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The Role of Medical Librarians in Nigeria and the Challenges of the Digital Age to Clinical Care

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Abstract

This study set out to examine the challenges that beset the Medical librarians in Nigeria in the digital age. The colleges of medicine of the University of Nigeria Nsukka and the Enugu State University of Science and Technology were used as case study. The methods of study used were observation and literature review. The challenges bother on the convergence of information resources from physical to electronic platforms, dissemination problems and negative aspects of the digital age concerning clinical diagnoses and drug use. The study prescribed new roles for the medical librarian with regard to: acquiring relevant technological skills for information access; provision of evidence based information to support patient care and education. Others include organizing outreach programmes; marketing new products and services; providing embedded functions and playing the role of emerging technologies librarian. The challenges are surmountable by following the recommended solutions in this study. It will enable the medical librarians to be relevant to the information needs of their parent organization and to health workers generally in the digital age.

Keywords: Health workers; Medical Librarian; Digital Age; Clinical Care; embedded Librarian.

Introduction

Various studies has shown that he medical library has successfully transited from being just gatekeepers of collection of books in a building to that of managers of information and players for knowledge management in the new information-intensive medical world. Medical education began in Nigeria with the establishment of the University College Hospital, Ibadan, as a College branch in Nigeria with the establishment of the University College Hospital, Ibadan, as a College branch of the University of Lodon in 1948. However the evolution of medical librarianship practice in Nigeria can be traced to six (6) decades to date, if the Yaba Centre Medical Library founded in 1945 as an arm of the

Ministry of Health, Lagos was to be our reckoning point. Other medical libraries only sprung up after independence with the opening of various parent educational, research and hospital-based institutions. The medical library since its existence has served the health workers in every aspect both in the training stages and the practice stage and not forgetting the research stage.

However, in this 21st century and with the coming of the digital age and its internet and other telecommunications developmental changes, there has been a great impact on information access, storage and retrieval. Also technological inventions in all spheres of human activities which seem unending has threatened the existence of the physical library and that includes the medical library. With the existence of the virtual library, information can now be accessed by anyone around the world with great ease, as long as the person has internet access. The medical librarians are not are not the only ones threatened by the digital age but also the health workers because unlike, the 20th century when the medical librarians were the only ones with information about the health of human beings and while the health workers are the only one that can treat and take care of those with various health conditions, now in this 21st century which is known as the digital age, anyone can go online and access information on self diagnosis and treat themselves without visiting the hospital. Some of them only visit the hospital if their health condition grows worse. Sometimes they may not bother to know about the source of the information they are using.

The few points mentioned above introduces many challenges which the medical librarians and the health worker are facing due to the digital age.

Literature Review

The Medical Library

Numerous papers in the literature have documented the important contributions of medical libraries to patient care. Studies describing the specific contributions of medical librarians were recently identified by Demas and Ludwig (Demas & Ludwig 1991). House officers who had received articles from the medical librarian found that patient management was affected in 20% of the cases and diagnostic thinking was influenced 86% of the time. Barbour and Young (1986) examined the role of the medical librarians at morning report and found that the literature provided by this service was of “clinical value in diagnosis and treatment” 95% of the time. In the 20th century, the lack of a well established tradition of the art of medical librarianship was linked to the late development and paucity of medical libraries in Nigeria (Oluwakuyide, 1972). Iroka (1990) gave overview of Nigeria medical schools concluded that library instruction efforts were in their infancy in Nigeria academic medical libraries. Okwuokwulu (1979) and Edeka (1979) attributed the poor progress in the field to the dearth of suitably qualified personnel to oversee the affairs of such libraries in Nigeria, Zhang (1995) and Onatola (2004) lamented the scarcity of subject specialist professionals or even librarians with other backgrounds who were not willing to develop a career on medical librarianship in Nigeria. The study by Komolafe and Onotola (2008) dealt on the resourcefulness of the health librarian in effectively meeting the clinical information needs of the health workers at the teaching hospital library. So far, from researches, it can be said that the medical librarian plays a very important role to all its users which are the health worker, patients, students, researchers and laymen. But the mistakes which the medical library in Nigeria made in the early stages which made it threatened by the initial coming of the digital age along with the internet is the issue of having insufficient books, journals and other health information materials. Added to this laziness of the librarians in having to wait for their users to come to them for the health information resources is inefficient funding of Medical Libraries in Nigeria. This is especially concerning the two medical libraries used for this study. These libraries had insufficient information materials many of what they have are outdated. With the introduction of technology and internet facilities much resources became available. Medical libraries uses Ebscobost for access to e-journal and e-books, Agora, Hinair and OARE databases are in use in the two Medical Libraries being researched on.

