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Full Length Research Paper

Assessment of Online Usage Patterns of Subscribed HINARI Database amongst Lecturers: A Window into the Faculty of Pharmaceutical Sciences, University of Jos, Jos, Nigeria

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ABSTRACT: The purpose of this research was to examine the online usage patterns of HINARI database among the Pharmaceutical Sciences lecturers at the University of Jos, Jos, Nigeria. The research was guided by six objectives. A Survey research design was adopted in the investigation. The target population for this research was all the (60) lecturers in the faculty of Pharmaceutical Sciences, University of Jos. Since the population of the lecturers (60) was manageable, all the lecturers were adopted in the research. Therefore, there was no sampling (complete census). The instrument used in this investigation was self-designed questionnaire. The data collected through the instrument were analyzed with the aid of frequency counts and percentages and tables were produced where necessary. The findings of the investigation revealed among others that the lecturers were not aware of the existence of the HINARI database on campus. Hence its use was greatly limited. The lecturers also admitted that internet access was very slow. In view of the empirical evidence, the study proffers as recommendations that the University management should conduct more sensitization on the availability and usefulness of the HINARI database for teaching and research; the University management should also increase the size of the Internet bandwidth on campus. This will reduce the amount of time used in accessing the database; the management of the University should also acquire standby generators to power the Internet facilities. This will help the lectures to access the database at any time. The research, therefore, concludes that the HINARI database subscribed to academic activities on campus is very useful. But its use was limited due to unawareness of the existence of the database amongst the lectures on campus.

Keywords: HINARI, Database, Use, University, Lecturers, Jos, Nigeria

INTRODUCTION

For many years, access to the priced literature was a challenge to researchers, academics, health care providers, scientists, students and policy makers in resource constrained settings. Unlike their counterparts in wealthy nations, researchers from most developing countries, had limited access to high quality, up-to-date, relevant and reliable information from the published literature due to inadequate funding of libraries and lack of ICT infrastructure including internet access. This challenge, termed as "digital divide" or "information gap"

is used to describe the division between those who have access to ICTs and those who do not (Bridges.org, 2002). The digital divide reflects inequity that exists in access to ICTs between countries, within regions and among different social groupings within a country or between citizens of a country (Norris, 2001).

The digital divide has also been defined as “inequalities in access to the Internet, extent of use, knowledge of search strategies, quality of technical connections and social support, ability to evaluate the quality of information and diversity of uses” (Dimaggio and Hargittai, 2001).

During the past two decades, several initiatives aimed at bridging the digital divide in access to health information has been developed for resource poor settings. Among the most successful is the Health Internet Network Access to Research Initiative (HINARI) which the World Health Organization (WHO) launched in 2002 (Aronson, 2004; Katikireddi, 2004). At inception, HINARI was an initiative between the WHO and six of the world’s biomedical publishers namely Blackwell, Elsevier, John Wiley, Springer Verlag, Harcourt Worldwide STM Group, and Wolters Kluwer International Health and Science as well as partners including Yale University.

The initiative is aimed at providing free or very low cost online www.ajbrui.org HINARI usage in Nigeria Afr. J. Biomed. Res. Vol. 19, No.3 (September) 2016 Ajuwon and Titiloye access to published research information to local, not-for profit institutions in developing countries (Aronson, 2002). Dr Glo Harlem Brundtland, former Director-General of the WHO asserts that: "the launch of HINARI sees the beginning of a new way to bridge the digital divide in health, and an important move by publishers in facilitating the flow of health information using the Internet" (Aronson, 2002).

Up to 14,000 journals in (30 different languages), 46,000 e-books, and 100 other information resources are now available to health institutions in more than 100 countries and territories, benefiting thousands of health workers, researchers and students (HINARI, 2015a; WHO, 2011). Institutions in countries with a gross national income (GNI) per capita of less than $1,250 (BAND 1) are given free access to the journals provided in the HINARI database (Villafuerte-Gálvez et al. 2007). However, institutions in countries with a GNI per capita between $1,250 and $3,000 (BAND 2) must pay a yearly fee of $1,500 to access these journals (HINARI, 2015b).

HINARI is one of the core contents of the Health Inter Network (HIN) Project launched in September 2000 by Mr. Kofi Annan, former United Nations Secretary General. The launch of HINARI in 2002 was a major breakthrough of the HIN Project. Initially, over 2000 electronic journals was made available free by the six publishers. Over a period of ten years, information resources accessible through HINARI have increased to include electronic books, databases, clinical practice guidelines, references sources and evidence based medicine resources. Brundtland noted that the seed of a knowledge revolution lies in HINARI; as this resource will help developing countries improve skills, develop research and safe more lives (WHO, 2003).

