AJEMATES
African Journal of Educational Management, Teaching and Entrepreneurship Studies
VOL.10 (1), October-December, 2023 https://ajemates.org

INFORMATION RESOURCE AVAILABILITY FOR MEDICAL SERVICES IN THE ANAMBRA STATE

Dr. Obiamalu, Amaka Raymonda
oa.raymonda@unizik.edu.ng
Department of Library and Information Science
Nnamdi Azikiwe University, Awka, Anambra State.

ABTSRACT

The main purpose of this study was to investigate the information resources available for medical services in Anambra State. Five research questions and three hypotheses guided the study. This study was carried out in Anambra State. The population of the study comprised three hundred and seventy nine (379) medical doctors, twenty five (25) library staff in Teaching Hospitals, and four thousand and seventeen 4017 medical information resources in the Teaching Hospitals in Anambra State. The entire population was studied. A self-constructed questionnaire was used as instrument of data collection in this study. The research instrument was entitled: Information Resource Availability for Medical Services Questionnaire (IRAMSQ). The research purpose, research questions, and draft copies of the instrument were submitted to two experts in library and information science, two experts in measurement and evaluation in Nnamdi Azikiwe University, Awka and two medical doctors one from Nnamdi Azikiwe University, Awka and the other from University of Nigeria, Nsukka. These experts examined the items in terms of content relevance, item clarity as well as the coverage of the dimensions of the study. The test–re-test method for testing reliability was applied. In doing this, the researcher was assisted by two research assistants who administered copies of the questionnaire on 15 medical doctors in University of Nigeria Teaching Hospital, (UNTH), Enugu State. After an interval of two weeks, copies of the questionnaire were administered again on the respondents. The responses were collated and the scores were computed using the Pearson Product Moment Correlation analysis. This produced reliability co-efficient of 0.87. The results indicated the internal consistency of the instruments and were therefore considered satisfactory for the study. The researcher collected data with the help of 3 research assistants who are members of staff in the hospitals. Statistical mean and standard deviation were used to answer research questions two, three, four and five. The Pearson Product Moment Correlation Coefficient (PPMCC) was used to test hypotheses one and two. The three hypotheses were tested at 0.05. level of significance. The findings from this study are presented as follows: Medical doctors do not frequently consult medical journals, encyclopedia of medicine, medical dictionaries, health related articles on newspapers, health related magazines, medical bulletins, projects, health related journals, e-encyclopedia and e-magazine under this study; Medical doctors read medical text books, consult medical materials for the purpose of carrying out research, for studying, read newspapers for current information on health issues , prepare for examination, write assignment, prepare for seminar presentation, borrow and return health related information materials, to consult reference materials and to use abstract;

Medical doctors agreed that they retrieve information resources from the medical library through the use of manual card catalogue, shelve browsing, and through direction given by medical library staff and friends. Based on the findings of the study, the following recommendations are made: Librarians and library management should put in place plans, programmes and strategies that will encourage medical doctors to always consult the different health related information resources that are available in the library. In order to sustain the use of the medical libraries by medical doctors, they should be made to feel comfortable whenever they come to the library. Librarians and the management of medical libraries should make it an imperative to sensitize doctors on the use of modern information retrieval channel, such as the use of OPAC, internet and social network sites, etc. The various human factors acting as a barrier to the effective usage of the medical libraries should be addressed by library management by organizing staff orientation programmes and also create a medium of getting feedback from the doctors on the overall performance of the library.

Keywords: Information; Resources; Availability; Medical Services.

Introduction

Health service delivery has become problematic in recent times. Most health care service providers do not have access to the needed information due to factors ranging from improper filing system, absence or poorly equipped medical library and destruction of medical records. The challenges faced in the health sector have been worsened by the Corona Virus (COVID-19) which is ravaging the whole world. The medical libraries, in addition to conventional libraries and other information services centers exist for the sole aim of satisfying the information needs of their users (medical doctors inclusive). The totality of their functions is geared towards satisfying information needs of the users. For instance, the information needs of medical scientists are not quite the same as those of scientists in industries.

User studies in Library and Information Science are based on the premise that effective library services must begin with a clear understanding of the actual needs of information users. This probably moved Saitri (2019) to submit that in an era of continuous overload of medical information, user studies continue to be vital in equipping information professionals to improve both their understanding of information use and quality delivery. The information need therefore vary in relation to the subject, field of users, educational background, level of experience and functions performed (Rees & Schult, 2021). These variables may affect a person's interest in the type of information he seeks and how he goes about that. Information needs are job-related. Since information needs differ according to areas of specialization, members of different professions adopt different strategies to get information they need from different sources. The sources have been grouped by Ocheibi

and Buba (2022) into formal, semi-formal and informal sources. According to them, the formal sources include journals, abstracts review publication, current awareness publication, textbook/monographs, newspapers and access to database. The semi-informal sources include technical reports, theses and conference papers. The informal sources include conversation with peers, symposia, meetings, lectures, seminars and communication with peers. In Anambra State it is not yet clear which of the above sources are being utilized.

