

Where Doctors Read Health Information Resources and Their Information Resources Media Preferences

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Abstract

This study was designed to find out the extent of use of health information resources from available locations by doctors in six teaching hospitals in South East, Nigeria and their resources media preferences. The survey research design was adopted for the study. A structured questionnaire with reliability co-efficient of 0.97 was used to survey the opinions of 1,995 doctors of the ranks of house officers, senior house officers, registrars, senior registrars and consultants who constitute the population for the study. Descriptive statistics were used in analyzing data. The results showed: that personal internet connection is the most frequently used; that medical libraries and hospital internet connections are not used; that doctor's media of assessing health information are the internet, electronic databases, textbooks, journals and colleagues, in this order of preference. It was therefore recommended amongst others that the federal and state ministries of health and teaching hospital managements in South East Nigeria should equip and sustain clinics, offices and libraries with adequate internet facilities.

Keywords: health information, health information utilization, information resource preferences, medical doctors

Introduction

Health information can be described as that knowledge, facts and news generated from various sources, necessary for good physical and mental condition of human beings (Benton 2009). The significance of health information to medical doctors is invaluable. This is because medical practice has to do with life and death of human beings and is therefore of very sensitive nature. Health information is generated mainly from research. It can also come from routinely collected or audit data sometimes called statistics and from knowledge derived from experiences (Brice & Gray, 2004). The delivery of generated health information from research and other sources to medical doctors is done through vehicles referred to in this study as health information resources. These media are in broad terms, texts or print resources, Internet or World Wide Web and human resources.

Doctors may get and use these health information resources irrespective of format from different locations. These locations may include health sciences library, cyber café, departmental libraries, offices, clinics, and personal collections at home and human resources. However, different factors and circumstances like costs, time, availability and purpose may influence doctor's choice of location and degree of utilization of the different resources.

Teaching hospitals in conjunction with colleges of medicine are responsible for the training of medical doctors which normally takes six years in two segments of pre-clinical and clinical. There are mainly five broad categories of medical doctors in the teaching hospitals in Nigeria. They are: house officers, senior house officers, registrars, senior registrars and consultants. They all need health information which they can access from various locations. They may

also have their health information resources preferences. The current advances in information technology have impacted on the rate of generation and mode of accessing of health information. The United Nations and the World Bank through their agencies are funding a lot of projects aimed at making health information available to doctors especially in developing countries for effective healthcare delivery. Yet effective healthcare delivery in the teaching hospitals in the region under study remains an illusion. It then becomes necessary to find out where these doctors use health information resources and their choice of media of harvesting the information therein.

Apart from this, a search for literature on location of reading of health information resources and their preferences by doctors in South East Nigeria is yet to be fruitful. A lot of studies found on the subject were conducted outside Nigeria and in non-teaching hospital settings. Even Nigerian works consulted were done outside the South East zone and also failed to include doctors of all ranks. It therefore became imperative to find out where doctors in this zone use health information resources and their preferred media.

Specifically, the study was intended to find out the extent of use of health information resources from available locations by doctors in teaching hospitals in South East Nigeria and their health information resources preferences. The beneficiaries from the result of this study may include the following groups of people and bodies: medical doctors; management boards of teaching hospitals, colleges of medicine and universities; Medical and Dental Council of Nigeria; National Universities Commission; World Health Organization and Medical librarians. It will affect their policies and actions for the

improvement of doctors' access and use of health information resources.

Literature review

Location of Reading of Health Information Resources

Today's users have their information needs met through a number of options. They need not come physically to the medical library to use print formats, but can stay at home or the office and access online services and library resources through networks or authentication methods at any time (Renwick, 2005). This idea captures the results of many research studies on where doctors access or read health information resources.

Guo, Bain and Willer (2007) carried out a study of information needs among speech-language pathologists and audiologists in Idaho. Their objectives were to assess the information needs of speech-language pathologists (SLPs) and audiologists in Idaho and also to identify their specific needs for training in evidence-based practice (EBP) principles and searching EBP resources. A survey was developed to assess knowledge and skills in accessing information. Questionnaires were distributed to 217 members of the Idaho Speech-Language – Hearing Association, who were given multiple options to return the assessment survey (web, email, mail). Data were analyzed descriptively and statistically. The finding shows that over 30.0% of the respondents reported that they never used a library.

