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Winter 7-27-2019

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Uzoamaka, Ogwo and Victor, Nwachukwu Ndubuisi Professor, "Availability and Access of Electronic Information Resources to Medical Library Users in Universities in South-South, Nigeria" (2019). *Library Philosophy and Practice (e-journal)*. 2736.
<https://digitalcommons.unl.edu/libphilprac/2736>

Availability and Access of Electronic Information Resources to Medical Library Users in Universities in South-South, Nigeria

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ABSTRACT

The paper examined the extent of availability and accessibility of electronic information resources to medical library users in south-South, Nigeria universities. The study adopted descriptive survey design to assess the availability of different types of electronic information resources and their accessibility to different categories of medical library users. The total population of the study comprised 226 medical library users of four federal universities in the south-South, Nigerian universities. Four (4) research questions guided the study. Data were collected through a structured questionnaire instrument. The Data were analysed using descriptive statistics of percentages, mean and standard deviations. The criterion mean of 2.5 was used to judge the responses as to whether they were negative or positive. Results from the study showed that the overall percentage of availability of electronic information resources in all the medical libraries studied was rather low, about 30.9% on the average. All electronic information resources studies were rarely accessible to all categories of users in medical libraries in the south-south, Nigerian universities. All respondents studied agreed that, inadequate information and communication technology skills, time constraints and inadequate library space did not constitute impediments to accessibility and competent use of electronic information resources rather, high cost of subscription, poor internet services, inadequate infrastructure, light fluctuations and lack of competent IT resource's persons were noted as major impediments in the libraries studied. The study recommends extension of library information services to clinics, regular subscription to electronic information resources, constant power supply and regular internet services for medical libraries.

Keywords: Electronic information resources, Access and Use of electronic information resources, Medical Library

INTRODUCTION

The rapid advances in information technologies in libraries have revolutionized information access and availability in many Nigerian universities. The south-south Nigerian university medical libraries are no exception and as such they have taken advantage of these developments to facilitate teaching learning and research for their parent institutions. Briggs (2004) notes that, the establishment of medical libraries in Nigerian universities was a result of delivery effective health information services to support meaningful higher or professional medical education, which could foster delivery of health care services. As a domain for information storage, retrieval dissemination in university, medical library stands to defend its position at all times. Medical libraries are primarily designed to serve the information needs of medical scientists, students and research scholars, and their collections are built around medical sciences subjects' interests. Medical libraries could be seen as a special library that is attached to any medical institution that is primarily designed to cater for the information need of the medical practitioners such as Doctors, nurses, laboratory staff, patients, medical students, all allied medical professionals and researchers in medical and health related matters. Such libraries help users to keep abreast of new developments in the medical field.

Statement of the Problem

Provision of electronic information resources has become one of the cardinal services of the medical libraries world over, especially as information is available electronically. The integration of information and communication technologies into medical libraries' functions was to enhance and improve the delivery of appropriate information resources and services to their users and create in them the competencies needed in an information age which is in line with the university's mission to produce quality manpower. Its significance lies in addressing the long standing problems for medical scientists gaining quick access to relevant information regardless of which library holds them. Teaching, learning and research depend on availability of appropriate and relevant information resources in the library. With information and communication technologies in medical libraries, patrons are expected to have prompt access to the most preferred, economical, easy, instant and vast resource of current information and medical literature search, either for education, research, patient education and telemedicine.

However, pre-research discussions with some of these users in south-south, Nigerian universities unveiled that, they are still suffering from dearth of information resources. This continued inadequacy is what is causing the concern to many and as such brought the rationale for this study.

Objectives

The study was guided by the following specific objectives:

- (1) (i) identify the types of (EIRs) available to users in these libraries,
- (ii) determine the extent to which EIRs are accessible to users,
- (iii) determine the impediments to availability and accessibility EIRs and
- (iv) strategies enhancing availability and accessibility of EIRs in these libraries.

Literature Review

Electronic information resources represent an increasingly important component of the university library collections building activities. According to IFLA Electronic guide Draft (2013), electronic information resources refer to those materials that require computer access, whether through a personal computer, mainframe, or handheld mobile device. These resources may either be accessed remotely via the Internet or locally. They constitute research materials for consultation in research, learning and teaching and have become indispensable resources of modern university medical libraries. 'Electronic Information Resources (EIRs) are those information resources that are available and can be accessed electronically through such computer-networked facilities such as online library catalogus, the Internet and the world wide web, etc, (Ekwelem, Okafor and Ukwoma, 2009). Similarly, Constable (2007), sees these! resources as those documents/materials in libraries that are available i_n electronic formats, and which require special equipment and skills to be accessed, such include: electronic databases, Online Public Access Catalogs, compact disks and Internet, Thus, electronic information resources are defined as those information resources that require the use of information and communication technology facilities and other electronic equipment to access They help the libraries to curb storage problems and control the flood of information. Organizations' journals, educational resources, academic departments, patient-oriented, corporate and index sites,

individual and group practices are some of the categories of electronic information resources that one can find in medical libraries.