Medical doctors need specialized information so as to offer effective health care delivery. The doctors need necessary information in order to serve patients better. In obtaining the needed medical information, doctors face a number of challenges. Such challenges have been identified by Mckibbon and Fridsma (2016) to include lack of time to search and review new medical information, uncertainty about how to know where relevant evidence on how to handle a particular medical situation has been found, inefficient use of resources, inappropriateness of information sources, limitations of print resources and the increasing prevalence of low-quality information on the Internet. Earlier findings of Smith (1996:2) revealed that:

> *Some of information in doctor's heads is out of date and wrong, new information may not have penetrated and information may not be there to deal with patients with uncommon problems. These deficiencies have become more serious as the rate of change in medical knowledge has accelerated: the doubling time of the biomedical knowledge base is currently about 19 years, meaning that medical knowledge will increase fourfold during a professional lifetime. Inevitably, doctors cannot practice high quality medicine without constantly updating the information within their heads and finding information to help them with particular patients.*

In trying to update their knowledge base, medical doctors use different sources. Oduwole (2008) found that medical literature was the most commonly used source of information among various specialists in medical field. Osiobe (2006) reported the use of scientific and technical journals as the most preferred sources of information by medical practitioners. Today, greater volumes of health information are mostly online. Since medical doctors scarcely find time for themselves after daily hectic jobs, it is most likely that they do not have time for serious medical literature search.

Medical libraries may have the best stocked health related information resources comprising of books, periodicals, pamphlets, manuscripts,

reports, audiovisual, disc, cassettes, tape recordings, CD-ROM, film and filmstrips, slides, posters, pictures and maps and information services (Fayose, 2000). Its utilization by the undergraduates need not simply depend on the number of books and journals in the library.

Medical science is an evolving discipline and as such much attention should be given to how students learn, where and how they get access to health related information resources. Medical doctors use the medical library for various reasons. They visit the library to consult textbooks, prepare for examination, to complete their assignment, to borrow and return textbooks, etc. In the same vein, Yusuf and Iwu (2010) in their opinion on the use of library by doctors, asserted that doctors and medical students use the library in order to consult textbooks, prepare for seminar presentations, write assignments, prepare for examinations, etc. whatever reason(s) that is accountable for the use of the library by medical doctors and students, it is worthy of note that medical libraries are indispensible in an academic environment (Oyesiku & Oduwole, 2004).Guskin (as cited in Yusuf &Iwu, 2010) noted that the use of university libraries promotes active learning, thus, contributing to students' ability to think critically and work well independently or in group. Hence, this study investigated information resource availability for medical services in Anambra State, Nigeria.

Lushington (2002) stated that individuals use libraries and as such, libraries should be designed with individuals in mind. Libraries must be designed for the widest possible spectrum of tastes; inquiries; informational and cultural needs; and provide assistance to individuals in utilizing materials in all formats. There is also the need to reduce barriers to library usage such as bad design of facilities and buildings. Lombardo and Condic (2001) emphasized that the library needs to be a comfortable place for the library users. Otherwise, students will decide to use alternative methods to gather the information they need. This remark was borne out of their observation of students' growing dependence on electronic resources and students' lack of understanding that some of the best sources that they could use for research are in print format. Franscotti, Levenseler, Weingarten and Wiegand (2007) conducted a survey to establish the services of the library staff as an introduction of better environment and availability of relevant collections which will enable the students to use the library, more students will watch movies and use the internet. They stated that, the time of opening and closing also affect students' library use. If the library is opened for use for the whole day, lecturers will have more opportunities to do their lessons in the library and students can go into the library to work and do whatever they are interested in doing in the library.

Another major factor affecting the use of medical library information resources is

the human factor which can be presumed to be the influence of what is called 'nature' and 'nurture'. The nature is what one has inherited from his or her parents, while the nurture is the environment in which the individual lives. Some human factors that can influence the use of the library by medical doctors in the library situation include; gender or marital status of the users: who could be male or female, married or single. Other aspects include library opening hours; lending policy, staff attitude, users' preference on the use of the medical library, information retrieval skills of library staff and students, etc.(Gojeh, Dutse & Daudu, 2013).

Toying the same line of argument on the human factors affecting the use of library as George (as cited in Ossai, 2009) noted that medical doctors library use pattern amongst others is influenced by the attitude of the University library staff. When the library staff's attitude is encouraging, then, students are motivated toward using the library more frequently. Staff behaviour or attitude is of great importance as it influences the use of the library by undergraduates. Poor staff performance or attitude can only serve to accentuate an already poor image of services of the library (Health code as cited in Gojeh, Dutse & Daudu, 2013). For any meaningful and effective utilization of library and information services by medical students, the environment which could be human or physical should be favourable or conducive to the users. The academic library environment encompasses all the circumstances, people, things and events around the library and can have potential effects, positive or negative, on the library usage. The design of a library can influence users' behaviour and satisfaction in the same way that the physical environment and organization of a library can (Amusa & Iyoro, 2013).In the same vein, Campbell and Shlecter (as cited in Amusa & Iyoro, 2013) conducted a study on the effects that the environment can have on the use of library. They scanned the total environment to see how it can influence user behaviour and satisfaction. Their study concluded that the design of a library can influence user behaviour and satisfaction. This study is therefore motivated by the need to ascertain the availability of medical information resources in relation to the information needs of medical doctors in Anambra State.

