

# Information Needs and Information Gathering Behaviour of Medical Doctors in Maiduguri, Nigeria

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## *Abstract*

*Survey data describes the results of an investigation on the information needs and information gathering behaviour of Medical doctors in Maiduguri, Nigeria. A total of 158 Medical doctors (128) males and 30 (females) were used for the study. The overall response rate was around 70.2 percent. Medical doctors need specific medical information to enhance their knowledge on a day-to-day basis, particularly with the information explosion such as e-mail and internet facilities. Medical doctors prefer the use of publishers catalogues as the most important source for new developments in their relevant fields. Many do not have access to local data bases that are supposed to have remarkable impact on their information gathering behaviour.*

**Keywords :** *Information needs; Information gathering; Medical doctors; Nigeria*

## Introduction

Information is an important factor in any society, be it a profession or for any other reason. According to Turner information is a key resource that can bring about change and improvement in the society.<sup>1</sup> User studies in library and information science are based on the premise that effective library services must begin with a clear understanding of the actual needs of information users. Saitri agreed that in an era of continuous technological developments in conjunction with information overload, user studies continue to be a vital tool enabling information professionals to improve both their understanding of information use and delivery.<sup>2</sup> Day-to-day contact with users can provide some of this understanding, but for deeper insight into the information needs, more formal studies are acquired. Brittain argued that information need varies from function to function, from environment to

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1 C. S. Turner, *Organising Information Principles and Practice* (London: Clive Bingley, 1988), p.11.

2 R. Saitri, "The Evolution of User Studies," *Libri*, Vol. 49 (1999) : 132-141.

environment, from discipline to discipline and even from age to age.<sup>3</sup> While Rees and Schultz noted that information needs vary in relation to the subject fields of their users, educational backgrounds, amount of experience and function performed.<sup>4</sup> These variables may affect a person's interest in the type of information he seeks and how he goes about obtaining that information. Thus, the need for information may arise from various aspects of a person's interest. White opined that if academic librarians are to attempt realistically to serve academic researchers, they must recognize the changing needs and the variations in information gathering which they generate and then provide the type of services that would be most useful to the researcher.<sup>5</sup> The study of information needs and gathering behaviour dates back to 1948, with the paper presented by Bernal at the Royal Society's Conference on Scientific Information.<sup>6</sup> The number of studies carried out in the social sciences and humanities compared to studies on scientists' information uses and needs is trivial, both absolutely Hopkin<sup>7</sup> as well as comparatively Line.<sup>8</sup>

The information needs and gathering behaviour of medical doctors is absolutely necessary to the management of a medical library as opined by Rover that centralization of information in organisation is vital for the organizational development.<sup>9</sup> Vainstein referred to a "community walks" approach in order to provide services to community group found practitioners ill-equipped and in need of information on technology.<sup>10</sup> Today, information technology (IT) seems to be the most important need. A study by Reneken observed that information generally is very vital for man cannot do without it, so it became part of the human need.<sup>11</sup> It was revealed by Anderson that individuals do not use all information that they need.<sup>12</sup> He further pointed

3 J. M. Brittain, *Information and Its Users : A review with special reference to Social Sciences* (Bath : Bath University Press, 1979).

4 A. M. Rees & D. C. Schultz, "Psychology and Information Retrieval," In *Information Retrieval : A Critical Review—Third Colloquium on Information Retrieval, May 12-13, Philadelphia, Pennsylvania* (Washington, D. C. : The Thomson Book Company, 1967).

5 M. D. White, "The Communication behaviour of academic economists in research phases," *Library Quarterly*, Vol. 45 (1975) : 337-354.

6 J. D. Bernal, "Scientific information and its users," *Aslib Proceedings*, Vol.12 (1960) : 423-438.

7 R. Hopkins, "The information seeking behaviour of literary sciences : Some preliminary considerations," *Canadian Library Journal*, Vol. 46(1989) : 113-115

8 M. B. Line, "Information requirements in the social sciences : Some preliminary considerations," *Journal of Librarianship*, Vol. 1 (1969) : 11-19.

9 R. H. Rover, "Information needs for Medical doctors," *Journal of Information Science*, Vol.9(1986) : 87 - 89.

10 F. Vainstein, "Information technology: Libraries and documentation centers," *Leading Libraries and Information Centres*, Vol. 1 (1973) : 27-35.

11 H. R. Reneken, "From informal to formal communication: Identification of the research front through quality filters," *Journal of Institute of Scientific and Technological Information*, 18 : 1 (1993) : 11-16.