Also print resources that are digitized could as well be regarded as electronic resources, but Arms (2005) opined that, digitized resources require adequate care and constant maintenance of the systems for the databases to be effectively utilized. These resources require associated network services in libraries especially as the information is stored in digital formats and can only be accessible over a network. In discussing the impact of these resources, Navjyoti (2007) noted that, electronic information resources provide speedy publications and availability on the desktop: access to information that might be restricted to the user due to geographical location or finances; *access* to more current information, and extensive links to additional resources related content.

Emphasis on the use of electronic information resources in health care has been stressed in literature. Renwick (2005) studied on Knowledge and use of electronic information resources by medical sciences *faculty* at the University of the West Indies. The objective was to determine faculty's knowledge of electronic resources, access to a computer, use of electronic resources (both number and frequency) available at the Medical Sciences Library (MSL), and the areas of training needed and to identify areas for further research. A survey method was adopted, using mail questionnaire administered to faculty in medicine, pharmacy, dentistry, and veterinary sciences at the University of the West Indies. The questionnaire contained questions on computer literacy, computer access and location, knowledge and use of electronic resources, and training needs. Using descriptive statistical technique of percentages to analyze the data, the following results were obtained: the response rate was 70%, of whom 97% were computer users. Seventy-three percent used computers daily, and 82% felt that their computer literacy level was average or beyond. Overall, it was found that faculty had high awareness of the electronic resources made available by the Medical Science Library (MLS), but low use of MSL-specific resources supporting the suggested problem of underutilization. Many respondents felt that electronic information resources were important, and, though many felt that they were competent users, 83% were self-taught and many still expressed a need for training. Over 60% felt that a workshop with a hands-on component was the preferred format for training. It was recommended that there be greater promotion of the library's electronic information resources. This study supports the present study as it explores the strategies enhancing accessibility and competent use

of electronic information resources, while emphasizing on the need to promote the use electronic information resources in medical libraries and the training of medical scientists on the needed competencies to use these resources.

Manda (2008), conducted a study that examines the state of access to and use of information services in four universities in Tanzania in the context of gender dynamics and relations. The study was conducted among student communities at the University of Dar es Salaam, Muhimbili University of Health and Allied Sciences, Mzumbe University and Sokoine University of Agriculture. The overall research design integrated both qualitative and quantitative research methodology. The major methods of data collection were survey, focus group discussion and key informant interview. A final sample of 194 undergraduate students was selected conveniently with 51% males and 49% females. The key finding of this study was that gender does not influence information access and use. The baseline conditions of information and service provision in the four universities revealed the following. First, information services were available but not adequate. Second, students could access a wide range of sources of information but the actual use was concentrated and limited to only three major sources which were radio, television and friends. Specialized information sources such as health workers and brochures/leaflets were rarely used. Third, awareness of the availability of services in the Universities was not wide spread among students and a significantly large percentage of students think that they cannot access information in the universities and have a negative attitude towards the provision of information services in the universities. Major factors that influenced access to and use of information and services in the universities in Tanzania were diverse in nature. Despite the challenges, the findings have revealed that the following opportunities exist: extensive knowledge among students, a reasonable degree of availability of services, and an increasing demand for these services from students. Finally, the paper makes detailed recommendations on service provision, gender mainstreaming in service provision, family planning, marketing and promoting services.

Porumbeanu (2009) conducted a survey study to investigate the implications of access to electronic information resources for the users of large academic medical libraries in Romania. Using a questionnaire to elicit the opinions of 300 respondents, it was found out that, certain factors contribute to users preferences in the use of electronic information resources. The results of the study prompted further research. Contributing factors such as culture, content and access

were investigated. From the research it appears that there were various factors underlying the preference for electronic resources in libraries.

Yacob (2011) also acknowledges that, medical doctors and researchers used electronic information resources to keep themselves up to the date, prepare course work, solve some work-related problems and explain clinical problems. Electronic information resources can be used for many purposes such as: writing of papers for conferences, preparing for lectures, undertaking research and preparing talks or seminars implementing clinical orders or prescription maintaining and providing health for the sick, provide assistance with physical and psychosocial needs. Medical students equally used these resources for enhancement of learning and academic achievements. Today, some of the many commonly used electronic information resources include: electronic books, electronic journals, internet resources such as: electronic mail, world wide web, news groups, real time chat, etc.. Thus, the value of medical information lies in the *utilization of* these resources at the point of need. This stresses the importance of providing the right health information accessible to users and the need for provision of electronic information resources becomes imperative.

According to Shuling (2007), electronic information resources has gradually become a major resource in every university library. The emergence of electronic information resources has tremendously transformed information handling and delivery in medical libraries. Ellis and Oldman (2005) note that through the use of electronic resources, researchers and students; now have access to global information resources, particularly the Internet for their scholarly intercourse. The dearth of current and up-to-date information for research in University libraries is attributed to poor levels of developing electronic information resources (Faborode, 2007; Bozimo, 2007). Libraries need to be vanguards for technology transfer from the developed world to the developing economies of Africa; to meet these expectations African university libraries must provide a link between local researchers, scholars and their counterparts in other parts of the world. Utilization of online information resources is the way of achieving this objective. According to Tsakonas et al. (2006) electronic information resources are information resources provided in electronic form, and these include resources available on the Internet such as e-books e-journals, online database, CD-ROM databases and other computer -based electronic networks, among others.

