ROLES OF LIBRARIANS TOWARDS THE PROVISION OF DRUG INFORMATION RESOURCES AND SERVICES TO HEALTH CARE PROFESSIONALS

BEING A SEMINAR PAPER

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Ahmadu Bello University Library Complex (ABULC) Seminar Series organized by Ahmadu Bello University Library Complex, A.B.U Zaria Nigeria at Kashim Ibrahim Library held on 17th August, 2021

2021

Abstract

This paper examines the roles of Roles of Librarians towards the Provision of Drug Information Resources and Services to Health Care Professionals. It describes how Librarian and health care providers could use the Internet as source of drug information to patients. Sources of drug information provided by Health care professionals were also discussed such as primary, secondary and tertiary sources. Advantages and disadvantages of using internet based drug information were emphasized. The paper also looked at how Nigerian Librarians and Health care professionals use electronic drug information resources to provide quality and new techniques, new products and new information to patients. Some factors that influenced the use of electronic drug information resources were also outlined such as: attitudes of librarians towards the provision of drug information resources, health care information and services delivery etc. It concluded that Health Care Professional and the Librarian should be able play a vital roles of providing relevant information resources to patients who needs it to satisfy their information needs.

Keywords: Drug, Health care professionals, Information, Librarians, Provision, Resources, Roles, Services.

Introduction

Drug information is the provision of written and/or verbal information or advice about drugs and drug therapy in response to request from other health care providers, organizations, committees, patients or members of the public, it could be patients' specific information or it applies to the safe and effective use of medication among the general public. (ASHP, 2007). Drug information provision has helped to optimize patients' outcomes with regards to the medication needs of

patients. Drug Information Services (DIS) describe the activities undertaken by health care professionals in providing information to optimize drug use. These services cover activities by specially trained individuals (health care professionals) to provide accurate, unbiased, factual information in response to patient oriented drug problems that are received from health care professionals. The provision of reliable information on the appropriate use of medicines is an essential components of pharmacy practice and patients care (ASHPA, 2013). Thus, drug information provision is a pharmaceutical care activity.

The presence and ever-increasing volume of pharmaceuticals and clinical information however, has made it very difficult for health care professionals to stay current with recent developments (Brian & Ogbonna, 2010).

Notwithstanding, Librarians and health care professionals still bears the responsibility of providing relevant, up to date unbiased drug information resources to both the patients and other health care professionals. This shows that keeping up to date is a requirement throughout the career of both the Librarians and health care professionals if he or she effectively performs the drug information resources services provision.

However, quality drug information is encapsulated in four words: accessibility, reliability, completeness and applicability (Antesar, 2018). Traditional print resources are rapidly phasing out, giving way for electronic resources to thrive. This was largely facilitated by the advent of the internet as well as mobile technologies. The internet has been recognized as a source of an avalanche of information. As result, the frequency and likelihood of patients seeking health and medicines information has increased. Therefore, librarians and the health practitioners must try to identify the consumers information needs to provide evidence based, accurate up-to-date

information pertaining drugs information. Health Care Professional are medical personnel that provide medical assistance and services to patients and those who need it.

Sources of Drug information

Various resources are available for adequately responding to dug information queries. For drug information to be effectively provided, a step wise and systematic approach must be employed while searching through drug literature, fundamentally from tertiary literature to primary literature. The type of request may also influence what resources are used to respond to information request. Numerous resources for drug information are available, which include drug reference book, drugs compendia, national medicine list, essential medicines and treatment guidelines, drug formularies, drug bulletins, medical journals, drug information canters, computerized information and pharmaceutical industries.

However, drug information sources can be categorized in to three broad categories

1. Primary sources

Primary literature forms the building blocks of the literature hierarchy. It is the source of information for the development of secondary and tertiary literature resources. Primary literature comprises of original clinical or scientific research but is written in the author's own words and excluded reviews and editorials. Publication such as those of randomized controlled trials, cohort studies, case series and case reports constitute primary literature. They contain information about patient-oriented based medicine that can change or affect patient care (Hayashi,2013).

Secondary sources

Secondary source literature is compiled by indexing and abstracting services that are used to systematically direct users to locate primary literature. These indexing systems usually provide

bibliographic information indexed by topic and allow users to view a brief description of the information, or literature related to patient care. The databases provide links to citations that show the author, title, location and date of publication and generally, an abstract of the manuscripts. To be proficient in searching secondary literature, the researcher/user must be well acquainted with medical subject heading (MeSH), or other terms necessary to find the exact information the user or researcher is looking for.

Advantage include provision of quick and extensive access to the primary literature and may provide concise information on specific topics. Generally, the journal sources are peer reviewed and of a higher standard. With most resources, updated information can be sent to the practitioner periodically.