The HINARI, now known as 'HINARI Access to Research in Health Programme' has other sister programs including Access to Global Online Research in Agriculture (AGORA), Online Access to Research in the Environment (OARE), and Access to Research in Development and Innovation (ARDI) accessible at www.research4Life.org. All four programs are at present known and referred to as "Research4Life", a public private partnership between over 200 international scientific publishers worldwide both commercial and nonprofit, the International Association of Scientific, Technical and Medical Publishers (STM), Cornell and Yale Universities in collaboration with four United Nations (UN) agencies namely WHO, Food and Agricultural Organization (FAO), United Nations Educational Program (UNEP), World International Property Organization (WIPO), and technology partner, Microsoft. Research4Life aims to help attain one of the six United Nation's (UN) Millennium Development Goals by 2015, namely reduction of the scientific knowledge gap between industrialized countries and the developing world.

In Nigeria, HINARI is the most popular component of the Research4Life programmes. Since its launch in 2002, several health institutions, governmental agencies and not-for-profit organizations have registered to access up-to-date, relevant and quality health information from HINARI. The availability of these resources free-of-charge on the Internet, have brought huge benefits to tertiary healthcare institutions and great relief to libraries in developing countries especially those in Nigeria and other countries in sub-Saharan Africa. Despite their popularity, few empirical studies, (Ajuwon and Olorunsaye, 2013; Oduwole and Oyewumi, 2010) have investigated access and use of HINARI resources in Nigeria. These previous studies covered access and use of HINARI resources in health institutions in South-West Nigeria. There is a dearth of information on HINARI usage patterns and trends in universities in Nigeria. This study is meant to fill this knowledge gap. The main objective of this study is to investigate HINARI usage patterns in Nigerian universities using Faculty of Pharmaceutical Sciences, University of Jos as a focal population.

Significance of the study

The outcome of this study is significant, especially at a time when efforts are being made by the University Management to implement e-learning (electronic learning) in all sphere of academic activities on campus. The study is further significant as the findings of the study

will enable the University Management to evaluate the achievements of the objective for which a well-equipped computer laboratory; free internet services and subscribed relevant online databases were provided in the university library to enhance academic activities in the university. Nevertheless, the findings of this investigation will also expose the level of awareness and usage patterns of subscribed HINARI online database amongst the lecturers of the university, using the lecturers of faculty of Pharmaceutical Sciences as a study population.

Objectives of the study

The objectives of this study can be summarized as follows:

(i) To determine the lecturers' ability to use the internet.
(ii) To assess the lecturers' awareness of the HINARI (subscribed) online database.
(iii) To find out the use of the HINARI online database by the lecturers.
(iv) To assess the lecturers' frequency of use of the HINARI online database.
(v) To evaluate the usefulness of HINARI database for academic activities.
(vi) To identify the major challenges the lecturers encountered in the use of the HINARI database and to proffer solutions on how to redeem the situation.

METHODOLOGY

Survey Research Design was adopted for this study. According to Busher and Harter, (1980) survey research design enables specific issues to be investigated through information gathering on people's opinions and believes over a wide population. This technique is relevant to this study because it involved sampling of opinions of Academics in the Faculty of Pharmaceutical Sciences, University of Jos, on the use of HINARI database.

Population of the study

The targeted population for this study comprises all the 60 Academics in the faculty of Pharmaceutical Sciences, University of Jos. Since, this population (60) is manageable; there was no need for sampling. Hence, all the academics were adopted (Complete Census) in the research (Table 1).

Research instrument

The instrument used for data collection was questionnaire. A 48 items structured questionnaire was designed. The questionnaire was divided into 2 sections. Section 'A' sought for information on personal (Demographic) data of the respondents. Section "B" sought for information on HINARI database usage patterns of the lecturers in the faculty of Pharmaceutical Sciences, University of Jos.

Validation of the instrument

The questionnaire went through content validity check. Copies of the questionnaire were given to senior colleagues in the profession. The essence of this exercise was to ensure that the questions were clear, simple and appropriate for the study. On the basis of their suggestions and modifications, some of the items were modified to suit the objectives of the study. A final draft of the questionnaire was then prepared and used for the study.