Methodology

Four federal university medical libraries in south-south Nigeria were used for the study and they include: universities of Benin (UniBenin), Calabar(Unical), Port-Harcourt(Uniport) and Uyo (Uniuyo). The study used survey design to assess the availability of different types of electronic information resources and their accessibility to different categories of medical library users of the south- south, Nigerian universities. Using a stratified random sampling technique was conducted on medical students, but, for researchers, medical librarians and lecturers from colleges of health sciences the entire population was used because of the smallness of the size. Questionnaire was the main data collection instrument employed for the study. Two hundred and sixty -six copies of the questionnaires were administered to the respondents in the four federal university medical libraries used for the study, but 226 were returned, giving a percentage return of 86%. The data were analysed using descriptive statistics of percentages, mean and standard deviations.

Data Analysis and Presentation of Results

Research Question 1

What types of electronic information resources are available for users in medical libraries in the south-south Nigerian universities?

Table 1: Observation Checklist on Availability of electronic formation resources in medical libraries in south-south Nigerian universities.

S/N	Electronic resources	Information	University Medical libraries				Percentage	Rank
			UNIBEN	UNICAL	UNIPOINT	UNIUYO		
1	Access surgery		NA	AV	NA	NA	¼ (25%)	4 th
2	Access Medicine		NA	AV	NA	NA	¼ (25%)	4 th
3	AIDS Inter. Source Database		NA	AV	NA	NA	¼ (25%)	4 th
4	AIDS Info		NA	AV	NA	NA	0(0%)	5 th
5	Biomed central (BMC)		NA	AV	NA	NA	¼ (25%)	4 th
6	Canadian Patent Database		NA	AV	NA	NA	¼ (25%)	4 th
7	Clinical Evidence		NA	AV	NA	NA	0(0%)	5 th
8	Clinical trials		NA	AV	NA	NA	0(0%)	5 th
9	Cochrane library		NA	AV	NA	NA	0(0%)	5 th
10	Drug Information Portal		NA	AV	NA	NA	¾(75%)	2 nd

11	EBSCO HOST Database	NA	AV	NA	NA	1/2 (50%)	3 rd
12	EMBASE	NA	AV	NA	NA	0(0%)	5 th
13	MEDLINE (OVID) Database	NA	AV	NA	NA	¾ (75%)	2 nd
14	OMIM	NA	AV	NA	NA	¼ (25%)	4 th
15	PubMed Database	NA	AV	NA	NA	¼ (25%)	4 th
16	UpToDate	NA	AV	NA	NA	½ (50%)	3 rd
17	E-Journals & periodicals	NA	AV	NA	NA	4/4(100%)	1 st
Total EIR types Available		1	9	5	6		
% Availability		5.9	52.9	29.4	35.3	Overall: 30.9%	
Availability Ranking		4 th	1 st	3 rd	2 nd		

**Kay: AV – Available, NA – Not Available

Table 1 above shows the percentage responses of the librarians on the availability of different electronic information resources in their respective universities' medical libraries under study. From the table, the following were observed: Out of the seventeen electronic information resources listed for the study, only one was found to be available in University of Benin, sixteen were found not to be available in this library. This result gives a percentage availability of 5.9%. Also, in University of Calabar, out of seventeen electronic information resources listed for the study, only ten were found to be available in this library. This result gives a percentage availability of 52.9%. For University of Port Harcourt, out of the seventeen listed electronic information resources, only five were found to be available, giving a percentage availability of 29.4%. While for University of Uyo, six were found to be available, giving a percentage availability of 35.3%. This gives an overall average of 30.9% availability of the listed electronic information resources in these libraries under study.

From the results, one can see that, University of Calabar ranked the highest with percentage availability of (52.9%), followed by University of Uyo (35.3% \ University of Port Harcourt ranked third (29%), while university of Benin got the least score (5.9%). The results also show that, five types of electronic information resources under consideration were not available at all in any of the media libraries studied. These include: AIDSinfo, Clinical Evidence, Clinical trials, Cochrane library, and EMBASE. The implication may be that, these libraries have not subscribe to these five electronic information resources at all. Overall 30.9% average percentage of availability of these electronic information resources in these libraries under study seems to be rather low. However, the sheer number of these resources is not sufficient to

determine the degree of availability and use of these electronic information resources, because some libraries may select a few of these electronic information resources and consistently subscribe to them, provided they meet the users' information needs.

Research Question 2:

To what extent are the preferred electronic information resources accessible to users in medical libraries in the south-south, Nigerian universities?