Statement of the Problem

The need to make adequate use of medical libraries in medical sciences is of paramount importance in the fulfilment of their education. Hence, the need for medical doctors to constantly visit the library in order to make avail of the available of health related information resources that is stocked in the library. From the preliminary observations by the researcher through interactions with medical practioners indicated that medical doctors do not use the library as they are supposed to. This maybe as a result of human factors (such as users' attitude towards the use of library, lack of attendance of library user education, insecurity of library users

properties and insufficient staff, etc.) and environmental factors (such as inadequate books loaned out to students, lack of library software, unsuitable library hours, incessant power outage, poor maintenance of facilities and untidy environment etc.). Medical libraries and other service centers exist in teaching hospitals to satisfy the information needs of medical doctors by providing traditional and electronic information resources needed for effective and efficient medical services. Today medical or health information is made mostly online. Medical doctors need the information resources to update their knowledge. Anambra State is one of the states created in Nigeria. It has government owned hospitals and a Teaching hospital with medical doctors working in them. The healthcare delivery system is still being developed. The study therefore determined what information resources are available for medical services in the state. No study has been carried out to identify information resources available for medical services in the state.

Research Questions

The following research questions were raised to guide this study:

1. What are the information resources available for medical services in Anambra State?
2. For what reasons do the medical doctors use the medical library?
3. How do the medical doctors retrieve information for medical services in Anambra State?
4. What are the human factors affecting the information resources available for medical services in Anambra State?
5. What are the environmental factors affecting the information resources available for medical services in Anambra State?

Research Hypotheses

The following research hypotheses were raised to guide this study and were tested at 0.05 level of significance:

1. There is no significant relationship between human factors and the information resources available for medical services in Anambra State.
2. There is no significant relationship between environmental factors and the information resources available for medical services in Anambra State.
3. There is no composite significant relationship between human, environmental factors and the information resources availability for medical services in Anambra State.

Research Method

Research Design: The descriptive survey research design was used in this study. **Area of Study:** This study was carried out in Anambra State. **Population and Sample of the Study:** The population of the study comprised three hundred and seventy nine (379) medical doctors, twenty five (25) library staff in Teaching Hospitals, and four thousand and seventeen 4017 medical information resources in the Teaching Hospitals in Anambra State. The entire population was studied. **Instrument for Data Collection:** A self-constructed questionnaire was used as instrument of data collection in this study.

Validation of Instrument: The research purpose, research questions, and draft copies of the instrument were submitted to two experts in library and information science, two experts in measurement and evaluation in Nnamdi Azikiwe University, Awka and two medical doctors one from Nnamdi Azikiwe University, Awka and the other from University of Nigeria, Nsukka. These experts examined the items in terms of content relevance, item clarity as well as the coverage of the dimensions of the study. **Reliability of Instrument:** The test–re-test method for testing reliability was applied. In doing this, the researcher was assisted by two research assistants who administered copies of the questionnaire on 15 medical doctors in University of Nigeria Teaching Hospital, (UNTH), Enugu State. **Method of Data Collection:** The researcher collected data with the help of 3 research assistants who are members of staff in the hospitals. **Method of Data Analysis:** The simple percentage and frequency counts were used to answer the research questions. The Pearson Product Moment Correlation Coefficient (PPMCC) was used to test the hypotheses.

Results Presentation and Discussion

Research Question One: What are the information resources available for medical services in Anambra State?

Table 4.1: Information Resources Availability for Medical Services

Medical Materials used in the library	Mean
Medical textbooks	2.57
Medical journals	1.93
Encyclopedias of medicine	2.09
Medical dictionaries	2.34
Health related articles on newspapers	1.94
Health related magazines	1.98
Medical bulletins	1.85
Thesis/ projects	1.59
Health related e-journals	1.61
Maps	1.60
Health related audio tapes and videos	1.75
Internet	1.60
Aggregate mean	**1.90**
Criterion mean	**2.50**

Table 4.1 revealed the information resources availability for medical services in Anambra State. It was revealed that the aggregate mean is 1.90, which is lower than the criterion mean of out of 2.50. This indicates that the information resources available for medical services in Anambra State is low. As revealed in the Table, the medical doctors do not frequently use medical journals,

encyclopedias of medicine, medical dictionaries, health related articles on newspapers, health related magazines, medical bulletins, thesis/projects, health related e-journals, maps, and health related audio tapes and videos and internet services that are available in the medical libraries under this study. However, medical doctors consult medical textbooks frequently in the library.

Research Question Two: For what reasons do the medical doctors use the medical library?

