile of Respondents

The demographic distribution highlights a proportional representation across both institutional sectors, gender divides, and pre-clinical academic levels.

Table 1: Demographic Distribution of Respondents (n = 227)

S/N	Demographic Variable	Category	Frequency	Percentage (%)
1	Institution Name	Olabisi Onabanjo University (OOU)	177	77.9
		Babcock University (BU)	50	22.1
2	Departmental Affiliation	Anatomy	90	39.6
		Biochemistry	56	24.7
		Physiology	81	35.7
3	Level of Study	100 Level	69	30.4
		200 Level	93	41.0
		300 Level	65	28.7
4	Gender	Male	110	48.5
		Female	117	51.5
5	Age Group	16 – 20 Years	83	36.6
		21 – 25 Years	122	53.7
		26 – 30 Years	20	8.8
		31 – 35 Years	2	0.9



The demographic breakdown reveals that the state-run public institution (OOU) maintained a significantly larger pre-clinical admission volume (77.9%) compared to the private institution (22.1%). The cohort peaked at the 200-level mark (41.0%), displayed a slight female majority (51.5%), and was heavily centered within the young adult developmental bracket of 21–25 years old (53.7%).

Purpose of Utilizing Health Information Resources

To establish what drives pre-clinical student interaction with health information resources, respondents rated eleven distinct institutional and personal drivers.

Table 2: Purpose of Health Information Resource Use (n = 227)

S/N	Purpose of Information Resource Use	SD (%)	D (%)	A (%)	SA (%)	Mean (X ⁻)	S.D.
1	To support academic activities	2.6	5.7	45.4	46.3	3.35	0.71
2	Class work / Home work	2.2	6.2	48.5	43.2	3.33	0.69
3	Assignment execution	2.6	7.9	45.4	44.1	3.31	0.73
4	Preparation for examinations / Tests	3.5	10.1	38.8	47.6	3.30	0.79
5	Personal development	1.8	7.9	49.8	40.5	3.29	0.69
6	Making class notes	2.2	14.5	49.8	33.5	3.15	0.74
7	Reading pleasure	4.0	10.1	54.6	31.3	3.13	0.75
8	Decision making	2.6	10.6	59.5	27.3	3.11	0.69
9	Current affairs tracking	3.1	14.5	60.8	21.6	3.01	0.70
10	News, sports, and general health info	6.6	17.2	50.7	25.6	2.95	0.83
11	Recreation / Entertainment	4.0	19.4	56.8	19.8	2.93	0.74
Weighted Mean						3.17	

Key: SD = Strongly Disagree, D = Disagree, A = Agree, SA = Strongly Agree

The structural driver for health information acquisition among pre-clinical cohorts is strictly academic utility. Broad programmatic support ranked highest (X = 3.35), followed directly by actionable immediate demands such as class coursework (X = 3.33), assignments (X = 3.31), and examination preparation (X = 3.30). Conversely, recreational and non-academic items like sports and entertainment sat at the bottom of student motivations (X = 2.93). This highlights that collection policies must remain strictly tied to core instructional modules rather than general leisure acquisitions.

Frequency of Use of Diverse Resource Formats

This section evaluates how frequently students engage with specific media classifications in their current routines.

Table 3: Frequency of Use of Health Information Resource Formats (n = 227)