Table 2: Mean Rating Scores of medical library users on the extent of accessibility of electronic information resources in medical libraries (N=226)

S/N	Items	x 1	X2	X3	X4	X5	SD1	SD2	SD3	SD4	Decision
18.	Access Surgery	2.04	1.24	1.80	1.97	1.76	1.11	0.58	1.30	1.07	RA
19	Access Medicine	1.99	1.28	2.00	1.72	1.75	1.07	0.59	1.22	0.91	RA
20	AIDS International source Database	1.94	1.24	1.80	1.76	1.73	1.09	0.58	1.30	0.87	RA
21	AIDSInfo	1.79	1.21	1.60	1.76	1.59	0.99	0.49	0.89	0.90	RA
22	Biomed central (BMC)	1.75	1.34	1.60	1.76	1.61	0.97	0.61	0.89	0.87	RA
23	Canadian Patent Database	1.63	1.20	1.60	1.72	1.54	0.92	0.49	0.89	0.89	RA
24	Clinical Evidence Database and web of science	N/H 1.70	1.28	1.80	1.76	1.64	0.95	0.53	1.11	0.97	RA
25	Clinical trials	1.82	1.83	1.80	1.90	1.71	1.09	0.60	1.10	0.98	RA
26	Cochrane library	1.70	1.24	1.60	1.97	1.63	1.06	0.51	0.89	1.07	RA
27.	Drug Information Portal	1.77	1.28	1.80	2.00	1.71	1.07	0.53	1.10	1.02	RA
23.	EBSCO HOST Database	1.71	1.55	2.00	2.06	1.83	1.00	0.87	1.41	1.06	RA
29.	EMBASE	1.67	1.24	2.00	2.00	1.73	0.93	0.69	1.41	1.06	RA
30.	MEDLINE (OVID) Database	1.79	1.24	2.20	1.93	1.79	1.03	0.52	1.30	1.06	RA
31.	OMIM (Online Mendelian Inheritance in man)	2.08	1.31	1.60	1.90	1.72	1.91	0.66	0.89	0.98	RA
32.	PubMed Database	1.82	1.41	2.20	2.00	1.86	0.98	0.68	1.30	1.03	RA
33.	UpToDate	1.89	1.38	2.00	2.00	1.82	1.07	0.72	1.00	1.06	RA
34.	E-Journals and other periodicals	2.08	1.38	2.20	2.06	1.93	1.13	0.72	1.00	1.12	RA
Cluster		1.83	1.30	1.86	1.79	1.73	1.08	0.61	1.25	1.00	RA

Keys: AA - Always accessible, SA- Sometimes accessible, RA - Rarely accessible, NA - Not accessible. X 1 -Mean scores of clinical students, X 2 - Medical Researchers, X 3 - Librarians, X 4 - Lecturers in medical sciences, X 5 - Overall cluster mean for all categories of users.

The Table 2 above shows the extent to which the preferred electronic resources are accessible to users in medical libraries in south-south, Nigerian universities. From the table, the mean rating and standard deviations in brackets, for individual categories of users (clinical students, researchers, librarians and lecturers) are as follows: Clinical students: 2.04(1.11), 1.99(1.07), 1.94(1.09), 1.79(0.99), 1.75(0.97), 1.63(0.92), 1.70(0.95), 1.82(1.09), 1.70(1.06), 1.77(1.07), 1.71(1.00), 1.67(0.93), 1.79(1.03), 2.08(1.91), 1.82(0.98), 1.89(1.07) and 2.08(1.13) respectively. From these results, it can be observed that, all the responses fall under "rarely accessible response mode", indicating that, clinical students rarely have access to electronic information resources in south - south, Nigerian universities.

The mean rating scores and standard deviation (in bracket) for researchers on P| extent of accessibility to electronic information resources are as follows: 1.24(0.58), 1.28(0.59), 1.24(0.58), 1.21(0.49), 1.34(0.61), 1.20(0.49), 1.28(0.40), 1.53(0.60), 1.83(0.60), 1.24(0.51), 1.28(0.53), 1.55(0.87), 1.24(0.69), 1.24(0.52), 1.31(0.66), 1.41(0.68), 1.38(0.72), 1.38(0.72) for the seventeen items respectively. From these results, it is observed that, all the responses except for items 25 and 28 fall under "not accessible response mode", indicating that, researchers did not have access to these electronic information resources in these libraries under study. For items 25 and 28, these responses fall under "rarely accessible response mode".

Also the mean rating scores and standard deviations for medical librarians' responses are reported as follows: 1.80(1.30), 2.00(1.22), 1.80(1.30), 1.60(0.89), 1.60(0.89), 1.60(0.89), 1.80(1.11), 1.80(1.10), 1.60(0.89), 1.80(1.10), 2.00(1.41), 2.00(1.41), 2.20(1.30), 1.60(0.89), 2.20(1.30), 2.00(1.00), 2.20(1.00) for the seventeen items respectively. From these results, it is observed that, all the responses on the items fall under "rarely accessible response mode", indicating that medical librarians rarely have access to the seventeen electronic information resources in the medical libraries in the south - south, Nigerian universities.

