

Emerging Pattern in Utilizing Electronic Information Sources by Pharmacy Lecturers in Five Universities in Nigeria: A Comparative Analysis.

By

OBASUYI, Luke and USIFOH, Stella Folajole

Abstract

This is a detailed comparative analysis of electronic information sources (EIS) utilized by pharmacy lecturers in South-South universities in Nigeria. The purpose of this study is to analyze the extent to which EIS are utilized among pharmacy lecturers in South-South Nigeria. The aim is to explore the emerging pattern of utilizing EIS and to identify critical factors influencing effective usage of EIS in order to assist the universities in planning and managing EIS for the benefit of faculty members. Survey research method was adopted in this study. The questionnaire was the instrument used to collect data by simple random sampling of pharmacists in the various universities. All the different categories of pharmacy lecturers were randomly selected for this study. Emerging pattern of EIS utilization indicates that majority of pharmacy lecturers rate EIS very important and, their level of usage was high and they use EIS daily. They use diverse EIS especially WWW to perform different tasks of teaching and research. Chi square statistics indicates that there is no significant difference in most of the variables tested. However, academic qualification influenced the task performed by the lecturers and task performed influenced the utilization of EIS.

Introduction

The pattern of information use is dynamic. Every information user or group of users has their peculiar characteristics of information use especially in this modern era of information and communication technology (ICT). ICT has brought about new ways of storing and transmitting information. Information has shifted from print-based formats to electronic-based formats. Many EIS abound in every field of knowledge and they are gradually changing the way we think, and perform our daily activities including teaching, learning and research. Okiki and Asiru, (2011); Angello, (2010) and Garuba and Ogunrombi, (2009) defined EIS as information stored and transmitted in digital, electronic or computerized formats such as diskettes, CD-ROM databases, DVDs, online public access catalogues (OPAC), bibliographic and full-text databases, electronic journals, scholarly databases, information gateways, e-books, the Internet and electronic mails. The use of EIS has gained prominence in tertiary institutions world wide and many academics including pharmacy lecturers are availing themselves of the opportunity to exploit these resources to access relevant, current and updated information for diverse purposes. Pharmacy lecturers by the nature of their professional callings require lots of quality, current, accurate and up-to-date information to carry out their mandates of teaching and research. In order to accomplish the above objectives, pharmacy lecturers have to use the various EIS to complement the print sources found in their libraries. The proliferation of ICT facilities like the computers, laptops, mobile phones, Internet modems, iPADS etc. have also facilitated the use of EIS by pharmacy lecturers in South-South universities in Nigeria to seek for information. The nature and characteristics of EIS demand that certain requirements are needed of the users to be able to

adequately utilize them, which have brought about new emerging information seeking behaviour and utilization pattern among pharmacy lecturers in these Universities. There are six states that make-up the South-South geo-political zone in Nigeria and the universities in these states are referred to as South-South Universities in this study. There seems to be no previous attempt to investigate the utilization pattern of EIS among pharmacy lecturers in these universities in Nigeria. The objective of this study therefore is to analyze and compare the pattern of EIS utilization among pharmacy lecturers across the South-South universities in order to assist the universities in planning and managing EIS. The study will focus on the frequency and purpose of using EIS, evaluate the importance, levels of utilization, satisfaction, training received, training needs, constraints in using EIS and task performed with the sources. The study also identifies critical factors influencing usage of EIS.

Statement of the Problem

There is high proliferation of EIS providing access to vast array of information for pharmacy lecturers. The demand to use these sources by pharmacy lecturers is increasing by the day. However, awareness and usage of these sources is low. These resources are relatively new and many pharmacy lecturers are not equally knowledgeable to use them thus resulting in disparate usage pattern and behaviour. Angello (2010) opined that lack of skills to access and lack of awareness of a wide range of EIS that are available by researchers in developing countries are factors that greatly determine their usability. This study therefore is determined to examine and compare the utilization pattern of EIS among pharmacy lecturers in South-South Universities in Nigeria in order to collect information that can be used to enhance effective EIS

service utilization by providing answers to the following nine research questions and test nine hypotheses.

Research Questions

1. What are the EIS used by pharmacy lecturers in South-South universities in Nigeria?
2. For what purpose are pharmacy lecturers using these electronic information sources?
3. What is the level of usage of electronic information sources by pharmacy lecturers?
4. What is the level of importance derived by pharmacy lecturers in using EIS?
5. What is the level of satisfaction derived by pharmacy lecturers in using EIS?
6. What mode of training did pharmacy lecturers received, and what training needs they require to enable them adequately use EIS?
7. What are their constraints in accessing and using electronic information sources?
8. Is there any significant difference in the task performed by pharmacy lecturers regarding their institutions and academic status?
9. Is there any influence of task performed by pharmacy lecturers on EIS usage?