Table 4.2: Reasons for Usage of Medical Library by Doctors

Reasons	Agreed		Disagreed		Total	
	No.	%	No.	%	No.	%
Read medical textbooks	187	79.6	34	14.5	221	94.1
Consult medical materials for the purpose of carrying out research	180	76.6	42	17.6	222	94.2
Study	201	85.5	21	8.9	222	94.4
Read newspapers for current information on health issues	114	48.5	107	45.5	221	94
Prepare for examination	191	81.3	31	13.2	222	94.5
Write assignment	183	77.9	39	16.6	222	94.5
Prepared seminar presentations	150	63.8	72	30.6	222	94.4
Borrow and return health related information materials	138	58.7	84	35.7	222	94.4
Consult monographs	91	38.7	131	55.7	222	94.4
Consult reference materials	141	60.0	81	34.5	222	94.5
Use abstract	113	48.1	109	46.4	222	94.5

From Table 4.2, the medical doctors under this study agreed that they use the medical library in order to: read medical textbooks (187, 79.6%), consult medical materials for the purpose of carrying out research (180, 76.6%), study (201, 85.5%), read newspapers for current information on health issues (114, 48.5%), prepare for examination (191, 81.3%), write assignment (183, 77.9%), prepare for seminar presentations (150, 63.8), borrow and return health related information materials (138, 58.7%), consult reference materials (141, 60.0%) and to use abstract (113, 48.1%). However, the doctors do not use the medical library to consult monographs (131, 55.7%).

Research Question Three: How do the medical doctors retrieve information for medical services in Anambra State?

Table 4.3: How information is retrieved from the medical library by Doctors

How Doctors retrieve information from the medical library	Agreed		Disagreed		Total	
	No.	%	No.	%	No.	%
Through manual card catalogue	134	57.0	88	37.4	222	94.4
Through OPAC	79	33.6	143	60.9	222	94.5
Through Shelve browsing	147	63.4	73	31.1	220	94.5
Through Direction given by medical library staff and Friends	140	59.6	82	34.9	222	94.5
Through Internet	80	34.0	142	60.4	222	94.4

As shown in Table 4.3, the medical doctors agreed that they retrieve information from the medical library through the use of manual card catalogue (134, 57.0%), shelve browsing (147, 63.4%) and through direction given by library staff and friends (40, 59.6%). However, the medical doctors do not retrieve information from the medical library through the use of OPAC (143, 60.9%) and Internet (142, 60.4%).

Research Question Four: What are the human factors affecting the information resources available for medical services in Anambra State?

Table 4.4: Human Factors Affecting the Information Resource Availability

Human factors affecting Information Resource Availability	Agreed		Disagreed		Total	
	No.	%	No.	%	No.	%
lack of attendance at library user education	112	47.7	110	46.8	222	94.5
Improper organization of library materials	110	46.8	112	47.7	222	94.5
Improper shelf guidance and arrangement	142	60.4	80	34.0	222	94.4
High cost of internet access	116	49.4	100	45.1	216	94.5
Insufficient staff	96	40.9	126	53.6	222	94.5
Crowded students' timetable	146	62.1	76	32.2	222	94.3
Inaccessibility of some websites	130	55.3	92	39.1	222	94.4
Insecurity of library users' properties	128	54.5	94	40.0	222	94.5
Unfavorable rules and regulations for library users	128	54.5	94	40.0	222	94.5
Inadequate encouragement from lecturers	137	58.3	85	36.2	222	94.5

Table 4.4 showed the different human factors affecting the information resources available for medical services in Anambra State. It shows that lack of

attendance at library user education (112, 47.7%), improper shelf guidance and arrangement (142, 60.4%), high cost of internet access (116, 49.4%), crowded students' timetable (146, 62.1%), inaccessibility of some websites (130, 55.3%), insecurity of library users' properties (128, 54.5%), unfavorable rules and regulations for library users (128, 54.5%) and inadequate encouragement from lecturers (137, 58.3%) are some of the human factors affecting the information resources available for medical services in Anambra State. However, the medical doctors disagreed that insufficient library staff (126, 53.6%) do not affect their use of the medical library.

Research Question Five: What are the environmental factors affecting the information resources available for medical services in Anambra State?

Table 4.5: Environmental factors affecting the information resources available for medical services in Anambra State

Environmental factors affecting Information Resource Availability	Agreed		Disagreed		Total	
	No.	%	No.	%	No.	%
Inadequate books loaned out to doctors	122	51.9	100	42.6	222	94.5
Inadequate facilities and equipment	133	56.6	89	37.9	222	94.5
Inadequate computers	106	45.1	116	49.4	222	94.5
Lack of library software	142	60.4	79	33.6	221	94
Unsuitable library hours	93	39.6	129	54.9	222	94.5
Lack of quiet and well-furnished study area	114	46.5	108	46.0	222	92.5
Lack of comfortable study atmosphere	93	39.6	129	54.9	222	94.5
Uncomfortable seating arrangement	92	39.1	130	55.3	222	94.4
Preference of office use to library	85	36.2	137	58.3	222	94.5
Poor maintenance of facilities and untidy environment	83	35.3	139	59.1	222	94.4
Incessant power outage	67	28.5	155	66.0	222	94.5

The analyzed data in Table 4.5 revealed that inadequate books loaned out to doctors (122, 51.9%), inadequate facilities and equipment (133, 56.6%), lack of library software (142, 60.4%) and lack of quiet and well-furnished study area (144, 46.5%) are the environmental factors affecting the information resources available for medical services in Anambra State. However, they disagreed that the following environmental factors do not affect their information resources available for medical services in Anambra State, these include: inadequate computers (116, 49.4%), unsuitable library hours (129, 54.9%), lack of comfortable study atmosphere (129, 54.9%), uncomfortable seating arrangement (130, 55.3%), preference of office use to library (137, 58.3%), poor maintenance of facilities and untidy environment (139, 59.1%) and incessant power outage (155, 66.0%).