The mean rating scores for lecturers in the above table 2 were as follows: 1.97(1.07), 1.72(0.91), 1.76(0.87), 1.76(0.87), 1.76(0.87), 1.72(0.89), 1.76(0.87), 1.90(0.98), 1.97(1.07), 2.00(1.02), 2.06(1.06), 2.00(1.06), 1.93(1.06), 1.90(0.98), 2.00(1.03), 2.00(1.06), 2.06(1.12) for the seventeen items respectively. From these results, it is observed that all the responses fall under "rarely accessible response mode" indicating that, lecturers equally do not have adequate access to the listed electronic information resources in the medical libraries.

Consequently, the overall mean rating by all users on each of the seventeen electronic information resources (see the *5 column) are respectively: 1.76, 1.75, 1.73, 1.59, 1.61, 1.54, 1.64, 1.71, 1.63, 1.71, 1.83, 1.73, 1.97, 1.72, 1.86, 1.82, and 1.93. Each of these falls under "rarely accessible" response mode. These mean that, all the seventeen electronic information resources are rarely accessible to all the categories of medical library users. For each category of users (Clinical students, Researchers, Medical librarians and Academic staff), the overall cluster mean are respectively 1.83, 1.30, 1.86 and 1.79. (see cluster row in table 2). These ratings also fall under "rarely accessible" response mode, except for that of the researchers, (1.30) which falls under "not accessible at all" response mode. Consequently, considering each category of users, the researchers on the average, indicate that these seventeen electronic information resources were not accessible at all to them in their libraries, while other categories of users indicate that these electronic information resources are rarely accessible to them in their libraries.

From the results, the overall cluster mean of all the categories of users is 1.73, indicating that, all electronic information resources under consideration in the study are rarely accessible to all categories of users in universities medical libraries in the south-south, Nigeria. The overall standard deviations obtained for each category of users are: 1.08, 0.61, 1.25 and 1.00, showing that, there is no wide variation the responses obtained for each category of users.

Research Question 3:

What are the impediments to the competent use of electronic information resources among medical library users in the south-south, Nigerian universities?

Table 3: Mean rating scores of medical library users' impediments to the competent use of preferred electronic information resources in the south-south, Nigerian universities (N=226).

S/N	Items	x 1	X2	X3	X4	X5	SD1	SD2	SD3	SD4	Decision
35	High cost of subscription rate discourages me from using EIRs	2.97	3.14	2.60	3.21	2.98	0.77	0.83	1.14	0.65	A
36	I lack adequate ICT skills to enable me use EIR in my library	2.37	2.00	2.00	2.00	2.09	0.56	1.16	0.00	0.97	D
37	Due to time constraints, I hardly my use EIRs	2.29	1.83	2.40	1.97	2.12	0.95	1.07	0.55	0.92	D
38	Poor Internet connectivity hinders my use of EIRs	3.04	3.52	2.20	3.06	2.96	0.91	0.78	0.84	1.02	A
39	Inadequate technology infrastructure a serious obstacle to the use of EIRs	3.31	3.45	3.00	3.21	3.24	0.71	0.74	0.71	0.99	A
40	Light fluctuations discourage me from using EIRs in my library	3.01	3.17	3.30	2.97	3.09	1.03	0.89	0.84	0.95	A
41	Lack of IT resource personnel in the library is also a hindrance to my use of EIRs	2.85	3.17	2.20	3.09	2.67	0.99	1.04	0.84	0.95	A
42	Inadequate library space constitutes inconvenient use of EIRs in my library	2.43	2.45	2.20	2.45	2.38	0.96	1.24	0.84	1.15	D
43	Library's financial policy on access to EIRs discourages my using EIRs	2.86	2.97	2.80	3.00	2.91	0.91	0.98	12.99	0.79	A
Cluster		2.79	2.86	2.52	2.77	2.85	1.09	0.97	0.75	0.92	A

Keys: SA - strongly agree, A - Agree, D - disagree, SD- strongly disagree; X1 - Mean scores of clinical students, $\bar{x}2$ – Medical Researchers, $\bar{x}3$ - Librarians, $\bar{x}4$ - Lecturers in medical sciences

Table 3 above contains possible impediments to competent use of electronic information resources among medical library users in the south -south Nigerian universities. From the table, the mean rating and standard deviations in brackets, for all categories of users are as follows: Clinical students had thus: 2.97(0.77), 2.37(0.56), 2.29(0.95), 3.04(0.91), 3.31(0.71), 3.01(1.03), 2.85(0.99), 2.43(0.96), 2.86(0.91) for the nine items respectively. From these results, it can be observed that, the responses for items 35, 38, 39,40,41, and 43 fall under "agreed" response mode, indicating that, these items listed hindered clinical students' accessibility and competent use of electronic information resources in medical libraries. Whereas, items 36, 37, and 42 fall

under "disagree" response mode, indicating that, these items (inadequate technology skills, constraint and inadequate library space) do not constitute impediments to and competent use of preferred, electronic information resources in these libraries. In other words, clinical students have adequate skills, time and library space to use electronic information resources.