Null Hypothesis

- Ho 1: There is no significant difference in the EIS used by pharmacy lecturers across the five South-South universities in Nigeria.
- Ho 2: There is no significant difference in the purpose of using EIS by pharmacy lecturers across the five universities.
- Ho 3: There is no significant difference in the use of EIS by the lecturers across the five universities.
- Ho 4: There is no significant difference in the level of importance of EIS to pharmacy lecturers across the five universities.
- Ho 5: There is no significant difference in pharmacy lecturers' levels of satisfaction in using EIS across the five South-South universities in Nigeria.
- Ho 6: There is no significant difference in the training needs to use EIS by pharmacy lecturers across the five universities.
- Ho 7: There is no significant difference in the constraints experienced in using EIS by Pharmacy lecturers across the five universities.
- Ho 8: There is no significant difference in tasks performed by pharmacy lecturers across the five South-South universities in Nigeria.
- Ho 9: There is no significant difference in task performed by pharmacy lecturers regarding their academic qualifications.

Literature Review

Opeke, Osunkunle and Okkwilagwe (2002) investigation of the adequacy of information sources and utilization pattern of 27 scientists in two large pharmaceutical companies in Lagos, Nigeria revealed that they carried out their work activities under less than optimal information condition with outdated information as they rely on oral sources although documentary sources could be more reliable, they opined. This problem of outdated information sources has given rise to open and free databases available in both offline and online formats. However, the pattern of using these databases is another thing altogether. To this end, Tenopir (2003) analyzed the results of over 200 studies of the use of electronic resources in libraries published between 1995 and 2003, and concluded that electronic resources have been rapidly adopted in academic spheres, although the behaviour of users varies according to the discipline. On the use of specific databases, Kupferberg and Hartel (2004) evaluated five full-text drug databases and found that pharmacy faculty and students preferred concise and easy-to-use sources while the librarians focused on the comprehensiveness, layout, and supporting references of the databases. Findings also showed that eFacts, Lexi-Drugs and DRUGDEX were most preferred among the many online drug databases available at Ohio State University. Different information users have different reasons for using a particular information system. Schrimsher, Freeman and Kendrach (2006) survey revealed that pharmacists practicing in Alabama pharmacy facilities have access and utilize Drug Facts and Comparisons and the Physician's Desk Reference (PDR) for their drug information resources for answering drug interaction, adverse reactions and over-the-counter questions. Also, Thanuskodi (2010) evaluated ten medical e-journal databases and found that medical professionals in Chennai preferred the High Wire Press CD ROM database, and Isabella and Esmail (2012) reported that electronic resources are highly useful to the academic community of Pharmacy College in Chennai City, and they use online databases, e-journals, web resources, CD-ROM and e-newsletter for updating subject knowledge and career development. Findings also showed that Royal Society of Chemistry, Science online, Elsevier Science Direct, Springer journal were the most accessed e-journals in PDF and HTML formats. Nnadozie and Nnadozie (2008) study revealed that monographs and journals were the main sources used by faculty members in Nigeria universities. On the purpose of using EIS in Nigeria, Owolabi et al (2012) investigated the use of electronic information sources by faculty members in

four Nigerian universities and found that majority of the academic staff are always using electronic sources for research, teaching and learning. The above result shows that the purpose of using EIS is more important than the work place. To this end, Nnadozie and Nnadozie (2008) study of information needs of faculty members in a Nigerian private university found that there is no significant difference between the information needs of lecturers in Nigerian private universities and their counterparts in public universities.

On the frequency of using electronic information sources, Renwick (2005) survey of faculty in the departments of medicine, pharmacy, dentistry, and veterinary science at the University of West Indies showed a frequency of 70% daily usage and 97% usage of e-resources, 79% Internet WWW, 67% e-mail and online databases, 65% PubMed and MEDLINE 50% for their work of research (83%), teaching (65%), clinical practice (37%). Bashorun, Issah and Adisa (2011) findings revealed that the frequency of use of electronic resources by academic staff at the University of Ilorin, Nigeria was low due to several reasons. Omotayo (2010) reported that the frequency of electronic resources usage by academics at Obafemi Awolowo University, Ile-Ife, Nigeria range from daily to occasional with monthly usage most. Tahira, Alias and Ameen (2011) reported that Pharmacy and Life science faculties often use subscribed electronic access than open access at Punjab University, Pakistan to access e-journal articles. On satisfaction using EIS, Adegboro (2011) review of recent literature of on electronic resources use by University faculty showed that e-resources have been widely and rapidly accepted, accessed and ably used by academics for both teaching and research. Users were satisfied with their use and will continue to use the resources. Shahmohammadi (2012) reported that the use of on-line electronic journals by faculty at the Islamic Azad University Karaj showed that they were satisfied and they will continue to use the resources as it has led to better research and enhances scholarly communication.