Testing of the Research Hypotheses

This section is devoted to the testing of the research hypotheses earlier formulated in chapter one of the study.

Hypothesis One: There is no significant relationship between human factors and the information resources available for medical services in Anambra State.

Table 4.6: Relationship between Human Factors and Information Resource Availability for Medical Services

		Human Factor	Usage
Human Factor	Pearson Correlation	1	.595**
	Sig. (2-tailed)		.000
	N	222	222
Usage	Pearson Correlation	.595**	1
	Sig. (2-tailed)	.000	
	N	222	251

Table 4.6 shows that the Pearson correlation value of .595 is equivalent to 59.9% which is approximately 60%. This means that the relationship between human factors and the information resources available for medical services in Anambra State is 60%. The null hypotheses is therefore rejected. This implies that an increase in one of the values lead to an increase in the other value. Also, the Sig. value is .000 which is lesser than 0.05 and this implies that an increase or decrease in one of the values lead to equal a corresponding increase or decrease in the other value. In conclusion, the hypothesis stating there is no significant relationship between human factors and the information resources available for medical services in Anambra State is rejected. This implies that human factors influence information resources availability for medical services in Anambra State.

Hypothesis Two: There is no significant relationship between environmental factors and the information resources available for medical services in Anambra State.

Table 4.7: Relationship between Environmental Factors and Information Resource Availability for Medical Services

		Environmental Factor	Information Resources
Environmental Factor	Pearson Correlation	1	.581**
	Sig. (2-tailed)		.000
	N	222	222
Information Resources	Pearson Correlation	.581**	1
	Sig. (2-tailed)	.000	
	N	222	222

Table 4.7 showed that the Pearson product correlation coefficient r is (.581 x 100) 58.1 and beyond average. The hypothesis is rejected. This means that there is a significant relationship between environmental factors and the information resources availability for medical services in Anambra State. Also, as shown in Table 4.12, the significant value is .000 which is lesser than 0.05 and this implies that an increase or decrease in one of the values (environmental factors) lead to an equal corresponding increase or decrease in the other value (the information resources availability for medical services in Anambra State).

Hypothesis Three: There is no composite significant relationship between human, environmental factors and the information resources availability for medical services in Anambra State.

Table 4.8: Composite Relationship between Human, Environmental Factors and Information Resource Availability for Medical Services

Model	R	R^2	Sums of Squares	Df	Mean Square	Sig.
Regression			4306.506	2	2153.253	.000[b]
Residual	.634[a]	.402	6401.440	219	29.230	
Total			10707.946	221		

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	53.124	3.515		15.115	.000
	Human factor	-.066	.075	-.068	-.881	.380
	Environmental factors	.161	.054	.231	2.995	.003

Table 4.8, showed that a multiple regression was run to predict the use of libraries from human factors and environmental factors. These variables statistically and significantly predicted the information resources availability for medical services in Anambra State + (2,219) =.634, $p<0.05(0.00)$, R^2 =.402. All two variables added significantly to the prediction, at 0.00. The null hypothesis is therefore rejected, implying that an increase in both human and environmental factors will lead to a corresponding increase in the information resources availability for medical services in Anambra State and vice-versa.

Discussion of Findings

Information Resources Availability for Medical Services

The findings indicate that the information resources available for medical services in Anambra State is low. The medical doctors do not frequently use medical journals,

encyclopedias of medicine, medical dictionaries, health related articles on newspapers, health magazines, medical bulletins, thesis/projects, health related e-journals, maps, health related audio tapes and videos and internet services that are available in the medical libraries under this study. This implies that the medical doctors majorly use textbooks than other information resources.

This findings is in agreement with that of Okiy (2000), Dee and Stanley (2005), Ajiboye and Tella (2007), Ugah (2007) and Popoola (2008). Of a particular interest is Popoola (2008) that identified books and textbooks as commonly used by medical doctors for their study. The findings from the study also reaffirmed the view of Ugah (2007) who asserted that textbooks account for medical doctors' library visits. However, the findings is at variance with that of Eskola (2005) which revealed that medical doctors frequently use printed sources such as books and journals, electronic sources such as databases and the Internet, media sources such as TV and radio, and people.

Reasons Medical Doctors' Use Medical Library

The findings revealed that the medical doctors agreed that they use the medical library in order to: read medical textbooks, consult medical materials for the purpose of carrying out research, study, read newspapers for current information on health issues, prepare for examination, write assignment, prepare for seminar presentations, borrow and return health related information materials, consult reference materials and to use abstract.