Researchers also had the mean rating scores and standard deviation as follows: 3.14(0.83), 2.00(1.16), 1.83(1.07), 3.52(0.78), 3.45(0.74), 3.17(0.89), 3.17(1.04), 2.45(1.24), 2.97(0.98) for the nine items respectively. From these results, it can be observed that, item 38 only falls under "strongly" agreed response mode, indicating that, this item strongly constitutes impediment to researchers in their accessibility and competent use of electronic information resources in medical libraries. Whereas, items 35, 39, 40, 41 & 43 fall under "agreed" response mode, indicating that, these items equally constitute impediments to accessibility and competent use of electronic information resources in medical libraries. Also the results show that, items 36, 37 and 42 fall under "disagreed" response mode, indicating the researchers do not regard these items as that, constitutes to accessibility and competent use of electronic information resources in medical libraries.

Medical librarians also had the mean rating scores and standard deviation as follows: 2.60(1.14), 2.00(0.00), 2.40(0.55), 2.20(0.84), 3.00(0.71), 3.30(0.84), 2.20(0.84), 2.20(0.84), 2.80(12.99) for the nine items respectively. From these results, it can be observed that, items 35, 39, 40 and 43 fall under "agreed" response mode, indicating that, these four items constitute impediments to accessibility and competent use of electronic information resources in medical libraries. Items 36, 37, 38, 41 and 42 in the table 3, fall under "disagreed" response mode, indicating that these five items do not constitute impediments to competent use of electronic information resources in their libraries.

The mean rating scores and standard deviation for lecturers are as follows: 3.21(0.65), 2.09(0.97), 1.97(0.92), 3.06(1.02), 3.21(0.99), 2.97(0.95), 3.09(0.95), 2.45(1.15), 3.00(0.79) for the nine items respectively. From these results, one can see that, *items* 35, 38, 39, 40, 41, and 43 fall under "agreed" response mode, indicating that, these items constitute impediments to accessibility and competent use of electronic information resources in medical libraries to lecturers; while items 36, 37, and 42 fall under "disagreed response mode, indicating that, these

three items do not constitute to impediments to accessibility and competent use of electronic information resources in medical libraries.

Consequently, the respective mean ratings (see column x5 on table 3) on each category of users for all the nine items are as follows: 2.98, 2.09, 2.12, 2.96, 3.24, 3.09, 2.67, 2.38 and 2.91. From these results, items 35, 38, 39, 40, 41, and 43 on the average fall under "agree" response mode, indicating that, all categories of users on the average agreed that these six items constitute impediments to accessibility and competent use of electronic information resources in medical libraries. Whereas, items 36, 37 and 42 fall under "disagree" response mode, indicating that, these items on the average do not constitute impediments to accessibility and competent use of preferred electronic information resources to medical library users in the south-south Nigerian universities. On the average, the results show that, all library users under study agreed in their ratings that these three factors are not impediments to their competent use of preferred electronic information resources in these libraries under consideration: (a) lack of adequate information and communication technology skills, (b) time constraints, (c) inadequate library space. In other words, the users claimed that they do not lack adequate ICT skills; that time is not a constraint to their use of electronic information resources; and also that they possibly have adequate space in their libraries for the use of electronic information resources.

The respective overall cluster mean ratings are 2.79, 2.86, 2.52 and 2.77. These all fall under the "agree" response mode. Consequently, on category level of on the average the users agree that all the listed items in table 3 constitute to accessibility and competent use of their preferred electronic information resources in medical libraries in the south-south Nigerian universities. The standard deviations are: 1.09, 0.75 and 0.92 for the four categories of users indicating that, there is a close range of standard deviations scores indicating close agreement in the respondents' opinions.

Research Question 4

S/N	Items	x 1	X2	X3	X4	X5	SD1	SD2	SD3	SD4	Decision
44	Regular ICT training programs for staff and students should be encouraged by the university.	3.69	3.79	3.60	3.55	3.66	0.56	0.41	0.55	0.69	SA
45	Medical library should provide adequate ICT facilities to encourage the use of EIRS.	3.72	3.72	0.50	3.67	3.65	0.45	0.45	0.45	0.48	SA
46	Constant power should be made available to enable users' access to EIRs at their convenient hours.	3.69	3.90	3.60	3.73	3.73	0.50	0.31	0.55	0.45	SA
47	Internet services should be extended to clinics and offices where much of our time is being spent.	3.67	3.72	3.00	3.73	3.53	0.57	0.45	0.00	0.45	SA
48	Library's subscription for EIRs should be done regularly to enhance adequate access and use.	3.58	3.76	3.20	3.64	3.55	0.64	0.51	0.45	0.49	SA
Cluster		1.83	1.30	1.86	1.79	1.73	1.08	0.61	1.25	1.00	RA

** SA - strongly agree, A - Agree, D - disagree, SD- strongly disagree; $\bar{x}1$ - Mean scores of clinical students, $\bar{x}2$ - Medical Researchers, $\bar{x}3$ - Librarians, $\bar{x}4$ - Lecturers in medical sciences.