S/N	Information Resource Category	Format	NFU (%)	FU (%)	FU (%)	VFU (%)	Mean (X ⁻)	S.D.
1	Medical Textbooks		7.0	15.0	33.5	44.5	3.15	0.93
2	Medical Dictionaries		7.5	19.8	35.7	37.0	3.02	0.93
3	Medical Journals		7.9	20.3	35.7	36.1	3.00	0.94
4	Internet Resources		7.0	24.2	31.7	37.0	2.99	0.95
5	Online Databases		8.4	25.6	34.8	31.3	2.89	0.95
6	Medical Records / Case Notes		13.2	17.2	40.5	29.1	2.85	0.99
7	Newspapers / Magazines		8.4	27.8	45.4	18.5	2.74	0.86
8	Technical Reports		18.9	15.4	40.5	25.1	2.72	1.04
9	Laboratory/Clinical Manuals		14.1	19.4	49.3	17.2	2.70	0.92
10	Abstracts / Indexes		15.0	18.9	47.6	18.5	2.70	0.94
11	Handbooks		17.2	16.7	50.7	15.4	2.64	0.94
12	Biographies		18.1	21.6	39.6	20.7	2.63	1.01
Weighted Mean							2.83	



Key: NFU = Not Frequently Used, FU = Fairly Used, F = Frequently Used, VFU = Very Frequently Used (Note: Retained from raw data format mapping)

In terms of actual day-to-day frequency, traditional hardcopy texts continue to dominate the habits of pre-clinical students. Medical textbooks ($X = 3.15$), medical reference dictionaries ($X = 3.02$), and hardcopy medical journals ($X = 3.00$) represent the top three highly utilized resources. This indicates that despite widespread digitization, the foundational phase of medical education remains deeply tied to standard print text architectures. To understand the broader distribution of usage frequencies, the cumulative scores were mapped to a normative distribution framework.

Table 4: Normative Score Distribution for Resource Usage Levels

Score Interval	Descriptive Utilization Grade	Frequency	Sample Percentage (%)
1 – 16	Low Utilization	11	4.8
17 – 32	Moderate Utilization	62	27.3
33 – 48	High Utilization	154	67.8
Grand Mean = 34.03			

The normative distribution calculation establishes a highly positive trend: 67.8% of surveyed pre-clinical students show high utilization levels of health information resources, with a strong grand mean score of 34.03. Pre-clinical medical students display a robust reading culture and consistent engagement with library source materials.

Format Preferences: Print vs. Non-Print Media

This section evaluates student preferences when explicitly asked to rank their ideal formats for medical learning materials.

Table 5: Format Preference Rankings among Pre-Clinical Students (n = 227)

S/N	Resource Format Category	LP (%)	P (%)	MP (%)	Mean (X^-)	S.D.
1	Internet Resources	4.0	39.2	56.8	2.53	0.57
2	Medical Textbooks	9.3	35.2	55.5	2.46	0.66
3	Medical Dictionaries	5.7	47.6	46.7	2.41	0.60
4	Online Databases	7.5	50.7	41.9	2.34	0.61
5	Medical Journals	13.2	46.7	40.1	2.27	0.68
6	Medical Records / Case Notes	16.3	47.1	36.6	2.20	0.70
7	Laboratory/Clinical Manuals	13.7	55.5	30.8	2.17	0.65
8	Handbooks	10.1	65.2	24.7	2.15	0.57
9	Technical Reports	20.7	50.7	28.6	2.08	0.70
10	Newspapers / Magazines	20.7	57.3	22.0	2.01	0.66
11	Abstracts / Indexes	24.7	51.1	24.2	2.00	0.70
12	Biographies	23.3	57.7	18.9	1.96	0.65
Weighted Mean					2.22	

Key: LP = Least Preferred, P = Preferred, MP = Most Preferred

A critical shift occurs when evaluating format preferences. While print textbooks remain the most frequently used daily option due to physical availability, internet-based resources rank as the most preferred format overall ($X = 2.53$). This gap highlights a latent demand for digital expansion; students use physical books because they are readily available on library shelves, but prefer the dynamic searchability, hyperlinked structures, and portable convenience of internet-mediated resources.



Table 6: Normative Score Distribution for Format Preference Levels

Score Interval	Descriptive Preference Tier	Frequency	Sample Percentage (%)
1 – 12	Low Preference Alignment	4	1.8
13 – 24	Moderate Preference Alignment	73	32.2
25 – 36	High Preference Alignment	150	66.1
Grand Mean = 26.58			

The normative mapping for preferences mirrors the utilization data, with 66.1% of the population scoring within the high preference tier (Grand Mean = 26.58). This confirms that pre-clinical cohorts possess highly defined format preferences, favoring modern web interfaces and digital online databases alongside core textbook references.