The internet which began in 1969 as a net project of the United states Department of Defence has undergone many transformations to date. Garcia, Teruel and Pinero (2005) state that statistics about the size of the internet continue to fluctuate, but always agreed that that it is almost unlimited in resource provision. The amount of more than three billion Web documents has been quoted as its content (Powell and Garke, 2002). This quantity has more than doubled, according to current assessment, every 173 days (Mareno, 2000).

Among these the pages concerned with health is about 2% (Garcia et al, 2007), and this is what doctors worldwide access for their desired health information. The reason why the doctors and other health workers uses the internet for their desired health information is because, internet is the fastest means to access information needed. The internet is very useful for health information dissemination and guidance and also provides needed information that is up to date. The negative aspect of this great gift of the digital age is the little part of the unknown source of health information accessible in the internet at times. As a result of this the medical library and the librarians have to step in because they are the original gate keepers of health information before the emergence of the digital age/internet. Times has passed when librarians take their information to the users through various means necessary just to ensure that their users get the information at the end. This is what the medical library has tired to do as at date. Yet more improvements are still needed for effective dissemination of health information to its users through the internet. So long as there is internet access health information resources are made available through, online databases, online journals, e-books, clinic information services, health discussion groups, online health groups and services. More recently the medical library, especially the Augustine Nnamani Medical Library of the University of Nigeria Teaching Hospital has stepped up their gear by having up-to-date books, journals as well as updated CD-ROMS bearing health information in them. The books, journals and other health information materials both in the physical library and the virtual library are not just Nigerian books and materials but as well foreign books and also not excluding her collections of recorded clinic trials of open heart surgeries and other surgeries many of which the medical librarian has been called to witness and record.

Health Information and its Importance

It is a general knowledge that the library is the store house of knowledge which means that the librarians are knowledge keepers. This can be inferred in the terms of medical library as the place where health knowledge are kept and consequently their librarian are the health information keepers. Understanding what this health information is and its importance to the clinic care provides leverage to understanding the vital role of medical librarians in health institutions especially in this digital age.

Health is defined in the WHO Constitution of 1948 as “a state of complete physical, social and mental well-being, and not merely the absence of disease or infirmity” (WHO, Geneva, 1986). Again the Ottawa Charter for Health Promotion regards health as a fundamental human right and so a resource for everyday life. Information, in the broad sense, includes knowledge gained or given, facts, news, the communicating or receiving of knowledge (Robinson, 1996). Therefore, it can be inferred that Health information which includes knowledge, facts and news generated from various sources are necessary for good physical and mental conditions of human beings. Health information is any information that enables individuals to understand their health and also enable health-related decisions to be taken for themselves or their families (Patrick & Koss 1995). Dahlen (1993) noted that health information is of two types: information needed to make informed decisions related to disease prognosis (patient information), and information needed to support a healthy lifestyle (consumer health information). This health information serves different purposes to its different users. To the doctors and health workers, the information helps them to know the right and updated diagnosis for every kind of known medical condition as well as its treatment and surgery procedures. To the patients it enables them to know more about their health conditions and ways to maintain themselves. Just like the aforementioned information users and their reason for usage, so also health information serves their different purposes to their different users.

Health information has been variously described as the “foundation” for better health, as the “glue” holding the health system together, and as the “oil” keeping the health system running (Lippeveld, 2001). The part that health information can play in improving healthcare has been recognized by the health scientists. It is generally known that knowledge is the enemy of disease. Writing on this, as it concerns health information utilization, Brice and Gray (2004) added a proviso that knowledge is the enemy of disease only if it is put into action. According to them the utilization of available health information can prevent and reduce seven major healthcare problems observable in every system, namely: unknowing variations in policy and practice; wastes; errors; quality clinical care; poor patient experience; the over-enthusiastic adoption of interventions of low value and the failure to implement interventions of high value (Brice and Gray, 2004).

Digital Age and Threats to Clinical Care in Nigeria

The digital age refers to the period of movement away from ownership of physical resources towards access to electronic information resources. Before the coming of this era there were scarcity of most knowledge resources in many third world countries. Subscription to current journals and purchase of current books in academic libraries stopped in the late 1980s due to many economic constraints. The digital era brought about a multiplicity of information resources accessible through the computer in the internet in all fields of knowledge. However many classes of people, even among the academic developed phobia for reading or utilizing digitized information, and Internet was not easily available.