Table 4 above shows the responses of medical library users' on strategies for enhancing the accessibility and competent use of electronic information resources in medical libraries in the south-south, Nigerian universities. From the table, the mean rating and standard deviations (in brackets), for all categories of users in the study are as follows:

Clinical students: 3.69(0.56), 3.72(0.45), 3.69(0.50), 3.67(0.57), 3.58(0.64) for the five items respectively. From these results, it is observed that, they all fall under "strongly agreed" response mode. This means that, clinical students strongly agreed that these five strategies listed are for enhancing accessibility and competent use of electronic information resources in medical libraries.

Researchers also had the mean rating scores and standard deviation as follows: 3.79(0.41), 3.72(0.45), 3.69(0.31), 3.72(0.45), 3.76(0.51) for the five items respectively. From these results, it is observed that, the all fall under "strongly" agreed response mode. This means that, these five items are strongly acceptable by researchers as strategies for enhancing accessibility and competent use of electronic information resources in medical libraries.

Also, the mean rating scores and standard deviation of medical librarians show: 3.60(0.55), 3.50(0.45), 3.60(0.55), 3.00(0.00), and 3.20(0.45) respectively. From these results, items 44, 45 and 46 fall under "strongly agreed" response mode, indicating that, medical librarians are of the opinions that, these three strategies strongly constitute strategies to accessibility and competent use of electronic information resources in medical libraries. While items 47 and 48 fall under "agreed" response mode, indicating that, librarians equally accepted these items as factors for enhancing accessibility and competent use of electronic information resources in medical libraries.

From this table 4, the mean rating and standard deviations in brackets for lecturers are as follows: 3.55(0.69), 3.67(0.48), 3.73(0.45), 3.73(0.45) and 3.64(0.49) respectively. From these results, all the items fall under "strongly" response mode, showing that lecturers have strongly agreed that these items will enhance accessibility and competent use of electronic information resources in medical libraries.

As a whole, considering overall mean ratings for individual items (see column 5 of the table 4), the respective mean ratings are: 3.66, 3.65, 3.73, 3.53 and 3.55. These values all fall under the "strongly agree" response mode, indicating that, all the items listed in the study are strongly accepted by all categories of users of medical libraries as factors for enhancement of accessibility and competent use of electronic information resources in medical libraries. Also, the overall cluster mean ratings for all categories of users are: 3.67, 3.76, 3.38 and 3.66. These show that the group-wise ratings of all categories of users also fall under the "strongly agree" response mode, except for medical librarians rating which falls under the "agree" response mode. The findings show that all the categories of medical library users strongly agree that, all the five strategies listed are for enhancing accessibility of preferred electronic information resources and users competencies in the south-south Nigerian universities. There is no wide variation in the standard deviations of the responses of the clinical students on the above mean ratings.

Summary of Findings

Arising from this study, the following findings presented in this study are summarized hereunder:

1. The overall percentage of availability of electronic information resources in all the medical libraries studied was rather low, about 30.9% on the average. AIDsInfo database, clinical evidence database, clinical trials, Cochrane library and EMBASE were not available at all in any of the four medical libraries studied.
2. All electronic information resources studied were rarely accessible to all categories of users in medical libraries in the south-south, Nigerian universities.
3. All respondents studied agreed that, inadequate information and communication technology skills, time constraints and inadequate library space did not constitute impediments to accessibility and competent use of electronic information resources rather, high cost of subscription, poor internet services, inadequate infrastructure, light

fluctuations and lack of competent IT resource's persons were noted as major impediments in the libraries studied.

4. All respondents in the study strongly agreed that, the strategies to enhance accessibility and competent use of electronic information resources should include among others: extension of library information services to clinics, regular subscription to electronic information resources, constant power supply and regular Internet services for medical libraries.

Conclusions/Recommendations

Findings of this study revealed that electronic information resources were fairly available at the medical libraries of the south-south, Nigerian universities. There was dearth of electronic information resources for medical library users in south -south Nigerian universities. The few available electronic information resources were rarely accessible to all categories of medical library users of these libraries. Inadequate information and communication technology skills, time constraints and inadequate library space did not constitute impediments to accessibility and competent use of electronic information resources rather, high cost of subscription, poor internet

services, inadequate infrastructure, light fluctuations and lack of competent IT resource's persons were noted as major impediments in the libraries studied.

Based on the above findings, the following recommendations are made:

1. The south - south university medical libraries need to pay more attention to their users' preferred and relevant electronic information resources that could satisfy the users' information needs.
2. If possible a consortium of south-south medical libraries should be formed to enhance adequate provision of electronic databases to reduce cost and duplication and they should have a network of resource sharing so that resources of each library would be accessible to other medical libraries.
3. Due to huge amount of money involved in the subscription of these resources at each interval, the need for federal government and the national universities commission (NUC) to reactivate their policy on university libraries is imperative.