In the area of training, Renwick (2005) study of faculty members at the University of West Indies showed that majorities (83%) of them were self-taught how to use EIS and many (60%) still expressed a need for training through workshop. Also, Agbonlahor (2006) studied the motivational factors in IT use by lecturers in Nigerian Universities and found that training and level of access to IT significantly influenced the number of computer applications used by the lecturers and the frequency of computer use. Bhukuvhani, Chiparousha and Zuvalinyenga (2012) reported that lecturers use

various electronic resources at different frequencies through skills obtained from information literacy skills workshop and seminars organized by Bindura University library which have impacted positively on their work.

Several constraints militate against the use of electronic resources. Rehman and Ramzy (2004) reported that it is a widely held view that low awareness and poor skills are among the primary reasons for underutilization of e-resources. Their investigation at Kuwait University revealed that time constraints, lack of awareness, and low skill level were the constraints for utilizing electronic resources by health faculty in the university. Abdullahi and Haruna (2008) also found that lack of basic knowledge of ICT was the second major constraints in using ICT for information service delivery in three University libraries in Adamawa State, Nigeria. Dangani and Mohammed (2009) found that majority of academics in Ahmadu Bello University, Zaria, Nigeria are not fluent in database. This means that they may not be able to interrogate online databases to perform searches. Thanuskodi (2010) reported that lack of knowledge was a great problem in using ten medical e-journal databases by medical professionals in Chennai. Angello (2010) reported that researchers in developing countries experience a number of barriers in accessing e-information to include lack of skills and awareness of the wide range of electronic resources. Bashorun, Issah and Adisa (2011) found that the low frequency of use of electronic resources by academic staff at the University of Ilorin, Nigeria was due to lack of time, awareness of electronic resources provided by the library, power outage, ineffective communication channels, slow network and inadequate searching skills.

Task performed by Pharmacy lecturers varies and they need different information sources to carryout such tasks. Renwick (2005) survey of medical sciences faculty showed that faculty members used electronic resources for communication, research, teaching and administrative purposes. Gatero (2010) studied the use of ICTs for accessing health information by medical professionals including pharmacists in Kenyatta National Hospital in Kenya and found that they needed information continuously in the course of their clinical work – clinical governance, care of patients and professional updating on current medical practice. They turn to colleague for clinical information first, and then textbooks and journals were frequently used and substantial preference for e-searching on the Internet and e-journals. Erah and Dairo (2008) reported the use of Learning Management System (e-learning) to

improve the teaching and learning of Doctor of Pharmacy students at the University of Benin, Nigeria. Also, Omotayo (2010) study revealed that academics at Obafemi Awolowo University, Ile-Ife, use electronic resources mostly for literature search in research and professional growth. Shahmohammadi (2012) studied the extent to which on-line electronic journals was being used at the Islamic Azad University Karaj Branch as perceived by its faculty and the result showed that faculty mostly used e-journals for both teaching and research among other uses. Tyagi (2011) findings revealed that scientists at Pharmacopoeial Laboratory for Indian Medicine prefer and use online resources mainly for research purposes. Available literature reviewed above has shown that EIS have great potentials for pharmacy lecturers and the pattern of usage is diverse. Actual usage is still low due to several factors ranging from individual, to system and institutional constraints.

Methodology

The survey method adopting the questionnaire as research instrument was used in this study to gather data from faculty members in pharmacy departments in five universities in the South-South States in Nigeria. The questionnaire consists of 30 questions in 4 sections eliciting information on respondents' demographic data, computer access and literacy, awareness and usage of EIS and training needs. The population of pharmacy lecturers in the universities under study as at June 2012 when the questionnaire was administered was 201. Simple random sampling was used to select 80% of the lecturers in each of the

five universities amounting to 160 out of the 201 and the questionnaire was administered to them. The response rate was 103 (64.3%). Two each of the universities are owned by the Federal and State government while one is privately owned. These universities - University of Benin (UNIBEN), University of Portharcourt (UNIPOINT), University of Uyo (UNIUYO), Niger Delta University (NDU) and Igbinedion University Okada (IUO) universities were chosen because they have had their pharmacy courses accredited by the National Universities Commission. Data collected were presented in a frequency distribution table. Percentage and chi square statistics were used to analyze the results using SPSS software version 16.

Results and Discussion

Electronic information sources (EIS) used by pharmacy lecturers

Result in Table 1 revealed that pharmacy lecturers in South-South Nigerian universities use eleven (11) EIS to perform various tasks. The WWW was the most highly used of all followed by PubMed, Medline and HINARI. Therefore, pharmacy libraries in these universities should provide access to these four EIS. This result is encouraging. It shows that these lecturers are knowledgeable of the varieties of EIS available for them to use in performing different tasks. However, their over-dependence on general World Wide Web information means that the use of specialized electronic databases has not taken firm root among these lecturers. This area need to be improved upon.