Some of the empirical studies reviewed linked location of reading of health information resources directly to the purpose of reading. They found that doctors tend to read in certain locations if reading for certain purposes. Choice of location is then dependent on purpose. In this regard, qualitative research study conducted by Payne et al (1999) titled meeting the

information needs of clinicians for the practice of evidence-based healthcare, aimed at identifying the training needs of clinicians for the adoption and practice of evidence-based healthcare. The participants in the study included librarians, clinicians and managers from 4 Acute and Community Trusts in and around London. In-depth interviews lasting approximately 1 hour was conducted with doctors, nurses, midwives, therapists and senior managers. The researchers carried out a total of 84 interviews between November 1996 and May 1997. Its findings show that doctors in the sample who were registrars made use of the library for forthcoming professional examinations. It also reports that nurses who were included in the investigation followed similar pattern. They were prompted to utilize the library for dissertation or project work related to their further education.

Information Resources Preferences of Doctors

The preferences in use of health information resources by doctors have been of interest to many researchers from early times. From the studies reviewed the two information sources most preferred by doctors are print sources and colleagues. While some research studies ranked both text resources and humans together, many others ranked one above the other.

Andrews, Pearce, Ireson and love (2005), carried out a study of the information-seeking behaviour of practitioners in a Primary Care Practice-Based Research Network (PBRN). The aim of the study was to examine the information-seeking behaviour of members of the (PBRN) to inform future efforts supporting primary care practitioners in their daily care of patients. It was a survey which involved every primary care practitioner who was a member of the Kentucky Ambulatory

Network –including family practitioners, nurse practitioners and physician assistants. The cross-sectional survey included twenty-six questions to investigate the information-seeking behaviour of primary care practitioners. The response rate was 51% (59% 116). Their findings show that practitioners made more frequent use of print and interpersonal sources compared to online sources. Similar result was also reported by Coumou and Meijman (2006) from their research titled: *How Do Primary Care Physicians Seek Answers to Clinical Questions: a literature review*. The objective of their study was to investigate the extent to which changes occurred between 1992 and 2005 in the ways primary care physicians seek answers to clinical problems. They examined 21 original research papers and three literature reviews. From their investigations they found out that doctors consult colleagues and print resources first.

Another empirical study whose results are in line with these is that of Hider, Walker, Alianza and Coughian (2009) on *Information – seeking behaviour of clinical staff in a large healthcare organization*. The objective of the study was to assess the information-seeking behaviour and needs of a wide range of hospital-based staff including allied – health professionals in one large organization to inform training and resource planning. The study was undertaken in New Zealand. They used a postal survey in which a random sample of 850 hospital clinical staff belonging to three professional groups was obtained from a payroll database that included all employees. A two-page survey was mailed to staff using an internal mail system in November 2006. Their findings are that people and text resources appear to be favoured over electronic resources and that this has not changed over time, even though access to electronic resources has increased.

Clinicians often find it quicker to ask colleagues for advice (Mckibbon, 1998).

Murray, Carey and Walker (1999) also carried out a study of the information behaviour of medical research staff. The aim of their study was to determine the information needs and information-seeking –behaviour of medical research staff. The survey was conducted at Melbourne, Australia in late 1995. The questionnaire was distributed to 64 staff and a response was received from 66% (n = 42). The results were analysed using the Statistical Package for Social Sciences (SPSS). The results of this survey demonstrate that the most frequently used information resource was colleagues, with 71% of the respondents consulting colleagues on a daily basis. The second highest was journal article in print format, with 40% of the respondents using it daily and a further 86% using it more than once a week. The internet was used by 31% daily and by 55% more than once a week. Only 2.4% used electronic journal daily, but 26% of the respondents used them weekly. Seldom did they consult electronic databases.

Also, Davies (2007) conducted a wide ranging narrative review of available literature from 1996 to 2006 titled “the information seeking behaviour of doctors: a review of evidence”. Of the thirty-four research studies he reviewed two thirds ranked text sources first and the category of ‘humans’- second, before other resources. These recent systematic reviews are consistent in reporting that colleagues and text resources appear to be favoured over electronic and other resources.

Disappointingly, electronic resources are mostly ranked last in all the studies reviewed. This is irrespective of the geographical location, rank or professional role of the doctors studied. This is despite the fact that most literature indicates that electronic resources are available and in

some cases surplus. This even gave rise to Davies (2007) complaining that the hardest task now is to actually locate the information required from the flood of information available electronically. No data was collected on grey literature by the studies.