REFERENCES

- Arms, W. Y. (2005). A viewpoint analysis of the digital library. *Digital Library* 11(7/8). Retrieved from: <http://www.dlib.org/dlib/iulv05/arms/07arms.html>
- Bozimo, D.D (2007), Paper presented at the eFL.Net workshop on capacity Building, University of Jos Nigeria.
- Briggs, N. (2004). *Handbook of College of Health Sciences, University of Port Harcourt*. Port Harcourt: University Press, p. 39.
- Constable, F. J (2007). Training needs for electronic Information use in the coileee of Law at the University of South Africa. *MLS Thesis. Department of Information Science, university of South Africa*. P.23.
- Ekwelem, V. O., Okafor, N. V. and Ukwoma, C. S. (2009). Students use of electronic Information sources at the University of Nigeria, Nsukka. *African Journal of Library Archival and Information Science*, 19(1), 89-97.

Faborade, M.O (2007), Paper presented at eIFL.Net workshop, University, Ill-Ife, Nigeria

Johnson, S. Evensen, O. G, Gelfand, J, Lammers, G., Sipe, L. and Ziper N. (2012). Key issues for e-resources collection Development. A guide for libraries. *IFLA Electronic Resource Guide*.

Navjyoti (2007). A Snapshot of E-Journals' Adopters (Research Scholars) of Guru Nanak Dev University, In: *NAC LIN*, p432-442

Manda, P. A. (2008). Gender analysis of sexual and reproductive health information access and use: a study of university student communities in Tanzanian . *University of Dor Es Salaam Library Journal*, 10(1&2), 67-78.

- Porumbeanu, O. L. (2009). Is Electronic Always the Right Choice ? *Scientific commons*. Available at: http://espace.library.uq.edu.au/eservAJQ:179724/n2_5_Wed_Porumbeanu_160.pdf
Coverage 2009-01-01 T00:00:00Z
- Renwick S. (2005). Knowledge and Use of Electronic Resources by Medical Science Faculty at the University of the West Indies. *Journal of Medical Library Association* 6(1): 21-31. (Available at: <http://www.uwispace.sta.uwi.edu/dspace/biUtrean/handle/2139/12628/pier->)
- Shilling, C. & Wu.H. (2007), Investigation and Analysis of current use of electronic resources in University libraries. *Library management*..28(1,2):72-88
- Tsakonas, G and Papatheodorou, C. (2006). Analysing and evaluating usefulness and usability in electronic services. *Journal of Information Science*, 32(5): 400-419.
- Yacob, H. (2011). Factors affecting information and communication technologies(ICTs) use by academic librarians in southwestern Nigeria. *Library Philosophy and practice*. Available at:<http://unllib.unledu/lpp/>
- Constable, F. J. (2007). Training needs for electronic Information use in the college of Law at the university of South Africa. *MLS Thesis. Department of Information Science* University of South Africa, p. 23.
- Ekwelem, V. O., Okafor, N. V. and Ukwoma, C. S. (2009). Students use of electronic Information sources at the University of Nigeria, Nsukka. *African Journal of Library Archival and Information Science*. 19(1), 89-97.
- Faborade, M.O (2007), Paper presented at eIFL.Net workshop, University, 111-lfe, Nigeria.
- Johnson, S. Evensen, O. G, Gelfand, J, Lammers, G., Sipe, L, and Ziper N. (2012). Key issues for e-resources collection Development. A guide for libraries. *IFLA Electronic Resource Guide* .

- Navjyoti (2007). A Snapshot of E-Journals' Adopters (Research Scholars) of Guru Nanak Dev University, In: *NACLIN*, p432-442
- Manda, P. A. (2008). Gender analysis of sexual and reproductive health information access and use: a study of university student communities in Tanzania . *University of Dar Es Salaam Library Journal*; 10(1&2), 67-78.
- Porumbeanu, O. L. (2009). Is Electronic Always the Right Choice ? *Scientific commons*. Available at: http://espace.library.uq.edu.au/eserv/UQ:179724/n2_5_Wed_Porumbeanu_160.pdf
Coverage 2009-01-01T00:00:00Z
- Renwick S. (2005). Knowledge and Use of Electronic Resources by Medical Science Faculty at the University of the West Indies, *Journal of Medical Library Association*; 93(1): 21-31. (Available at: <http://www.uwispace.sta.uwi.edu/dspace/bitstream/handle/2139/12628/pier->)
- Shuling, C. & Wu.H. (2007), Investigation and Analysis of current use of electronic resources in University libraries. *Library management*, 28(1,2):72-88
- Tsakonas, G and Papatheodorou, C. (2006). Analysing and evaluating usefulness and usability in electronic services. *Journal of Information Science*, 32(5): 400-419.
- Yacob, H. (2011). Factors affecting information and communication technologies (ICTs) use by academic librarians in southwestern Nigeria. *Library Philosophy and practice*. Available at: <http://www.unllib.unledu/lpp/>