The findings from this study is in line with that of Aderibigbe and Emmanuel (2012) on the use of library information technology resources by medical doctors in Nigeria. The respondents were asked to state their reasons for visiting the library; the result revealed that majority of the respondents (15, 20%) visit the library mainly to consult materials for research, 12(16%) of the respondents used the library to prepare their seminar presentation, and only 7 (9%) respondents visit the library to read newspapers. The finding from this study also conforms with that of Mausumi and Palash (2012) which found that medical doctors of West Bengal tertiary institution, visit the library to study and to read text-books.

How Information is retrieved from Medical Library

The findings revealed that the medical doctors agreed that they retrieve information from the medical library through the use of manual card catalogue, shelve browsing and through direction given by library staff and friends. The findings from this study reaffirmed the assertion made by Akande (2003) that greater numbers of medical doctors are aware of the existence of library catalogues as the first point of call in searching and retrieving library materials. The effectiveness of the library catalogue in locating and retrieving library materials is affirmed as 83% of respondent successfully use catalogues.

Nevertheless, the finding from this study do not corroborate that of Oyesuki and Oduwole (2004) who argued that majority of the doctors studied are not well skilled in

locating information resources using the catalogues and searching for information through manual library catalogue consumes time.

Human Factors Affecting the Availability of Information Resources

The findings from the study revealed that different human factors such as lack of attendance at library user education, improper shelf guidance and arrangement, high cost of internet access, crowded students' timetable, inaccessibility of some websites, insecurity of library users' properties, unfavorable rules and regulations for library users and inadequate encouragement from lecturers are some of the human factors affecting the information resources availability for medical services in Anambra State.

The findings from this study is in line with that of Gojeh, Dutse and Daudu (2013) who carried out a survey on the factors affecting the usage of medical libraries by medical doctors. It was revealed that the human factors affecting medical information resource available for medical services include: lack of students' attendance of library use education, improper organization of library materials, shelf guidance and arrangement, users' attitudes, crowded students timetable, unfriendly attitude of staff, insecurity of library users' properties, unfavorable rules and regulations for library users and lack of students' encouragement by lecturers, etc.

Environmental Factors Affecting the Availability of Medical Information Resources

The findings of this study revealed that inadequate books loaned out to doctors, inadequate facilities and equipment, lack of library software and lack of quiet and well-furnished study area are the environmental factors affecting the availability of information resources for medical services.

The findings from this study are at variance with that of Amusa and Iyoro (2013) on the influence of library environments, instructional programmes and user-librarian collaborations on library use by doctors in Nigeria. It was revealed that majority (1,926; 72%) of the doctors studied strongly agree with the statements that library environments such as conducive reading atmosphere, location of the library, seating arrangement, shelve guidance and arrangement, etc. affects the use of the library.

The findings from this study do not corroborate that of Ansari and Jilani (2008) which investigated the general environment in the library and asserted that inconveniences of the working hours, distance from the place of residence, etc. influence the use of the library by medical doctors.

Relationship between Human Factors and Availability of Medical Information Resources

The findings of this study revealed that the Pearson correlation value of .595 is equivalent to 59.9% which is approximately 60%. This means that the relationship between human factors and medical information availability for

medical services is 60%. The null hypotheses is therefore rejected. This implies that an increase in one of the values lead to an increase in the other value. Also, the Sig. value is .000 which is lesser than 0.05 and this implies that an increase or decrease in one of the values lead to equal a corresponding increase or decrease in the other value.

The findings from this study corroborates that of Kamba (2011) which acknowledged the existence of crunch trained and inexperienced technical personnel who manage, control and maintain available ICT resources in academic libraries as another human factors affecting the medical information availability for medical services. The finding from this study is also in conformity with that of Gojeh, Dutse and Daudu (2013) which stated that users' attitude, crowded students' timetable, students' preference of hostel use to library and lack of students' encouragement by lecturers to use the library, constitutes some of the human factors affecting the usage of the medical library by doctors.

Relationship between Environmental Factors and Availability of Medical Information Resources

The findings of this study revealed that the Pearson product correlation coefficient r is (.581 x 100) 58.1 and beyond average. The hypothesis is rejected. This means that there is a significant relationship between environmental factors and medical information availability for medical services. Also, the significant value is .000 which is lesser than 0.05 and this implies that an increase or decrease in one of the values (environmental factors) lead to an equal corresponding increase or decrease in the other value (medical information availability for medical services).

The findings from this study corroborates that of Gojeh, Dutse and Daudu (2013) which identified physical environmental factors that are capable of affecting the usage of medical libraries as tangible elements of service quality like availability of computers, OPAC terminals, cleanliness, adequate lightings, proper ventilation, functional furniture, suitable library hours, library software and place for reading. The finding from this study is also in line with that of Ansari and Jilani (2008) which investigated the general environment in the library and asserted that inconveniences of the working hours, distance from the place of residence, etc. influence the use of the library by medical doctors.

Composite Relationship between Human, Environmental Factors and Medical Information Availability for Medical Services

The findings of this study revealed that a multiple regression was run to predict the use of libraries from human factors and environmental factors. These variables statistically and significantly predicted the use of libraries + (2,219) =.634, $p<0.05(0.00)$, R^2 =.402. All two variables added significantly to the prediction, at The null hypothesis is therefore rejected, implying that an increase in both human and environmental factors will lead to a corresponding increase in the medical information availability for medical services by medical doctors and vice-versa.