Table 1: Electronic Information Sources used by pharmacy lecturers

	IUO	NDU	UNIBEN	UNIPOINT	UNIUYO	Total
COCHRANE	0	1	6	0	2	9
EBSCOHOST	0	3	3	0	4	10
EMBASE	0	2	5	0	4	11
HINARI	0	12	10	5	13	40
MD_CONSULT	0	0	1	0	1	2
MEDCARIB	0	1	2	2	2	7
MEDLINE	8	11	22	10	15	66
MEDSCAPE	1	0	0	0	0	1
PUBMED	9	12	23	14	17	75
SCIRUS	0	1	0	0	0	1
WWW	10	11	26	17	27	91
To	28	54	98	48	85	313

Test of Null Hypothesis

Table 2: Chi-square result of EIS used across the universities

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	46.350 ^a	40	.227
Likelihood Ratio	49.848	40	.137
N of Valid Cases	313		

a. 36 cells (65.5%) have expected count less than 5. The minimum expected count is .09.

Ho 1: There is no significant difference in the EIS used across the universities

On the use of EIS across the five universities, data in table 1 was further analyzed. Result of chi-square calculated value of 46.350 obtained is lower than the table value of 55.76. We therefore accept the null hypothesis and conclude that there is no significant difference in the EIS used by pharmacy lecturers across the five universities. The implication of this finding is that since the lecturers use common EIS,

the libraries in these universities can engage in cooperative acquisition of EIS to reduce expenditure

Purpose of using EIS by respondents

EIS are used for different purposes depending on the users and their information needs. Result in Table 3 showed that pharmacy lecturers use EIS for nine different purposes but the three principal purposes are research, teaching and communication.

Table 3: Purposes for using EIS by pharmacy lecturers across the five universities

	IUO	NDU	UNIBEN	UNIPORT	UNIUYO	Total
Administration	1	2	10	0	3	16
Clinicals	7	5	13	7	8	40
Communication	5	8	16	6	18	53
Consultancy	0	0	0	0	1	1
News	0	0	1	1	0	2
Recreation	3	7	10	4	9	33
Research	11	14	29	17	28	99
Spiritual	0	1	0	0	0	1
Teaching	10	14	28	16	25	93
	37	51	107	51	92	338

Table 4: Chi-square result of the purpose of EIS usage across the universities

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	25.490 ^a	32	.786
Likelihood Ratio	25.184	32	.799
N of Valid Cases	338		

a. 23 cells (51.1%) have expected count less than 5. The minimum expected count is .11.

Table 5: Perceived Levels of Electronic Information Sources usage

	IUO	NDU	UNIBEN	UNIPOINT	UNIUYO	
Average	5	4	10	9	12	40
High	6	11	19	8	14	58
Low	0	0	0	1	4	5
	11	15	29	18	30	103

The implication of the above result is that the usage is in the right direction as the lecturers are directing EIS usage towards their primary task of teaching, research and communication. Similar results were obtained by Owolabi et al, 2012 and Shahmohammadi, (2012).

Ho 2: There is no significant difference in the purpose for using EIS across the universities

Across the five universities, chi square result Table 4 revealed that there was no significant difference in the purpose for using EIS as calculated X^2 result of 25.49 is less than table value of 46.2. Therefore, the null hypothesis is not rejected and the use of EIS is serving different purposes. Zhang, Ye and Liu (2011) obtained similar result from seven universities use of electronic resources in China.

Table 6: Chi-square result of EIS usage across the universities

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	10.717 ^a	8	.218
Likelihood Ratio	11.937	8	.154
N of Valid Cases	103		

a. 6 cells (40.0%) have expected count less than 5. The minimum expected count is .53.

Table 7: Importance of using EIS

Variable	IUO	NDU	UNIBEN	UNIPOINT	UNIUYO	Total
Important	1	1	3	4	2	11
Not_important	0	1	0	0	1	2
Not_very_important	0	1	0	0	1	2
Very_important	10	12	26	14	26	88
Total	11	15	29	18	30	103

Ho 4: There is no significant difference in the level of importance of EIS to pharmacy lecturers across the five universities.

Usage of Electronic Information Sources

Usage behaviour differs from one person to another. Information usage pattern is determined by accessibility, availability, knowledge and skill etc. to use the resources. Result on the level of usage of EIS Table 5 indicates that the perceived level of usage is high and most of the lecturers use EIS daily. Only two universities recorded low usage levels. This means that EIS is very useful to the lecturers.

Despite this result, there is room for improvement on EIS usage to guarantee maximum benefit from the use of the resources. Egberongbe (2011) obtained similar result of high usage of electronic resources among faculty members at the University of Lagos.

Ho 3: There is no significant difference in the level of EIS usage across the five universities?