Institutional Challenges Inhibiting Access and Use

To identify systemic bottlenecks preventing students from accessing their preferred media formats, respondents evaluated ten operational barriers.

Table 7: Institutional Barriers to Resource Access and Use (n = 227)

S/N	Operational Challenge Statement	R (%)	S (%)	O (%)	A (%)	Mean (X̄)	S.D.
1	Some library staff are not courteous	15.0	21.6	41.4	22.0	2.70	0.98
2	Reading materials located are not easily retrieved	18.5	30.0	30.8	20.7	2.54	1.02
3	Users do not have access to electronic resources	18.9	21.1	46.7	13.2	2.54	0.95
4	Poor lighting within the library environment	24.2	22.5	30.4	22.9	2.52	1.09
5	The library lacks technology for accessing online resources	24.7	21.6	35.7	18.1	2.47	1.05
6	Some library staff are not unskillful (lacks skills)	18.9	27.8	42.3	11.0	2.45	0.92
7	Some library staff are not knowledgeable	21.1	28.2	37.9	12.8	2.42	0.96
8	Insufficient number of core books and medical journals	31.3	16.3	31.7	20.7	2.42	1.14
9	The reading atmosphere is not conducive to study	22.9	33.9	29.5	13.7	2.34	0.98
10	Available physical reading space is inadequate	30.4	26.0	29.1	14.5	2.28	1.05
Weighted Mean						2.47	

Key: 1 = Rarely, 2 = Sometimes, 3 = Often, 4 = Always

The challenges point directly to administrative and infrastructural deficiencies within the universities' library systems. The highest-ranked operational bottleneck was human-resource behavior: a lack of courtesy among library staff (X = 2.70) significantly harms user engagement. Logistical and infrastructural barriers followed closely: difficulties in locating and physically retrieving textbook volumes (X = 2.54), a lack of access to electronic resources (X = 2.54), and poor lighting conditions (X = 2.52). Technical infrastructure issues also scored highly, including missing terminal hardware for internet-mediated search functions (X = 2.47) and an overall lack of technical capability among library staff (X = 2.45).

Conclusion

This study demonstrates a high level of health information resource utilization among pre-clinical medical students in Ogun State, alongside clear, shifting format preferences. While hardcopy medical textbooks remain the most frequently used daily option due to physical availability, internet-mediated resources are the most highly preferred format. Statistical analysis confirms a significant joint relationship and contribution between independent access metrics and user preferences. The findings reveal that the shift toward preferred digital formats is hindered by unsupportive personnel behaviours, disorganized storage and retrieval tracking, poor physical reading environments, and inadequate electronic infrastructure. Academic



medical libraries must actively evolve beyond passive repositories into user-centric, high-tech information systems to prevent their valuable print collections from being underutilized due to systemic logistical barriers.

Recommendations

Based on these findings, the following actions are recommended to optimize medical library delivery systems:

1. Library management should run continuous customer service workshops and digital-literacy training programs for personnel. Staff must become proactive assistants capable of helping medical students navigate complex cataloging systems smoothly.
2. To fix retrieval bottlenecks, clear visual locator charts, metadata guides, and real-time digital search terminals should be placed throughout reading areas. Core health resources for quick retrieval should be clearly mapped to speed up access.
3. University libraries must upgrade their online web portals, making electronic journal databases, e-textbooks, and open-access medical repositories highly visible and easily accessible.
4. Given the barriers of poor lighting and erratic power grids, libraries must install backup solar power grids or automated inverter systems to ensure uninterrupted study and continuous access to digital catalogs.
5. Library administrations must maintain active, updated institutional subscriptions to high-demand print textbooks and electronic medical databases to ensure resource collections match ongoing curriculum updates.
6. Environmental upgrades including installing active ventilation, proper air-conditioning systems, silent acoustics, and improved task lighting should be prioritized to create a truly conducive study environment.