Tertiary sources

Tertiary sources are media that provide information that has been evaluated, distilled, summarized and integrated to give a comprehensive summary of a topic. They are excellent first line resources when handling a drug information question. They provide the user with general information needed to familiarize the inquirer with the subject. Tertiary drug information references may be divided into specific subjects making them more convenient and easier to use. Information provided is usually comprehensive, concise and easily accessible. Drug information contained in tertiary literature is generally a well-established information that is approved and/or well founded in the primary literature and accepted as a standard of practice within the medical community. Tertiary references may comprise of textbooks, compendia, review articles or online, full text databases. Electronic resources are preferred because current drug information and multiple searches can be carried out simultaneously. They have a major limitation, since a lot of dynamism is associated with the fields of medicine and pharmacy practice. Because of the

lag time in writing the text and the actual publication date whether in print or electronically, some of the information contained in these sources will already be outdated, this can however be minimized by updating the information regularly, especially in electronic database. Other limitations include: authors bias, incorrect interpretation of information, over emphasis of irrelevant information or exclusion of useful information about a topic or drug.

Use of Internet as Source of Drug Information

The size and complexity of drug information is growing rapidly and technology has changed the way information is accessed. This growth in the availability and the accompanying rise in the medication use has made it necessary for health care professionals to advance in their role as experts in drugs within the healthcare team. The use of clinical decision supports tools such as electronic resources can aid Librarians and health care professionals in playing such roles. As such, Librarians access to user friendly electronic resources that can quickly provide complete, accurate and up-to-date drug information has become increasingly important. In recent times, online information resources has been found to provide informative sources for drug information (Malone et al., 2012). Increasingly, access to online information resources such as e-mail, e-journals, online data bases and e-books are available. The use of internet has been enhanced by the ready availability of mobile devices (Walker, 2010). Thus, drug informatics evolved by emphasizing, analyzing, and managing information on medication use amongst patients. Healthcare professionals and consumers often rely on a variety of drugs information resources including those available online because they are user friendly and presumed to be accurate ,complete and current (Olatunde,2010), Librarians and health care Professionals therefore needs to develop pertinent skills in accessing and interpreting pertinent information for their own professional development.

Using search engines to locate health information ranks third next to email and product research. About 28% of Pharmacists use Wikipedia to seek drug information (Maowia, 2013). It has been established that Wikipedia is a frequently accessed resource of consumers seeking drug information on the web. It however suggested that, this resource should be supplementary to other sources of drug information (Alberta, 2010). There are some parameters that can assist one in evaluating websites that provides drug information on the internet such as; the author (s), purpose, objectivity, accuracy, reliability, and credibility, currency and links.

Advantages of using Internet based Drug Information

Some advantages of online drug information include:

- Convenience and speed of access
- Availability of many freely accessible resources
- Accessibility to more detailed information about certain rare cases that may not be easily accessed via print media.

Disadvantages of using Internet based Drug Information

Some disadvantages of IDI has been highlighted below:

- Online drug information are applicable in making clinical decisions. Other ones do not sustain the capacity to inform rational decision (Fermendez, 2015)
- Navigating the internet and accessing relevant information may be time consuming.
- Inappropriately cited resources may exist online as such the credibility of these resources may be difficult to ascertain, hence are unreliable.
- Not all content available on the internet is useful and usable

Drug Information and Nigerian Librarians and Health Care Professionals

Pharmacists and Librarians need for information is mostly centered on drugs because they assume the responsibility for accessing, retrieving, evaluating and exchanging relevant information to ensure safe and effective patient care. As with health care professionals in other parts of the world, the primary information need for Nigerian health care professionals particularly the pharmacists is drug information. However, the drug information needs for a Nigerian Pharmacists may differ from those of other regions because of environmental influences and differences in policies. Developing countries suffer a peculiar challenge which is not strange to Nigeria, this challenge is limited accessibility of drug information and poor evaluation and dissemination of whatever is viable

The internet and mobile phones have been recognized amongst others as the technological needs of Nigerian Pharmacists with potential benefits of improving patient care and outcomes (Hayashi, 2013).

In a study carried out by (Tomowa, 2012) while majority of the surveyed Pharmacists had positive attitudes towards drug information, they reported that they had no any specific training on drug information services and also decried lack of standard procedures to respond to drug information request. They also cited insufficient access to drug information sources as another, patient counseling and information on adverse drug reaction (ADRs) were the main areas of interest to Nigerian health care professionals when they sought for drug information (Hayashi, 2013), it was also stated that drug information need such information on microbial sensitivity and resistance patterns were not adequately responded to by health care professionals. This is however imperative due to the emergence of resistant strain of microbial agents as well as the rise in case of superbug infections, prompting that complete information on antibiotic use.

With the recent preposition to integrate, adopt or recognize the use of herbal medicines, a challenge has been posed to health care delivery because there is limited information available about these drugs. Therefore the health care professionals is thought to play the role of information dissemination on herbal drugs. However, the health care professionals need to have a working knowledge of herbal medicine if he is to play this role. The need for health care professionals to acquire more knowledge as well as the establishment of National Herbal Drug Research Development Agency (NHDDRDA) and Herbal Drug Information Centre (NHDIC) was justified in a survey carried out by (Walker, 2010).