Data in table 5 was subject to further analysis. Across the five universities, chi square result Table 6 revealed that there is no significant difference in the use of EIS as calculated result of 10.717 was obtained against table value of 15.51. Therefore the null hypothesis is not rejected. This result implies that the lecturers are in tune with EIS usage.

Importance of using EIS

Respondents were asked to rate the importance of EIS usage to them. Result in Table 7 revealed that EIS was very important to pharmacy lecturers as indicated by most 88(85.4%) of the lecturers. With

this result all necessary encouragement should be given to them to sustain and improve on EIS usage within and outside their institutions and libraries. Data in Table 7 was further analyzed to find out if there is any significant difference across the five universities and the result presented in Table 8.

Results in Table 8 shows that the calculated X^2 value of 9.533 is less than the table value of 21.03. The null hypothesis is therefore not rejected. This result implied that EIS is of equal importance to all the pharmacy lecturers irrespective of their universities and it is satisfying their information needs.

Table 8: Chi-square result of the importance of EIS usage across the universities

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	9.533 ^a	12	.657
Likelihood Ratio	9.900	12	.625
N of Valid Cases	103		

a. 15 cells (75.0%) have expected count less than 5. The minimum expected count is .21.

Table 9: Users satisfaction using EIS

Variable	IUO	NDU	UNIBEN	UNIPORT	UNIUYO	Total
1 Dissatisfied	0	1	2	0	2	5
Satisfied	6	8	10	13	8	45
Very_dissatisfied	0	0	1	0	0	1
Very_satisfied	5	6	16	5	20	52
Total	11	15	29	18	30	103

Ho 5: There is no significant difference in pharmacy lecturers' levels of satisfaction in using EIS across the five South-South universities in Nigeria.

Table 10: Chi-square result of users satisfaction in using EIS across the universities

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	14.938 ^a	12	.245
Likelihood Ratio	16.278	12	.179
N of Valid Cases	103		

a. 11 cells (55.0%) have expected count less than 5. The minimum expected count is .11.

Satisfaction derived from using Electronic Information Sources

Satisfaction is a measure of effectiveness of any library and information services. Result of data collected on the satisfaction derived from using EIS by pharmacy lecturers in Table 9 revealed that the lecturers were very satisfied using EIS. This result means that they have accepted and adopted EIS as their information source since they derive satisfaction and obtain relevant information from using them. Isabella and Esmail (2012) finding also showed that electronic resources are highly useful to majority of academic community of Pharmacy College in Chennai City.

On further analysis of data in table 9, result of X^2 calculated value of 14.938 is lower than table value of 21.03 Table 10. The null hypothesis is not rejected and concludes that there is no significant difference in pharmacy lecturers' levels of satisfaction in using EIS across the five universities in Nigeria. It is hoped that librarians should provide and sustain effective EIS services in these universities and properly train their lecturers to use them so that the services will continue to be used.

Training received and training needs of pharmacy lecturers

On the issue of training received by pharmacy lecturers to enable them use EIS, result revealed that majority of them were self-taught, and they received information from family member and friends to use

EIS Table 11. This result is not encouraging as these forms of training will not translate to proper knowledge to use e-resources. It is also disheartening to find that the level of formal training and library organized training and orientation for the staff were abysmally low.

Similar study by Okiki and Asiru (2011) revealed that over 70% of their respondents had formal training and the training influenced the frequency of EIS usage. Therefore formal training is needed to enhance EIS usage. Since self taught was the mode of training received by majority of the lecturers, they were asked if they would need further training and what mode of training to be adopted.

Data on the training needs of pharmacy lecturer Table 12 showed that majority wanted to be trained through workshop and one-on-one demonstration. It is therefore recommended that workshops which guarantee one-on-one demonstration should be the training mode to be used to train these lecturers.

Ho 6: There was no significant difference in the training method needed by the pharmacy lecturers across the five universities.

A further analysis of this result revealed that there was no significant difference in the training method needed by the faculty members as Chi square calculated value of 13.851 was obtained against the table value of 26.30 Table 13. The implication of the above result is that uniform training method can be adopted to train all the lecturers on the effective utilization of EIS

Table 11: Methods of training received to use EIS

	BEN	IOU	NDU	PORT	UYO	Total
Family/friends	17	4	8	11	18	58
Formal_training	7	3	4	6	5	25
Library_training/Orientation	0	1	1	1	1	4
Self_taught	25	6	12	14	22	79
Users_instruction_on_web_page	12	3	8	6	12	41
Total	61	17	33	38	58	207

Table 12: Training needs of pharmacy lecturers.