These empirical studies cited in this section are very much relevant to the present study, in the sense that doctors were found to vary in their information resources preferences. This paper therefore examined the health information resources preferences of doctors in teaching hospital in South East Nigeria.

University of Nigeria teaching Hospital. The questionnaire tagged “Health Information Resources and Utilization Questionnaire” (HIRUQ) was used for data collection. The instrument was trial tested on 19 medical doctors of the University of Benin Teaching Hospital (UBTH), Edo State for internal consistency. The Cronbach Alpha method was adopted and the overall reliability coefficient from the questionnaire stood at 0.97. Copies of the questionnaire were personally delivered to the respondents through the researchers and the trained research assistants. The respondents were required to fill the questionnaire

Items	Mean	Std. Deviation	Decision
Medical library collection	2.36	0.48	R
Personal collection	3.36	0.48	M
My colleagues personal collection	3.06	0.24	M
Library internet connection	1.19	0.73	N
Cyber café	2.12	0.49	R
Hospital internet connection	1.77	0.55	R
My personal internet connection	4.00	0.03	VF
	2.55	0.31	R

Methodology

The study adopted descriptive survey design. The area of study was the South East geographical zone of Nigeria, comprising five states namely: Abia, Anambra, Ebonyi, Enugu and Imo States. All the 1,995 medical doctors in the six teaching hospitals were involved in the study. The subjects were 156 doctors from Abia State University Teaching Hospital, 198 from Ebonyi State University Teaching Hospital, 228 from Enugu State University Teaching Hospital, 160 from Imo State University teaching Hospital, 503 from Nnamdi Azikiwe University Teaching Hospital and 702 from

immediately it was given to them and collected back. Where this was not possible, a date for the collection was agreed upon with the respondents. In all, a total of 1,417 copies of the questionnaire were properly filled and returned.

Ethical approval and certificates were obtained from the six teaching hospitals from their respective Ethical Committees following laid down procedure. The researchers used both descriptive and inferential statistical methods to analyze the data.

Table 1: Mean and standard deviation of the responses of medical doctors on

Findings and Discussion

the use of health information resources from available locations (N=1417)

The result presented in Table 1 shows that majority of the medical doctors' access health information resources from their personal internet connections. This is based on the attainment of 4.00 mean score for personal internet connection use which is much above the 2.50 criterion mean. It indicates they access health information resources moderately from their personal collection and their colleagues' personal collections. This is seen from the mean scores of 3.36, and 3.06 respectively on the table.

On the other hand, the medical library collections, cyber café and hospital internet connections are the locations from which medical doctors rarely access health information resources. This is based on their mean scores of 2.36, 2.12 and 1.77 respectively which are below the cut-off point of 2.50 mean. There is also indication from the table that library internet connection are not used based on the 1.19 mean score for it.

Table 2: Percentage Responses of Medical Doctors on the Preferred Media of use of Health Information Resources (N= 1417)

Information Sources	Clinical Care		Professional Examination		Better Practices		Lecture Purposes		Keep Up to Date		Research Purposes		Journal Publications		Overall		Rank
	Freq	%	Freq.	%	Freq	%	Freq	%	Freq.	%	Freq	%	Freq	%	Freq	%	
Textbook	1417	100.0	1312	92.6	1417	100.0	1417	100.0	1417	100.0	1312	92.6	1004	70.9	1328	93.72	3 rd
Colleagues	423	29.9	1416	99.9	1417	100.0	1014	71.6	1417	100.0	1416	99.9	1003	70.8	1158	81.72	5 th
Journals	423	29.9	1416	99.9	1417	100.0	1412	99.6	1416	99.9	1416	99.9	1416	99.9	1274	89.89	4 th
Internet	1416	99.9	1417	100.0	1416	99.9	1414	99.8	1417	100.0	1417	100.0	1414	99.8	1416	99.92	1 st
Electronic Data Base	992	70.0	1416	99.9	1416	99.9	1412	99.6	1416	99.9	1413	99.7	1412	99.6	1354	95.54	2 nd
Government Publications	89	6.3	1000	70.6	1241	87.6	1415	99.9	1188	83.8	1000	70.6	1003	70.8	991	69.93	7 th
Technical Reports	97	6.8	724	51.1	997	70.4	1213	85.6	1005	70.9	1010	71.3	1110	78.3	879	62.06	8 th
Theses/Abstracts of Research Report	8	.6	898	63.4	1415	99.9	1082	76.4	298	21.0	1011	71.3	716	50.5	775	54.72	9 th
Electronic Media Reports	97	6.8	1311	92.5	1416	99.9	1330	93.9	904	63.8	1413	99.7	1303	92.0	1111	78.37	6 th