The medical field is such that constantly demand new knowledge and experience innovations from ongoing research and development. To keep up to date with knowledge in this area the librarians who are knowledge keepers need to update themselves with the modern knowledge sources in order to keep the medical workers in the current picture of the new paradigm. What you find however are libraries and librarians not experienced in digital transformations. Medical librarians are supposed to be familiar rather than being threatened by the digital age and its innovative changes in information resources and dissemination. They should disabuse their minds with the old principles of waiting for their clients to come seeking for information in the library. The medical librarian is a special librarian. Their roles are changing from information conservation to dissemination. This is more so since most of the resources they trade with are not resident in their libraries. They ought to access the information resources and archive them for easy access to their clients in digital formats. This way, health workers can easily access requisite information resource concerning medical conditions round the clock.

Another threat of the digital age is that information about medical conditions abound in the Internet such that many patients diagnose and treat themselves without regard to the services of health workers. These were not possible before the digital era. Health workers prescribe drugs and medication to patients. They even deny the patients basic health information about their ailments or diseases and treatment modalities. In this current era a patient who is fairly knowledgeable can easily goggle his/her ailment and receive diagnosis online. The National Food and Drug Agency of Nigeria (NAFDAC) felt concern about this unacceptable situation of the patient, hence they instituted a national health campaign against the practice of concealing important health information such as disease diagnosis, names of prescribed drugs and treatment process from patients.

Another problem with the threat of the digital era is that many information in the internet are not classified enough to show their authenticity. So, most of the information, especially concerning diagnosis and drug prescription, their sources are unknown and unreliable. This characterizes these sources as insecure and risky for patients who apply them. Usage of such information is at the risk of the user. The role of a good medical Librarian is to ensure that the information he/she access has authenticity and reliable source. The user of such information should always be rest assured.

Therefore, the medical librarian should disabuse their minds from the old principle of waiting for their clients to come seeking for information before they are serviced. This is because health librarians are traditionally client focused. They, most importantly, need to acquire the knowledge, tools and techniques of the digital era and use these to appropriately disseminate information to their clients.

It is important also that they avail information literacy to their clients to enable them access information effectively on their own.

The Roles the Medical Librarian has to Play in this Digital Age

Some thirty year ago, Gertrude Lamb identified a gap between what medicine as a discipline has in common with good patient care and the knowledge that was actually applied to the care of patients. It provided an opportunity for medical librarians to help make the connection. she pioneered the concept of librarians participating on clinical rounds to identify and meet information needs related to current cases. Lamb established the first clinical medical librarian (CML) program at the University of Missouri-Kansas City (UMKC) School of Medicine in 1971 and continued her efforts at Hartford Hospital and the University of Connecticut Health Center in 1974 (give source). The primary role of the clinical medical librarian (CML) is locating and providing quality-filtered, patient-specific information to physicians-has been questioned recently because of the dramatic rise in end-user searching. It showed that the CML provided house officers with information that affected patient care (defined as diagnosis, diagnostic tests, or treatment) between 40% and 59% of the time. This was true even though most physicians reported that they generally researched the question prior to consulting the CML. These duties of the medical librarian never changed. The only thing that changed was the time that we now exist which is the 21st century fondly called the digital age.

Digitization has succeeded in changing the role of the medical librarian and extending their remit beyond the walls of the physical space, moving the information to the clinician's workplace as opposed to waiting for them to come to the library which is something that many healthcare professionals may increasingly struggle to find time to do. It is because of this that medical librarians are becoming even more relevant and important to clinicians. Many clinicians struggle to find the answers that they need and require training and assistance in searching database to find the answers that they need and require training and assistance in searching database to find research evidence to answer clinical questions. In many ways, the librarians' role is increasingly moving towards becoming a trusted adviser, providing the collective ability to integrate services and practices into teaching and learning processes. Librarians have the opportunity to become part of the frontline service providers which can be incredibly rewarding in improving patient care, as a result of their role. The good news is that these disruptive technologies can be the very mechanism we need to develop more accountable, quality-driven healthcare delivery systems because they can address some of the significant gaps in patient-physician communications that are so detrimental to the relationship. Technology in this current age can be used to improve patient's health problems and medical librarians can help to bring this about. Websites now provide patients with the tools to prepare for upcoming doctors (care givers) visits, by listening to actual conversations between providers and patients that have the same diagnosis. They can organize their questions before the visit; they can record their visit using digital or mobile recording devices; and they can review the recording after the visit with caregivers and family members to better understand how they can partner with their health worker's advice. These cutting edge technologies have the potential to dramatically improve a patient's healthcare experience. Before they can get to this point, the medical librarian has to cope with the increasing demand on them to provide more information to the people who need it most. It is necessary that such information should be derived from a reliable source.