The finding from this study corroborates that of Amusa and Iyoro (2013) which asserted that for a meaningful and effective utilization of library and information services by medical doctors, the environment which could be human or physical should be favourable or conducive to the users. The academic library environment encompasses all the circumstances, people, things and events around the library and can have potential effects (positive or negative) on the medical information availability for medical services. The design of a library can influence users' behaviour and satisfaction in the same way that the physical environment and organization of a library can.

Summary of the Findings

The findings from this study are presented as follows:

1. Medical doctors do not frequently consult medical journals, encyclopedia of medicine, medical dictionaries, health related articles on newspapers, health related magazines, medical bulletins, projects, health related journals, e-encyclopedia and e-magazine under this study.
2. Medical doctors read medical text books, consult medical materials for the purpose of carrying out research, for studying, read newspapers for current information on health issues , prepare for examination, write assignment, prepare for seminar presentation, borrow and return health related information materials, to consult reference materials and to use abstract.
3. Medical doctors agreed that they retrieve information resources from the medical library through the use of manual card catalogue, shelve browsing, and through direction given by medical library staff and friends.
4. The study also revealed the difference human factors affecting the medical information availability for medical services medical doctors. It shows that lack of attendance at library user education, improper shelf guidance and arrangement, unfriendly attitude of library staff, crowded students' timetable, insufficient staff, insecurity of library users' properties, unfavorable rules and regulations for library users, and inadequate encouragement from lecturers, are the human factors affecting the medical information availability for medical services by medical doctors.
5. As revealed in the study, medical doctors agreed to the statement that environmental factor such as: inadequate books loaned out to doctors, inadequate facilities and equipment lack of library software and lack of quiet and well-furnished study area are the environmental factors affecting the medical information availability for medical services. However, they disagreed that the following environmental factors do not affect the medical information availability for medical services, these include inadequate computer, unsuitable library hours, lack of comfortable study atmosphere, uncomfortable seating arrangement, preference of hostel use to library, poor maintenance of facilities and untidy environment and incessant power outage.
6. It was also revealed from the study that human factors affect the medical information availability for medical services, environmental factors affect the medical information availability for

medical services and also, both human and environmental factors jointly affect the medical information availability for medical services.

Conclusion

It can be concluded from the findings that the need for medical doctors to frequently use the library is of paramount to the very existence of the library as well as the bedrock for self-learning as obtainable in the 21st Century. The study revealed that doctors use the medical libraries for various reasons which are in line with their academic pursuit. Some of these reasons include the use of the medical libraries for study purposes, preparation for examinations, writing of assignments, preparation for seminars, etc. undergraduates retrieve information materials from the medical libraries through manual card catalogue, shelve browsing and direction given by medical library staff and friends, various human factors stand as barrier to the effective utilization of the medical library by doctors and some of these human factors include: lack of attendance at library user education by doctors, improper organization of library material, improper shelf guidance and arrangement, high cost of internet access, crowded students' timetable, unfriendly attitude of library staff, insecurity of library users' properties, unfavorable rules, regulations for library users and inadequate encouragement.

Recommendations

Based on the findings of the study, the following recommendations are made:

1. Librarians and library management should put in place plans, programmes and strategies that will encourage medical doctors to always consult the different health related information resources that are available in the library.
2. In order to sustain the use of the medical libraries by medical doctors, they should be made to feel comfortable whenever they come to the library.
3. Librarians and the management of medical libraries should make it an imperative to sensitize doctors on the use of modern information retrieval channel, such as the use of OPAC, internet and social network sites, etc.
4. The various human factors acting as a barrier to the effective usage of the medical libraries should be addressed by library management by organizing staff orientation programmes and also create a medium of getting feedback from the doctors on the overall performance of the library.
5. Awareness campaign should be organized by librarians on sensitizing medical doctors on the need to be present always at library user education programmes so as to inculcate in them the various reasons why it is important for medical doctors to use health related information resources in the medical library.

Acknowledgements

This research work was funded by TETFund under the Institutional Based grant (TETF/DR/CE/UNI/AWKA/IBR/2022/VOL.1) awarded to **Dr. Obiamalu, Amaka Raymonda** of Department of Library and Information Science, Nnamdi Azikiwe University, Awka, Anambra State. The researcher is grateful to TETFund, Abuja, for the full funding of the research.

REFERENCES

Aderibigbe, N.A., & Emmanuel, S.O. (2012). Information seeking behaviour of undergraduate in the University of Agriculture, Abeokuta, Ogun State, Nigeria. *Journal of Library and Information Science.* 29(11), 437- 442.

Akande, S.O. (2003). Patterns of first year students' use of a university library: A survey at University of Ibadan. *Lagos Journal of Library and Information Science,* 1(3), 22-26.

Amusa, O., & Iyoro, A.O. (2013). Influence of library environments, instructional programs, and user-librarian collaborations on library use by undergraduate students in Nigeria. *Chinese Librarianship: An International Electronic Journal*, Retrieved from http://www.iclc.us/cliej/cl35AI.pdf

Dee, C & Stanley E. (2005). Information-seeking behaviour of nursing students and clinical nurses: Implications for health sciences librarians. *Journal of the Medical Library Association*, 98 (2), 213-222.