12 D. Anderson, "Information communication and its availability and access," *Library Review*, 29 : 1 (1980) : 30-38.

out that most studies of information needs have helped users demand. Yet, the availability of resources in academic libraries make a great impact on the research activities of medical scholars. This study provides an opportunity for surveying the information needs and gathering behaviour of medical doctors in Maiduguri, Nigeria. Once the requirements and means of information gathering are understood, the role of the library in terms of collection and services could be optimized. Ocholla summarized the reasons for seeking information by scientists to include career development and occupational needs.<sup>13</sup> The study of information needs have developed in large part with a particular objective subset. Ileperuma tied such roles in terms of effective collection, and services,<sup>14</sup> while Crawford argues that the development of the information systems was intended to evaluate the function of an existing one.<sup>15</sup> The UNESCO declaration stated inter alia:

The information needs of a particular group of users do not remain constant but change along with education developments of the acquisition of personal and professional experiences.<sup>16</sup>

It could therefore be argued that information needs and gathering behaviour of any professional or such groups are not only for the development of the individual but for the future of their profession.

### Objectives of the Study

To analyze the information needs and information gathering behaviour of selected medical doctors in terms of:

- a. purpose for which information is needed and gathered;
- b. means of obtaining information; and
- c. sources and types of information needed.

### Operational Definitions

#### a. Medical doctor

Learned calling concerned with the treatment and prevention of disease by persons who have become qualified by formal academic training and supervised experience. Practitioners tend to direct their efforts more toward

13 D. N. Ocholla, *Scientific Information and Scientific Communication* (Nairobi : Jomo Kenyatta Foundation 1993), pp. 103-119.

14 S. Ileperuma, "Information gathering behaviour of arts scholars in Sri Lankan Universities: A critical evaluation," *Collection Building*, 21 : 1(2002) : 22-31.

15 S. Crawford, "Information needs and uses," *Annual Review of Information Science and Technology*, Vol. 13 (New Jersey : Learned Information Inc. 1978), p. 63.

16 The UNESCO, "The problem of information at the National and International levels which is posed by the improvement of Educational systems," *UNESCO Bulletin for Libraries*, 12 : 4(1978) : 299.

individuals and groups of individuals than toward manipulation of their environment.<sup>17</sup>

### **b. Information**

Weisman defined information as:

knowledge, intelligence, facts or data that can be used, transferred or communicated. It may be derived from experience, observation, interaction and reading. It has several basic qualities, viz. existence, availability, language or recognizable representative and meaning.<sup>18</sup>

### **c. Information Needs**

Rawley and Turner defined information needs as any piece of information, recorded as well as unrecorded that a scholar may need (as distinct from want, demand and use) in connection with his study, teaching and research activities.<sup>19</sup>

### **d. Information gathering behaviour**

Ways and means used by scholars to collect information.

## **Information Sources**

Verbal or recorded information available to scholars that may be grouped under three categories:

a. Formal channels: Journal articles, reprints, handbooks, textbooks, reviews, conference proceedings, card catalogues, Selective Dissemination of Information (SDI) services, Current Awareness Service (CAS) audio-visual media, data bases, bulletin board system, e-mail, etc.

b. Informal channels: "Invisible College" private correspondence, local and foreign conferences, meetings and seminars.

c. Semi-formal channels: Unpublished reports and theses, draft manuscripts, unpublished conference presentations, suppliers' catalogues and trade magazines.

## **Research Instrument**

This study is to survey the information needs and gathering behaviour of selected medical doctors in Maiduguri to determine how often are library resources available to them.

A questionnaire was designed to fulfil the objectives of the research project. The variables in the current problem were identified considering information needs and information gathering behaviour separately. The main

17 *The New Encyclopaedia Britannica*, Vol. VI (London : Helen Hemingway Benton, 1977), p.746.

18 H. M. Weisman, *Information System Services Centres* (New York : Willey Press, 1972), p. 13.

19 J. E. Rawley, & C.D.N. Turner, *The Dissemination of Information* ( London : Andere Deutch, 1978), p.54.

research instrument adopted in this study was self-administered mailed questionnaire consisting of structured, open-ended as well as dichotomous questions. Data relating to information needs and information gathering behaviour which is the dependent variable, focused on sources and seeking behaviour. The questions provided a greater uniformity of responses, which were easily processed, analysed and tabulated.