Training needs	BEN	IOU	NDU	PORT	UYO	Total
No_preference	3	0	1	2	2	8
One_on_one_demonstration	12	6	3	8	14	43
Online_tutorial	4	2	6	2	10	24
Self_help_guide	7	2	5	3	8	25
Workshop	22	6	8	9	11	56

Training needs	BEN	IOU	NDU	PORT	UYO	Total
No_preference	3	0	1	2	2	8
One_on_one_demonstration	12	6	3	8	14	43
Online_tutorial	4	2	6	2	10	24
Self_help_guide	7	2	5	3	8	25
Workshop	22	6	8	9	11	56
	48	16	23	24	45	156

Table 13: Chi-square result of training needs to use EIS across the universities

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	13.851 ^a	16	.610
Likelihood Ratio	15.029	16	.523
N of Valid Cases	156		

a. 12 cells (48.0%) have expected count less than 5. The minimum expected count is .82.

Table 14: Constraints in accessing and utilizing electronic information sources

	BEN	IOU	NDU	PORT	UYO	Total
Downloading_problem	21	5	11	12	12	61
Inadequate_searching_skills	5	1	3	3	6	18
Information_overload	1	1	0	1	1	4
Irrelevant_information	4	0	4	0	8	16
Lack_of_access_to_full-text	17	7	12	13	17	66
Lack_of_local_journals	9	3	6	3	8	29
Password_requirement	15	6	11	14	15	61
Slow_internet_speed	26	7	12	15	26	86
Total	98	30	59	61	93	341

Bashorun, Isah and Adisa (2011) made similar recommendation to training all categories of academic staff of the University of Ilorin through workshop.

Constraints in utilizing electronic information sources

There is no doubt that pharmacy lecturers do experience some constraints or difficulties in using EIS arising from the electronic system, institutional factors or personal defects. Result in Table 14 showed that slow Internet speed, downloading problem, password requirement and no access to full text articles were the four major constraints experienced by pharmacy lecturers in the course of

using EIS. A critical evaluation of these constraints revealed that the problem of downloading is not unconnected with slow Internet speed because when your bandwidth is small, there is the tendency for your browsing to be slow and it will affect the rate of downloading of journal articles from the Internet. Similarly, lack of access to full-text journal articles is also not unconnected with password requirement needed to access the articles. Password requirement is a major problem in accessing and retrieving relevant information needed by information users. This problem has resulted in series of agitations which have given rise to open access debate in the scientific community worldwide. In other to overcome this problem, scientists including

pharmacy lecturers should embrace open access publishing so that relevant scientific materials could be made available for research free on the Internet.

Ho 7: There is no significant difference in the constraints experienced in using EIS by Pharmacy lecturers across the five universities.

Chi square result Table 15 revealed that X^2 calculated value of 16.914 was obtained against the table value of 41.34. The null hypothesis is not rejected and concludes that there is no significant difference in the constraints experienced by the faculty members in all the universities. Efforts should be made to provide fast Internet services to the institutions and their librarians should provide password for them.

Task performed by pharmacy lecturers

On task performed by pharmacy lecturers, result showed that they perform four different tasks of

teaching, research, clinical practice and administrative duties. This means that the lecturers perform more than one task at a time. Majority of them performed the task of teaching followed by research and these are their primary duties. Clinical and administrative duties were performed by only a few. It therefore means that certain factors may be responsible for this trend.

Ho 8: There is no significant difference in tasks performed by pharmacy lecturers across the five South-South universities in Nigeria

Across the five universities, X^2 statistics revealed that task performed across the universities whether federal, state or private university is the same as X^2 calculated value of 10.415 obtained was lower than the table value of 21.03 Table 17. Therefore, the null hypothesis is not rejected.

Table 15: Chi-square result of constraints in utilizing EIS across the universities

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	16.914 ^a	28	.950
Likelihood Ratio	21.027	28	.824
N of Valid Cases	341		

a. 15 cells (37.5%) have expected count less than 5. The minimum expected count is .35.

Table 16: Task performed by respondents

Variable	ADMINIST	CLINICAL	RESEARCH	TEACHING	Total
BEN	10	9	27	29	75
IOU	0	2	6	10	18
NDU	1	1	13	15	30
PHC	1	4	17	18	40
UYO	6	5	22	26	59
Total	18	21	85	98	222

Table 17: Chi-square result of training needs to use EIS across the universities

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	10.415 ^a	12	.580
Likelihood Ratio	12.584	12	.400
N of Valid Cases	222		

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	10.415 ^a	12	.580
Likelihood Ratio	12.584	12	.400

a. 7 cells (35.0%) have expected count less than 5. The minimum expected count is 1.46.

Table 18: Task performed by academic qualifications of pharmacy lecturers

Academic Qualification	Admin	Clinical	Research	Teaching	Total
BSc	1	0	5	6	12
PG	9	13	50	61	133
PhD	10	7	29	32	78
Total	20	20	84	99	223

Table 19: Task performed and Academic status

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	3.592 ^a	6	.732
Likelihood Ratio	4.580	6	.599
N of Valid Cases	223		

a. 3 cells (25.0%) have expected count less than 5. The minimum expected count is 1.08.