As a result of the complexities of the digital age and its new task on the medical librarians, they can't sit back and relax when people cannot access the right information. The mystery behind all this is that any patient who loses his/her life due to wrong information accessed from the internet, the blames goes to each and every medical librarian. The doctors and health workers have the duty of preserving and saving the life of people but they cannot do that without health information which has to be delivered to them by a medical librarians. Logically the medical librarians are the key holders of the fate of patient. For this reason, the medical librarian and the health workers has to work together to ensure that the medical librarians get the right materials for the necessary information for e.g Practical

Clinical trials which should be made accessible digitally to their users. Health tasks can be accomplished very well and with great outcome, when there is adequate cooperation between the health works and the medical librarians, working as team mates.

Duties of the Medical Librarian in this Digital Age

The duties of the medical librarian in this digital age are as follows:

1. Making Digital Information Provision to Clients

The digital age is a period of wide spread use of the computer and the internet in accessing information resources, including medical information. Such information used to be found in medical books and journals obtainable from the library. These days people can now access information even in the comfort of their homes, outside the library holdings. The medical library has a number of data bases and reliable sources from where it makes access to digital resources to service the medical worker. At the same time there are lots of other sources in the Internet through which medical clients and workers can access information. Once the information seeker keys in the subject of his/her search the computer does not query the source from where the information being downloaded is coming from. This is one of the sources of this papers' worry with the digital age. If digital information resources are made priority as a source of collection development what about ensuring the source and authenticity of the resources?

2. Organizing Clinical Outreach Programmes

The coming of the digital age has provided the medical librarian opportunity to have a closer reach out to his/her clients rather than wait for them to come to the library for available resources. He/she also has the responsibility to organize clinical and outreach programmes to teach their clients, especially patients, the essence of health information, as well as the necessity of ascertaining the source of their medical information before they apply them. This medium could be used also to educate health workers on the importance of doctor/patient relationship; online health information and the virtual library available for them to access their health information from digital formats

3. Keeping Abreast with the Changes and Demands of the Digital Age

Information technology is a fertile ground for rapid technological changes and transformations. New information management, mechanics and techniques emerge on regular or bases. The medical librarian should be aware and conversant with these changes. They owe it as a duty to disseminate information to their clients about the changes that goes on in the health information sector. The amount of information available for clinicians and health workers increase on daily bases. There are vast amount of clinical trials, patient data, new drugs and health discoveries. There are also clinical diagnoses meant to inform patients about their health condition and breakthrough in medical practice. The medical librarian should be abreast with information on all the above phenomena and keep the clients informed on them.

4. Marketing of the Library Products and Services to Health Workers and Patients

The library is both a productive and marketing venture in an academic institution. As in other productive ventures the library has goods and services to market to it clients. Some of these products and services include: physical books and journals acquired in various fields of study; indexes and abstracts prepared by the library or accessed from various sources; institutional repositories prepared by the library; online databases (especially HINARI and Medline) licensed and available to the institutional library; Online Public Access Catalogue (OPAC) printing and photocopy services etc etc. So many of the library clients do not know much about these resources and service. Therefore they needed to be marketed to enable the clients make good use of them to improve their academic pursuits in the University. So many people, especially health workers do not visit the library to know what are

available for them. So, marketing of library products and services is a very important role that medical libraries need to apply using the digital platforms, internet, blogs, face book, U-tube etc to get to their clients.

5. Creating Conducive Environment for Easy Access to Digital Information in the Library

The digital age is de-emphasizing paper and the physical presence of books and journals. There are yet a good number of the clients who cannot do without hard copies of information resources. They seem to like the touch of crisp and smell of paper. Even when the resources are digitized, such people would prefer them downloaded and printed on paper to allow them read the materials physically. Readers often need to visit the library to access certain facilities available in the library. Therefore the physical environment of the university medical library needs to be made very conducive for these clients, even for the staff that work in them. Materials such as comfortable chairs, tables, computers and laboratories, carrels, air conditioners and fans, projectors and screens, fire extinguisher etc etc are very necessary in the medical libraries, to make the environment conducive for work and study. They are equally relevant for organization and management of digital data.

6. Becoming an Embedded Librarian

Health librarians are traditionally client focused. They focus their services directly on the needs of their users, mainly the health workers and also patients that are kin in using their services. It is therefore, pertinent that they provide services as a part of the group, by improving the transfer of information between the library and users. They should improve the quality of their collections and provide services that match their client needs. This can be done by reading pertinent articles, identifying and extracting relevant information and writing brief synopses of their findings and sending the resulting information outputs to their users (Cooper and Crum, 2013).