Pretest

A pretest of the study was conducted using test and retest method. Twenty (20) lecturers from the faculty of Pharmaceutical Sciences, University of Maiduguri, were used to test the reliability of the questionnaire. The reliability coefficient of r=0.76 was obtained, and the coefficient was considered high enough for reliability (Tiraieyari et al., 2011). This enabled the researcher to ascertain whether or not the questions asked were able to generate the required data. The questionnaire was then distributed.

Administration of questionnaire

Based on the total number (60) of the lecturers in the Faculty of Pharmaceutical Sciences, University of Jos, 60 copies of the questionnaires were produced and administered to the lecturers in their offices and collected the next day.

Method of data analysis

Data collected were analyzed using descriptive statistics of frequency counts and percentages for answering the research questions. Tables were also provided where necessary.

Data analyses

Response rate

Sixty (60) copies of the questionnaire were administered to the respondents in their offices. Out of the 60 copies

Table 1: Distribution of lecturers into their various departments and gender.

Departments	Male	Female	Total
Clinical Pharmacy	10	1	11
Pharmacology	12	3	15
Pharmaceutical Chemistry	9	1	10
Pharm. Technology	10	5	15
Pharmacognosy	4	5	9
Total	45	15	60

Source: University of Jos Academic Planning Report for 2015/2016 Session

Table 2: Response rate

No. of Copies of Questionnaires Distributed	No. Returned (Frequency)	Percentage (%)
60	53	88.30

Source: Field Work

Table 3: Distribution of lecturers into their various ranks and gender.

RANKS	PROFESSOR /READER		SENIOR LECTURERS		LECTURERS I & II		ASSISTANT LECTURERS		
DEPARTMENTS	MALE	FEMALE	MALE	FEMALE	MALE	FEMALE	MALE	FEMALE	TOTAL
Clinical Pharmacy	-	-	-	-	9	1	1	-	11
Pharmacology	5	1	-	-	7	2	-	-	15
Pharmaceutical Chemistry	4	-	1	-	3	1	1	-	10
Pharm. Technology	4	-	-	2	5	1	1	2	15
Pharmacognosy	-	3	-	-	2	-	2	2	9
TOTAL	13	4	1	2	26	5	5	4	60

Source: University of Jos academic planning report for 2015/2016 Session

distributed, fifty-three (53) copies were filled, returned and found usable. This gave a response rate of 88.30% (Table 2). Table 3, shows the distribution of the respondents by rank. This revealed that the highest proportion 31 of the respondents were Lecturers I and II. This was followed by Professors and readers with 17 respondents, Assistant Lecturers 9, and Senior Lecturers 6 respondents, respectively. Table 4 illustrates the respondents' ability to use the internet. This shows that 53 (100%) of the respondents know how to use the internet. Table 5 shows the respondents awareness of the existence of HINARI database on campus. The findings revealed that 27 (50.94%) of the respondents are aware of the existence of the HINARI database, while 26 (49.06%) indicated unawareness. Table 6 explored the respondents' use of HINARI database. Out of the 27 respondents that agreed to be aware of the database on campus, 26 (96.29%) of them admitted using it while only 1 (3.71%) submitted that he had never used it. Table 7 illustrates the frequency of use of the HINARI database amongst the lecturers. This revealed that 17 (65.38%) of the respondents agreed using it daily. However, this is followed by 5 (19.22%), 2(7.69%); 1 (3.85%) and 1 (3.85) who agreed using the database three times a week, twice a week, once a month and 1 respondent indicated he cannot remember respectively. Table 8 reveals the usefulness of the resource es in the HINARI database. Majority 21 (80.77%) of the respondents submitted that its resources are very useful. This is followed by those 4 (15.38%) respondents that agreed that they are useful. However, only 1 (3.85%) of the respondents was neutral. None of the respondents indicated that HINARI resources are not useful. Table 9, evaluated the respondents major challenges in the use of the HINARI database. This revealed that half 13 (50.00%) of the respondents submitted poor Internet connectivity. However, 9 (34.60%) of the respondents claimed that it was poor electricity power supply. Nevertheless, 1 (3.85%); 1 (3.85%); 1 (3.85%); and 1 (3.85%) of the respondents indicated lack of computers, lack of space, lack of Internet skills, and lack of time respectively.

DISCUSSION

Table 4, illustrates that all the 53 (100%) of the respondents know how to use the Internet. This finding could possibly be because most of the relevant resources for teaching and research in Pharmaceutical Sciences have migrated to Internet. Hence lecturers are forced to acquire Internet skills. This gave the lecturers opportunity to learn how to use the Internet. This finding corroborates

Table 4: Respondents ability to use internet.