Table 20: Ranking of EIS used in performing various tasks

Research	Teaching	Clinical practice	Admin
WWW	WWW	PubMed	WWW
PubMed	PubMed	WWW	Medline
MEDLINE	MEDLINE	MEDLINE	PubMed
HINARI	HINARI	HINARI	EMBASE
EMBASE	EBSCO host	EBSCO host	COCHRANE
COCHRANE	EMBASE	EMBASE	-
EBSCO host	COCHRANE	COCHRANE	-
Medcarib	Medcarib	Medcarib	-
MD Consult	MD Consult	MD Consult	-
-	Medscape	Medscape	-
-	-	Scirus	-

On the factors that may influence task performed, a further analysis of task performed by academic qualifications of respondents Table 18 was done and result revealed that lecturers with postgraduate qualifications are most active group and perform most of the tasks including the supervision of clinical practice while administrative duties were mostly done by lecturers with Ph.D qualification. The implication is that the lecturers with Ph.D have advanced in the service and are Heads of Departments who performed administrative duties. The bachelor degree holders are still young and learning. It can be seen that educational qualification influence the task performed by the three categories of pharmacy lecturers. Ibeun and Atinmo (1999) obtain similar result with fisheries scientists in Nigeria.

Ho 9: There is no significant difference in task performed by pharmacy lecturers regarding their academic qualifications.

Result in table 19 revealed that the chi square calculated value of 3.592 was obtained against table value 12.5. Therefore the null hypothesis is not rejected. This result implies that there is no significant difference of task performed by pharmacy lecturers based on their academic status.

Influence of Task performed on Electronic Information Sources used

The ranking of eleven (11) EIS used to perform various tasks in Table 20 reveals that different EIS were needed to perform different tasks by pharmacy lecturers. While all the eleven EIS were used to perform clinical practice, ten were used for teaching; nine were used for research and only four for administrative purposes. The WWW ranked highest for conducting research, teaching and administrative duties while PubMed ranked highest for performing clinical practice. The use of PubMed, Medline and HINARI ranked second, third and fourth. Therefore, task performed by pharmacy lecturers influenced the EIS used. For pharmacy lecturers to access quality information to perform their various tasks, they should go beyond the use of the WWW and use electronic databases and portals such as PubMed, Medline and HINARI. It should be emphasized here that Medline is the principal database in Pubmed. PubMed provides about 80% of journal articles in HINARI. The use of HINARI will provide access to Medline and PubMed. It is recommended that pharmacy lecturer should use HINARI. Access to HINARI can be made possible through their various libraries as it is the responsibilities of the libraries to register and obtain users identification and password for their staff.

Conclusion and Recommendations

A new trend has been established from the above analysis that most pharmacy lecturers used diverse EIS to meet their information needs. EIS usage level was rated high, important and very satisfactory. Majority of them had no formal training and needed to be trained through workshop. Major constraint was slow Internet speed. The use of EIS databases and portals such as HINARI has not been fully embraced by lecturers, thus access to important full-text journal articles eludes them. EIS utilization pattern among pharmacy lecturers in south-south universities in Nigeria is the same as there was no significant difference in their utilization pattern across most universities. However, academic qualification influenced the task performed and task performed influenced the EIS used by the lecturers. Training in the use of HINARI is highly recommended for the lecturers to use as it is an adequate EIS that can meet the information needs of the lecturers.

References

- Abdullahi, Z.M. & Haruna, I. (2008) Utilization of information and communication technology for information service delivery in university libraries in Adamawa State. *The Information Technologists*, 5(2), 24 – 30.
- Adegbore, A.M. (2011). University faculty use of electronic resources: a review of recent literature. *PNLA Quarterly*, 75(4), 1 – 7.
- Agbonlahor, R.O. (2006). Motivation for use of information technology by university faculty: a developing country perspective. *Information Development*, 22(4), 263 – 277.
- Angello, C. (2010). The awareness and use of electronic information sources among livestock researchers in Tanzania. *Journal of Information Literacy*, 4(2), 6 – 22.
- Bashorun, M.T., Issah, A. & Adisa, M.Y. (2011). User perception of electronic resources in the University of Ilorin, Nigeria. *Journal of Emerging Trends in Computing and Information Sciences*, 2(11), 554 – 562.
- Bhukuvhani, C., Chiparousha, B. and Zuvalinyenga, D. (2012). Effects of electronic information resources training for lecturers on pedagogical practices and research productivity. *International Journal of Education and Development Using ICT*, 8 (1), 16 – 28.
- Dangani, U.B. & Mohammed, Z. (2009). Information and Communication technology literacy among academics in Ahmadu Bello University, Zaria.