7. Becoming Emerging Technologies Librarian

The medical/health librarian in the digital age should work towards connecting their users to information in direct and more efficient ways. As Emerging technologies librarian he/she should focus on the methods that the library can use to deliver services and information with the new technologies. He/she should play active part in designing, developing and managing their libraries' websites. They interpret new web applications, social media and mobile interfaces to support the ability to access information (Cooper and Crum, 2013).

Challenges Faced by Medical Librarian in Carrying Out their Duties in the Digital Age

There are usually challenges attached to every activity of life that makes things not move smoothly as planned. In the same vein the role of the medical librarian in the digital age have their challenges. Some of these are described below:

1. Low Basic and Health Literacy

The medical librarian is not a trained health worker perse. However, he/she is knowledgeable to assist health worker and patients source information concerning health issues and towards effective performance. Therefore basic health literacy is lacking amongst medical librarians that should enable them perform optimally. The little literacy some of them may have were acquired informally through observation of health workers and experience gained on the job.

2. Low Funding

The medical library is only a part of the group of libraries in a University environment, attached to the central library. In view of this they do not have financial autonomy. They are dependent on the fund allocated to the institutional library which is distributed among the different branches. So, there is always insufficiency of fund to procure needed resources in the University Medical Libraries. This

constitute a challenge as the libraries cannot perform optimally as they should with insufficient resources.

3. Poor Internet Connectivity in the Library

Generally, internet connectivity and access in Universities are low. This is due to low bandwidth in the country at large. In many of the institutions internet access is very low at peak periods, between 11am to 4pm. During these periods, most members of staff and students are busy trying to gain access and search for information for their teaching, learning and research. Internet receptions usually go down at such periods. Anything that hinders information to the health sector has grave consequences.

4. Incompetent Computer and Internet Skills among Medical Librarians

Many of those who have risen to the management level in medical libraries are not computer literate as compared to the younger staff under them. In view of this they do not have enough drive to handle effectively computer programmes and skillful internet surfing. The result is that information resource acquisition and communication cannot be performed optimally. The medical librarian needed to be skilled in managing the digital frontiers to enable those below to follow effectively. It has earlier been noted in this study that doctors and other health workers depend on the Internet for their desired health information. Therefore incompetency in computer and internet skills is a big challenge to the medical library which needed to be addressed urgently.

5. Poor Attitude of the Users

If many of the librarians who are supposed to guide those who should use their resources are incompetent in computer skills, those they lead will have poor attitude to the usage of the library resources. It is the duty of librarians to educate and guide their clients on the appropriate methods of resource access and usage.

6. Low ICT Facilities in the Library

The ICT facilities available in a medical library will be dependent on the skill possessed by the operators of the facilities. The more skills they acquire, the better the ICT facilities they should possess in their library. The reverse will be the case where the library operators possess low ICT skills.

Solutions to the Challenges Faced by the Medical Librarians

The solutions of the challenges faced by the medical librarians are as follows:

1. There is need to organize proper health seminars for the patients to educate them on the importance of health information as well as develop easy-to read patient education materials.
2. Most medical libraries are owned by universities and educational institutions, so it cannot be expected that the funding of the medical library won't be a challenge because they have many other issues to handle with their limited finances. So the solution to the problem of poor funding is to source for fund from medical inclined organizations, individuals, governments and private organizations etc.
3. There is need to ensure the development and provision of well-equipped ICT with good internet connectivity for the medical library
4. It is important to ensure that the medical librarians acquire ICT training. This is especially so for the old medical librarians. Again when hiring new medical librarians, ICT training should be one of the criterion to get the job.
5. Medical librarians should embrace service delivery innovations using ICT and multimedia facilities.

Conclusion

This study has traced the transition of medical librarianship from the period of collection of physical print resources to the age of digitalization. Medical resources are no longer under lock and key but are linked from various sources globally and accessible with the computer and internet. This dramatic change has prescribed new roles for the medical librarian to meet the challenges of the new era. It has also tasked them to acquire digital skills in order to meet up with the new roles and acclimatize with new wave of demands by the medical clientele. Despite the numerous challenges faced by medical librarians in trying to carry out functions introduced by the digital age, the paper has prescribed solutions that will ameliorate the problem. The paper therefore recommend that the prescriptions be followed strictly for a favourable results in resource provisions.

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