The results presented in Table 2 indicate that for clinical care of patients most doctors (100%) prefer to use textbooks. The use of thesis/abstracts of research reports for clinical care of patients is the least preferred with percentage score of 6%. From the table the most preferred media for professional examination is the internet, (100%) while technical report is the least preferred (51.1%).

The table shows that for better practice of specially three sources of health information are equally preferred by the medical doctors. They are textbooks, colleagues and journals, each with 100% score. The least preferred media for better practice of specially are government publications (87.6%) and technical reports (70.4%). Textbooks are ranked top most (100%) in the table as the preferred source of health information for lecture purposes. The other eight listed items have their percentages of the responses ranging from 99.9% to 71.6%.

To keep up-to-date, the respondents ranked three media-textbooks, colleagues and internet as the most preferred each with a 100% score. For this purpose also thesis/abstracts of research reports is the least preferred media with a percentage score of 21.0%. As shown in the table, the internet is ranked as the most preferred source of health information for research purposes, while government publications are the least preferred with 70.6% score. For purposes of journal publications the respondents ranked journals as the most preferred media with a score of 99.9% and thesis/abstract of research reports as the least preferred with 50.5% score

Discussion

The findings of this study on the extent of use of health information resources from available locations show that personal internet connection is the most frequently used. This finding may be a reflection of the

present proliferation of personal internet connection through using simple modem or similar devices made available by Global System for Mobile Communication (GSM) operators. Also the finding of this study from Table 1 indicates that doctors rarely utilize cyber café for accessing health information. This is in sharp contrast with the view of Smith et al (2007). They reported high use of the cyber café- by doctors in Lagos teaching hospital and Yaounde University. The contrast may have arisen from the time lag between their report and that of the present study considering the high rate of ICT evolution and development.

Also the finding of this study that hospital internet connections are rarely used by doctors goes to confirm the poor provision and maintenance of adequate internet infrastructure in these teaching hospitals. This is despite the obvious importance of the internet today as a health information resource for effective health care delivery.

It is observed from Table 1 also that doctors do access health information resources moderately from their personal collection of books and journals and from that of their colleagues. This finding further highlights the importance of personal collection of books and journals of doctors as a resource base.

The findings from this study record low use of the medical library and no use of the library internet connection. Both had mean scores of 2.36 and 1.99 respectively. It is surprising and equally disappointing that medical libraries which should be the citadel of health information resources for doctors are so lowly utilized. This however conforms to Renwick (2005). He is of the view that today's users have their information needs met through a number of options and need not come physically to the medical library. Childs (1988) confirmed this trend and noted that users have a very

low expectation of what libraries can do for them. This low expectation results in underutilization of the library resources.

It is striking that the internet is ranked as the most preferred media, followed by electronic databases. Electronic databases are off-shoots of internet resources. This is in sharp contrast with Andrew, Pearoe, Ireson and Love (2005). Their findings show that practitioners made more use of print and colleagues compared to online sources

The response recorded implies that the internet had displaced textbooks, journals and colleagues as the most preferred access point to health information. This departure from the previous popular findings may be indicative of the current level of internet awareness among doctors which keeps improving with the global trends of information technology.

Conclusion

Based on the findings and their interpretations in this study, it is concluded that doctors harvest health information mainly from their personal internet connections. Their preferred media of getting this information are internet, electronic databases, textbooks, journals and colleagues in this order. These revelations may have filled the gaps in the literature, as the location of reading and health information media preferences of all ranks of doctors in teaching hospitals in South East Nigeria had been ascertained.

However if the recommendations put forward in this paper are implemented doctors in South East, Nigeria will be in a better position for effective healthcare delivery to the citizenry.

Recommendations

1. The federal and state ministries of health and teaching hospital managements in South East Nigeria should equip and sustain clinics,

offices and libraries with adequate internet bandwidth.

2. They should also give doctors allowances for personal internet connectivity and print collection.
3. Preferences should be given to the preferred media of information resources during acquisition of materials to boost use.

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