### Results

Two hundred and twenty five copies of the questionnaire were sent to the following hospitals: University of Maiduguri Teaching Hospital (100); Government/ Specialist Hospitals (65) and Private Clinics/Hospitals (60). 150 were returned, yielding a response of 70.2% which was found to be adequate for analysis. Of the 158 questionnaires correctly completed, 128 were for males (81%) and 30 females (19.0%).

**Table 1 Distribution of Surveyed Medical Doctors**

(n = 158)

Work Place	Medical doctors	Respondents	%
University of Maiduguri Teaching Hospital	100	70	70.0
Government Hospitals	65	48	73.84
Private Hospitals/Clinics	60	40	66.66
Total	255	158	70.2

As shown in Table 1, medical doctors were randomly selected from the three main working environments, namely: The University of Maiduguri Teaching Hospital (UMTH), Government aided hospitals within the metropolis and some private clinics/hospitals. The response rates of the various groups have been indicated in relation to the workplace. The response rate shows that of the 100 medical doctors selected from UMTH, 70 returned their questionnaire. While 48 respondents returned their questionnaire out of the 65 medical doctors in the Government hospitals. Furthermore of the 60 medical doctors selected from private hospitals, 40 returned their surveys.

The respondents were requested to rank various information needs on scale 1 to 7, with 1 representing the highest level of information need. The results are listed in Table 2, in descending order of rank.

According to the respondents, 31.6% of the surveyed medical doctors stated that they need information on specific medical details most frequently, followed by 24.7% and 19.0% who need information on general medical topics and reference information respectively. The results reflected that the respondents needed information to enhance their knowledge about medicine,

its day-to-day application with the advent of modern technology via e-mail and internet facilities to keep up with current developments.

**Table 2 Information Needs of Selected Medical Doctors**

(n = 158)

Information Needs	Frequency	%
Specific medical information	50	31.6
General medical information	39	24.7
Reference information	30	19.0
Information for research and teaching	21	13.3
Preparation for publication	10	6.3
Information for furthering education	5	3.2
Recreational activities	3	1.9
Total	158	100

Although there are three categories of information sources, namely, formal, informal and semi-formal channels, the formal source as shown in Table 3, has shown more receptability to the Medical doctors in the survey.

Three major information channels, formal and semi-formal and informal were identified as available to medical doctors in Maiduguri. Predictably, 37.3% and 19.0% of them prefer the formal sources such as journals and book respectively, not minding their recency and up-to-dateness. This is followed by 17.8% of the respondents who sought information from technical reports such as the World Health Organisation (WHO) publication, presumably to update information or to do retrospective searches. Understandly, 9.5% of the respondents rank Online Computer Network due to its non-availability and prohibitive cost. The Medical Library of the University of Maiduguri does not have online capacity with any library in the country as of now.

**Table 3 Information Sources Consulted by Medical Doctors**

(n = 158)

Formal Sources	Frequency	%
Books	30	19.0
Journals	59	37.3
Magazines	2	1.2
Newspapers	12	7.6
Technical Reports	28	17.8
Conference Papers	7	4.4
CD-ROM	5	3.2
Online Computer Network	15	9.5
Total	158	100

Medical doctors who do not consult the library claimed that at the last

resort, they use informal sources which usually involved obtaining information from their colleagues during seminars and conferences both at local and international fora.

**Table 4 Medical Doctors Use and Non-use of Libraries in the Workplace**

(n = 158)

Location	Medical doctors use of libraries (%)	Medical doctors who do not use libraries (%)
UMTH (N = 70)	28(40.0)	42(60.0)
Private Hospitals (N = 40)	10(25.0)	30(75.0)
Government Hospitals (N = 48)	14(29.2)	34(70.8)

According to the responses as shown in Table 4, of the 67.1% of those respondents who do not use the library claimed that the resources are outdated, especially the journals. About 40.0% of the respondents was of the view that the books have outlived their usefulness as they are not keeping with modern trends in researches. Of particular worry to the medical doctors was the non-availability of Internet services, Websites and Audio-visual gadgets for information dissemination.

**Information Gathering Behaviour of Medical Doctors**

Medical doctors use a variety of widely different approaches to fulfill their information needs. The information gathering behaviour depends on the specific requirements of an individual scholar. This includes why a scholar seeks information in the first place and also how this information is acquired. Thus information seeking behaviour includes the purposes of seeking information, the means, tools, information sources, approaches and the library facilities used.