Factors Influencing the Use of Electronic Drug Information Resources

The attitudes of librarians affects the perception of the relevance of electronic resources towards effective drug information provision and ultimately, healthcare information services delivery. These are said to influence the rates of adoption and extent of utilization of Information Technology (Alberta, 2010). A positive attitude and disposition towards the use of modern Information Technology would readily promote the adoption of e-resources for obtaining drug information. However, the librarian who is negatively disposed towards modern information technology may not consider utilizing it to obtain drug information or may not count information obtained trustworthy enough for use to respond to drug information request.

Though, research has shown that access to the internet and use web-based health information factors (Rakesh, 2012) and among other demographic factors, age, gender, educational qualification and designation significantly influence the utilization of health information on the web.

Gender is a relevant factor considered to influence the use of electronic resources (Wong, 2014) posited that males seems to enjoy browsing on the internet for enjoyment while females tend to

only use for work related purposes. Fact cross-checking is also most likely to occur in the hands of women (Hailsmesket et al, 2016).

Age has also been a variable which correlates with the use of computers and electronic resources. Younger generations were brought up with computers, and are consequently more comfortable handling them. Laguna and Babcock (1997) discovered that there were marked differences between older adults and younger ones on electronic use tasks. Younger librarians are also more likely to be confident in their information technology (IT) skills and the information they retrieve (Heilsmeskel et al, 2016). In addition Cole & Tomowo, (2012) discovered that older faculty members were not comfortable with the use of electronic media as a drug information resource.

The expansion of new areas and technology that employed in healthcare delivery has influenced the adoption of electronic drug information resources (Malone et al, 2012). For example the use of complementary and alternative medicine has influenced the adoption of electronic resources among the health care professionals. The medical field is dynamic and changes daily for one to keep up with the trend, electronic media must be well consulted for proper education.

The nature for drug information request may also promote the use of electronic drug information resources as such drug request on uncommon diseases, drug in development, new terminologies and other new developments. An internet search may be necessary for the provider to familiarize him/herself on such a topic, before preparing on appropriate response.

The availability of technologies and infrastructures that promote access to electronic drug information can also influence the adoption of these sources. A study carried out within the country suggested that access to computers and the internet in hospitals and health care professionals' institutions of practice would facilitate their access to recent and relevant information (WHO, 1994)

Quality consideration of Electronic Drug Information

The field of pharmacy and pharmacotherapy are areas of rapid change. With new techniques, new products and new information about old products constantly being introduced which is facilitated by the internet provides plethora of information. It is however been lamented that a large chunk of information available on the internet is unregulated (Brunetti & Hermes-DeSenti, 2010). While online drug information compendia (ODIC) are presumed to be correct and complete, they can however potentially jeopardized patient safety through misinformation (Randhawa et al, 2016). The quality of information in Wikipedia continues to be inconsistent in terms of scope, completeness and accuracy, increasing the risks of consumers and practitioners inappropriately relying on it (Clauson et al, 2008; Kupferberg & Protus, 2011).

As with using any other information resources, an important caveat to using the internet for drug information is for one to ensure that the information source is authoritative, reliable, up- to- date and unbiased. This places responsibility on librarians to assist health care professionals to access, retrieve, and evaluate relevant information to ensure safe and effective patient care. This also necessitates the need for them to develop good information literacy skill and to understand how to use the tools of critical appraisal of online drug information resources for accuracy, reliability and authority. Evaluation of the quality of drug information is an important step in improving health literacy.

The criteria to be applied in evaluating information obtained from websites generally include: authority, accuracy, objectivity, coverage and scope, in addition to appearance (Olson library). Most question asked to probe online information sources resolve around authority. Authority relates the information obtained from websites to a particular author, organization, or business. It

provides accountability for ideas expressed. For an article to be considered to be authoritative the following questions must be asked

- What is the author's qualification? For writing on the paper?
- Is the author connected to an organization with an established reputation?
- Is the sources credible without a vested interest or some form of bias?
- Is it published in a reputable website? Has it been peer reviewed?
- Is the information appropriately detailed and referenced?
- Has the author taken care in formatting, logic, structure and the development of the argument?

Currency talks about how up-to- date the information provided is. Generally the domain of the websites gives an insight to the sponsorship of the website. Sites that end in"gov" sponsored by Federal Government "edu" are run by academic institutions "org" sites are manned by not-for-profit organization, while sites manned by domain ".com" are commercial in nature, Librarian should also provide to health care professionals that "https" is a secured site and http is not secure because the "s" is missing and can easily be used by hackers to steal or temper with someone's information. Knowing this will guide the librarians and health care professionals to easily detect any bias, for example with information provided by pharmaceutical companies.

The health care professionals could also watch out for quality certifications provided by not-for – profit organization that certify healthcare content on websites based on reliability and credibility, such organization include: Health on the Net (HON) Medication Websites Assessment tool (MWAT). Healthcare Coalition, Website Assessment tools (HCWAT) and so many others. This can give an insight to the authenticity of the information provided.

Conclusion

It is expedient to note that Health Care Professional and the Librarian should be able play a vital roles of providing relevant information resources to patients who needs it to satisfy their information needs. However, this places responsibility on librarians to assist health care professionals to access, retrieve, and evaluate relevant information to ensure safe and effective patient care.

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