- Samaru Journal of Information Studies, 9(2), 15 – 22.
- Egberongbe, H.S. (2011). The use and impact of electronic information resources at the University of Lagos. Library Philosophy and Practice. Accessed 19th March, 2012. At: mhtml:file://C:/users/4r/Desktop/Awareness_1.mht.
- Erah, P.O. & Dairo, E.A. (2008). Pharmacy students' perception of the application of Learning Management System in patient-oriented pharmacy education: University of Benin experience. *International Journal of Health Research*, 1(2), 63 – 72.
- Garuba, A.R. & Ogunrombi, S.A. (2009). The role of medical libraries in the provision of e-resources in developing countries. *Journal of Educational Research and Policies*, 4(1), 42 – 50.
- Gatero, G.M. (2011). Utilization of ICTs for accessing health information by medical professionals in Kenya: a case study of Kenyatta National Hospital. *Journal of Health Informatics in Developing Countries*, 5(1), 60 – 88.
- Ibeun, M.O. & Atinmo, M.I. (1999). Relevance of educational qualification to information seeking behaviour, strategies and sources used by Nigerian fisheries scientists. *IAALD Quarterly Bulletin*, 44 (3/4), 184 – 190.
- Isabella, M. & Esmail, S.M. (2012). Usage of electronic information resources among the academic community of pharmacy colleges in Chennai City. *Journal of Advances in Library and Information Science*, 1(1), 26 – 30.
- Kupferberg, N. & Hartel, L. J. (2004). Evaluation of five full-text drug databases by pharmacy students, faculty, and librarians: do the group agree? *Journal of Medical Asso.*, 92(1), 676 – 71.
- Nnadozie, C.O. & Nnadozie, C.D. (2008). The information needs of faculty members in a Nigerian private university: a self-study. *Library Philosophy and Practice*. Accessed on 2nd February, 2012. At: <mhtml:file://C://Users\4r\Desktop\medi 5.mht>
- Okiki, O.C. & Asiru, S.M. (2011). Use of electronic sources by postgraduate students in Nigeria: influencing factors. *Library Philosophy and Practice*. Accessed on 4th January, 2012. At: <mhtml:file://C://Users\4r\Desktop\EIS 3.mht>
- Omotayo, B.O. (2010). Access, use and attitudes of academics towards electronic journals: a case study of Obafemi Awolowo University, Ile-Ife. *Library Philosophy and Practice*. Paper 335. Accessed 24th Dec., 2012. At: <http://digitalcommons.unl.edu/libphilprac/335>.
- Opeke, R., Osunkunle, S. & Okwvilagwe, O.A. (2002). Information sources and utilization pattern of pharmaceutical scientists in Nigeria. *African Journal of Biomedical Research*, 5, 137 – 140.
- Owolabi, K.A. and Ajiboye, B.A. (2012). Use of electronic information sources by faculty members in Nigerian universities. *Library Philosophy and Practice*. (e-journal). Paper 721. Accessed 24th December, 2012. At: <http://digitalcommons.unl.edu/libphilprac/721>.
- Rehman, S. and Ramzy, V. (2004). Awareness and use of electronic information resources at the health sciences center of Kuwait University. *Library Review*, 53(3), 150 – 156.
- Renwick, S. (2005). Knowledge and use of electronic information resources by medical sciences faculty at The University of West Indies. *Journal of Medical Library Asso.*, 93(1), 21 – 31.
- Schrimsher, R.H., Freeman, M.K. and Kendrach, M. (2006). A survey of drug information resources in Alabama pharmacy facilities. *Drug Information Journal*, 40, 51 – 60.
- Shahmohammadi, N. (2012). On-line electronic journals use among University academic members of Islamic Azad University, Karaj branch. *Asian J. of Natural and Applied Sciences*, 1(1), 26 – 32.
- Tahira, M., Alias, R.A. and Ameen, K. (2011). Seeking online information sources among science faculties of developing countries. *Library Philosophy and Practice*. (e-journal). Paper 661. Accessed 24th Dec., 2012. At: <http://digitalcommons.unl.edu/libphilprac/661>.
- Tenopir, C. (2003). Use and users of electronic library resources: an overview and analysis of recent research studies. Washington, D.C.: Council on Library and Information Resources.
- Thanuskodi, S. (2010). Use of Internet and electronic resources for medical science information: a case study. *Journal of Communication*, 1(1), 37 – 44.
- Tyagi, S. (2011). Scientists' perception of use of electronic information resources: a case study of Pharmacopoeial Laboratory for Indian Medicine. *Library Philosophy and Practice*. Accessed 24th December, 2012. At: <http://unlib.unl.edu/LPP/tyagi3.pdf>.
- Zhang, L., Ye, P. and Liu, Q. (2011). A survey of the use of electronic resources at seven universities in Wuhan, China. *Program: Electronic Library and Information*, 45(1), 67–77.