Eskola (2005).Active use of information resources by undergraduates. *BMC Medical Education.*7 (1), 30-35.

Fayose, P. O. (2000). Library resources and their roles in education: The Centre for external Studies. University of Ibadan, Ibadan.

Frascotti, J., Levenseler, J., Weingarten, C., &Wiegand, K. (2007). Improving library use and information literacy at Caritas Charles Vath College. An interdisciplinary qualifying project report submitted to the faculty of Worcester Polytechnic Institute. Retrieved fromhttp://www.edu/Pubs/E-project/Available?E- project-030107-103835

Gojeh, D. & Daudu (2013). Library science of higher education human and physical Environmental factors affecting student's utilization of library and information services. Colleges of education libraries. 45-78.

Gojeh, L.A. (1995). The library: An indispensable aid to successful research in education. A Research framework for teacher education in Africa. 15(6) 45- 50.

Julien, H. (2000). Information literacy instruction in Canadian academic libraries: Longitudinal trends and international comparison. *College and Research Libraries, 61*(6), 510-523.

Kamba, M.A. (2011). "Implication of ICT's in libraries of higher education institutes panacea catapulting library Development in Africa" DESIDOC. *Journal of library and information technology* 31(1), 65-71.

Lancaster, F.W. (1998). If you want to evaluate your library, Champaign: Graduate school of library information science. University of Illinois.

Lombardo, S. V., & Condic, K. S. (2001). Convenience or content: A study of undergraduate periodical use. *Reference Services Review, 29*(4), 332–338.

Lushington, N. (2002). *Libraries designed for users: A 21st century guide*. New York: Neal-Schuman Publishers.

Mausumi.B.&Palash (2012).Library use by undergraduate medical student's, in Indian.*J. prev. Soc. Med.* 43 (3).

Mckibbon, K.A. & Fridsma, D.B. (2006). Effectiveness of Clinician- selected electronics information resources. *Journal of the American Medical Informatics Association* 13(6) 653-9. Retrieved from http:// www.

Ochieibi, J.A. & Buba, A. (2022). Information Needs and Information gathering Behaviour of Medical Doctors in Maiduguri, Nigeria. *Journal of Educational Media and Library Science*, 40:4 (June 2003); 417-427.

Oduwole, A.A. (2008). Information Seeking Habits and Needs of Medical Officers in Nigerian University Teaching Hospitals: A Survey. *Gateway Library Journal*, Vol. 1, N0. 2, 88-94.

Okiy, R. B. (2000).Assessing students and faculty use of academic libraries in Nigeria: The study of Delta State University, Abraka. *Frontiers of Information and Information Science*, *1*(1), 65-75.

Okiy, R.B. (2000). Assessing students' and faculty use of academic libraries in Nigeria: The case study of Delta State University, *Abraka. Frontiers of Library and Information Science* (1):65-75.

Ossai , N.B.(2009). Library use pattern of law students at the University of Benin, Benin City, Nigeria. *Simbiosi.* (6), 2.

Osudina, O. (1974). The relationship between accessibility and uses of the academic library by undergraduate students. *Nigerian Libraries* 41.

Oyediran-Tidings, S.(2004). Information needs and seeking behaviour of library users: Results from Yaba College of Technology, Lagos. *Journal of Library and Information Science* 2(2):77-88.

Oyedum, G.U (2006). Assessment of readers Satisfaction; a case study of Federal University of Technology Minna library. Bornolibrary. *Archival and information science journal*, *5*(1), 67-75.

Oyedum, G.U. (2011).Physical facilities as determinants of undergraduate students' use of federal university libraries in Nigeria. *Library Philosophy and Practice, 5*(2),1-12.

Oyesiku, F.A., & Oduwole, A. A. (2004). Use of an academic library: A survey on the Olabisi Onabanjo University Libraries. Lagos: *Journal of Library and Information Science, 2*(2), 96-101.

Popoola, S. O. (2001). Faculty awareness about library information products and services in Nigerian universities. *Gateway Library Journal*, *4*(1 & 2), 1-10.

Popoola, S. O. (2008). The use of information sources and services and its effect on the research output of social scientists in Nigeria Universities. *Library Philosophy and Practice.* Retrieved from http://unlib.unl.edu/LPP/popoola.htm

Renwick, S. (2004). Knowledge and use of electronic information resources by medical sciences faculty at the University of the West Indies. *Journal of the Medical Library Association*, 93(1), 21-31.

Saitri, R. (2019). "The Evolution of User Studies". *Libri*, Vol. 49: pp. 132-141.

Smith H. C. (2002) Course Directors' perspectives on problem-based learning curricula. In Biochemistry. Acad. Med. 77: 1189-1198.

Smith, R. (1996). What Clinical Information do Doctor's Needs? *British Medical Journal*, 313 (7064), pp. 1062-1068.

Ugah, D. (2007). Evaluating the use of university Libraries in Nigeria: A case study of Michael Okpara University of Agriculture, Umudike. Available: http://unllib.unl.edu/LPP/ugah2.htm