REFERENCES

- Adebanjo, A. A., **Opele, J. K.**, & Onayinka, T. S. (2024). Influence of ICT Resources Utilization on Social Information Sharing among Undergraduates in Federal University Oye Ekiti, Nigeria. *International Journal of Instructional Technology and Educational Studies*, 5(4), 14–24. DOI: 10.21608/IHITES.2024.406416
- Adepoju, E.O & Opele, J. . (2021). Technology Application in Health Information Management in Obafemi Awolowo University Teaching Hospitals Complex (OAUTHC) Ile-Ife, Osun State. *International Journal of Research Publications (IJRP.ORG).*, 74(1), 17–17.
- Iyanda D.F, Opele J.K & Akintunde, B. . (2016). A study of ICT literacy skills and internet usage pattern of library users in Osun State College of Education, Ila-Orangun, Nigeria. *FUTA Journal of Management and Technology Maiden Edition*, 1(137–149).
- Ogunode, N. J., Akinjobi, F. N., & Musa, A. (2022). Analysis of factors responsible for Nigerians’ patronizing of foreign higher education. *European Multidisciplinary Journal of Modern Science*, 6(May), 19–29. <https://emjms.academicjournal.io/index.php/>
- Ojo, A., Dahunsi, F.T & Opele, J. K. (2024). Data management and curation among Librarians in selected Libraries in South-West, Nigeria. *African Journal of Educational Management, Teaching and Entrepreneurship Studies*, 11(2), 194–212.
- Oladapo, Y.O., Opele, J. K. & A. M. . (2021). Social media use for medical information sharing



among medical officers in Nigeria: Implication for librarianship. *Library Philosophy and Practice (e-Journal)*, 6200.

- Oladapo, Y. O., Adewoyin, A. O., Oluwole, T. O., Opele, J. K., & Gariba, A. O. (2021). Empirical Analysis Of Library Resources Use By Clinical Students In Lautech College Of Health Sciences, Ogbomoso, Oyo State, Nigeria. *Library Philosophy and Practice, 2021*, 1–26.
- Opele, J.K & Adigun, A. . (2023). The Role of Library Education in Nigeria: Empowering Information Professionals for National Development. *Review of Information Science and Technology (RIST)*, 9, 11–26.
- Opele, J.K & Tomori, O. . (2024). Preservation and conservation practices in health information management in Southwestern Nigeria. *Library and Information Perspectives and Research*, 6(1), 262–275.
- Opele, J.K, Osunrinde, A.A & Awwal, N.T. (2021) Undergraduates’ perception of the influence of book mutilation and defacing on library use in the Federal University Library, Oye-Ekiti. *Journal of Library Services and Technologies*, 3 (2), 101-111. DOI: <http://doi.org/10.47524/jlst.v3i2.102>. a publication of the Department of Library and Information Science, Delta State University Abraka, Nigeria
- Opele, J. K., Onayinka, T. S., Fagbami, I. J., & Ugwu, N. F. (2024). Awareness and Use of Infographic Tools among Librarians in Nigeria. *New Review of Academic Librarianship*, 30(1), 52–71. <https://doi.org/10.1080/13614533.2024.2312124>
- Opele, J.K, Iyanda D.F & Opele A.M (2015). A study of commonly shared knowledge among postgraduate students in Obafemi Awolowo University, Ile-Ife, Nigeria. *Elixir Educational Technology*, (85):34443-34447. www.elixirpublishers.com
- Tzanova, S. (2020). Changes in academic libraries in the era of Open Science. *Education for Information*, 36(3), 281–299. <https://doi.org/10.3233/EFI-190259>