Options	Frequency	Percentage (%)
Yes	153	100.00
No	0.00	0.00
Total	153	100.00

Source: Field Work

Table 5: Respondents awareness of subscribed HINARI database on campuses

Options	Frequency	Percentage (%)
Yes	27	50.94
No	26	49.06
Total	53	100.00

Source: Field work

Table 6: Respondents use of HINARI database.

Options	Frequency	Percentage
YES	26	96.29
NO	01	3.71
Total	27	100.00

Source: Field work

Table 7: Respondents frequency of use of the HINARI database.

Options	Frequency	Percentage
USE IT DAILY	17	65.38
USE IT 3 TIMES A WEEK	05	19.22
USE IT ONCE A WEEK	02	7.69
USE IT ONCE A MONTH	01	3.85
CAN'T REMEMBER	01	3.85
TOTAL	26	100.00

Source: Field work

Table 8: Usefulness of the HINARI database for teaching and research in Pharmaceutical Sciences.

Options	Frequency	Percentage
NOT USEFUL	0.00	0.00
USEFUL	04	15.38
VERY USEFUL	21	80.77
NEUTRAL	01	3.85
TOTAL	26	100.00

Source: Field work

with works of Okeke (2015) and Chukwurah and Ogbeje, (2015) who on separate occasions, posited that Internet houses all kinds of resources for teaching and research in every knowledge of live.

Table 5, shows that more than half 27(50.94%) of the respondents acknowledged the existence of HINARI database on campus. This observation could be because the University management had carried out series of sensitizations on the available databases for teaching and research on campus. These sensitizations were highly attended by lecturers. Table 6, illustrates the use of the HINARI database amongst the respondents that acknowledged awareness of existence of the database. This revealed that majority 26 (96.29%) of the respondents have used the database. This finding could also be due to the series of sensitizations organized by the University management. This encouraged the use of the database amongst the lecturers. Table 7, shows the frequency of use of HINARI database amongst the lectures. This indicated that majority 17 (65.38%) of the

Table 9: Respondents major challenges in the use of the HINARI database.

Options	Frequency	Percentage
POOR ELECTRICITY POWER SUPPLY	09	34.60
POOR INTERNET CONECTIVITY	13	50.00
LACK OF COMPUTERS	01	3.85
LACK OF SPACE	01	3.85
LACK OF INTERNET SKILLS	01	3.85
LACK OF TIME	01	3.85
TOTAL	26	100.00

Source: Field work

respondents admitted using the database daily. This finding is in line with the works of Ahmed, (2011) and Ajuwon and Olorunsaye, (2013) who on different occasions posited that frequency of use of a database depends greatly on the awareness and usefulness of the database to the users. Table 8, shows that majority 21(80.77%) of the respondents stated that the HINARI database is useful to their academic activities which includes; teaching, research and community services. This finding could be due to the fact that HINARI database is composed of so many good quality journals in the field of pharmaceutical sciences. This therefore, raised the quality of the database. Table 9, shows that poor internet connectivity 13 (50.00%) and poor electricity power supply 9 (34.69%) were the major challenges the respondents faced in the use of the HINARI database on campus. This finding could possibly be because of the low network bandwidth and frequent power failure on campus. This finding corroborates with the works of Dimaggio and Hargittai, (2001) and Aronson, (2002) who on separate occasions indicated that higher institutions in Nigeria are bedeviled with low network connectivity and frequent electricity power failure.

Conclusion and Recommendation

This research examined the use of subscribed HINARI database amongst the lecturers in the University of Jos. Using the lecturers in the Pharmaceutical Sciences as a focal population. The findings of the investigation revealed that almost half 26 (49.06%) of the lectures are unaware of the existence of the HINARI database on campus. This therefore limited the use of the HINARI database. However, those that have used the database admitted that it is a very good database for their academic activities. The research therefore concludes that the HINARI database subscribed for academic activities on campus is very useful. But its use is limited due to lack of awareness amongst the lectures on campus. Based on these, it was therefore recommended as follows:

(a) The University management should conduct more sensitization of the availability and usefulness of the HINARI database for teaching and research.

(b) The University management should increase the size of the Internet bandwidth on campus. This will reduce the amount of time used in accessing the database.

(c) The management of the University should also acquire standby generators to power the Internet facilities. This will help the lectures to access the database.

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