To collect data on the purposes for which medical doctors seek information, respondents were asked to rank the following five main purposes for which they seek information:

1. To keep up with current developments
2. To support research work
3. To develop competence
4. To develop educational materials; and
5. To carry out administrative tasks

Table 5 summaries the purpose for which medical doctors seek information. "To keep up with current development" was ranked first by all the respondents in the three categories of workplaces as indicated by 31.4% for UMTH, 37.5% and 37.5% for General Hospitals and Private Clinics respectively.

**Table 5 Purpose of Respondent for Seeking Information by Ranking and Category of Workplace**

(n = 158)

Purpose	UMTH	Govt. Hospitals	Private Clinics
	N = 70 Frequency (%)	N = 48 Frequency(%)	N = 40 Frequency (%)
To keep up with current developments	22(31.4)	18(37.5)	15(37.5)
To support research work	19(27.1)	8(16.6)	8(20.0)
To develop competence	15(21.4)	12(25.0)	10(25.0)
To develop educational materials	8(11.4)	3( 6.3)	2( 5.0)
To carry out administrative tasks	6( 8.6)	7(14.6)	5(12.5)
Total	70(100.0)	48(100.0)	40(100.0)

“To support research work” was next in order of priority with UMTH 27.1% perhaps due to the fact that they are engaged in teaching the clinical medical students, while their counterparts in the General Hospitals (16.6%) for third place and the Private Clinics 20.0% also in third position. “To develop competence” was place second by medical doctors in the Government and Private Hospitals with 25.0% each, while UMTH ranked this need as third with 24.4%. Both categories, in the Government and Private Clinics were unanimous in ranking “to develop educational materials” in the fifth place with 6.3% and 5.0% respectively while UMTH ranked this aspect fourth with 11.4%. Lowest priority was given to the purpose of “carrying out administrative tasks by UMTH with 8.6% which is understandably clear, since they are not involved in personnel matters as such. Both the Government and Private Hospital Medical Practitioners ranked this purpose with 14.6% and 12.5% respectively, because they are involved in various administrative duties. Mudannayeke in his study on Sri Lanka Agricultural Scientists, indicated that there was agreement on the importance of the purpose for seeking information among the various groups of scientists, with varying degrees.<sup>20</sup>

In Table 6, attempts were made to find out further facts on information sources and specifically on how medical doctors discover information needed for “keeping abreast of new developments” in their respective working places. At this stage, an attempt was made to determine which secondary sources the respondents depend on most to lead them to printed information. The results are shown in Table 6.

Publishers’ catalogues were ranked as the most important source of making respondents aware of new developments in their relevant field. Informal sources received the second position. This shows that medical practitioners

20 I. Mudannayeke, “Information Needs and Practices of Agricultural Scientists in Sri Lanka,” M.L.S. Thesis, University of Philippines, 1987, pp. 1-131.



to a certain degree to depend on private correspondence, informal discussions with peers and participation at seminars, lectures etc. References in journals were ranked third, while library catalogues came fourth. Browsing through bookshelves received the fifth position. This is due to non-availability of current awareness publications procured by libraries.

**Table 6 Current Awareness and Information Gathering by Respondent Medical Doctors**

(n = 158)

Current Awareness Tools	Frequency	Percentage
Acquisition list prepared by the library	9	5.7
Book Reviews	3	1.9
Browsing through book shelves	11	7.0
Bibliographies	2	1.3
Abstracting journals	5	3.1
Publisher's catalogues	44	27.8
References in journal articles	30	19.0
"Invincible College" (Informal sources)	39	24.7
Library catalogues	15	9.5
Total	158	100.0

This finding agrees with Edem who revealed that informal information gathering through the use of "invincible college" a way of obtaining information from colleagues to acquire latest information.<sup>21</sup> Other means of current awareness, such as acquisition list prepared by the library, book reviews and bibliographies, received low ratings.

In Table 7, an attempt was made to determine the extent of help obtained from assistants or librarians in looking for literature. 41.8% of the medical doctors carried out literature searches themselves. It is evident that the respondents are reluctant to seek for assistance in the process of literature searching. This is followed by 32.9 of the respondents who sought assistance from the librarians perhaps, where their expectations are either not met or they seek alternative sources of information to augment "failure" in the retrieval system. The study also revealed that 15.8% of the respondents delegating literature searching to their subordinates. This is attributed to their expectation of serendipitous findings. Likewise too, the study revealed low assistance through other sources with 9.5% where literature is sought from friends and colleagues abroad.

21 U. S. Edem, "Information needs and Information seeking behaviour patterns of Journalists in selected Nigerian cities," *Journal of Library and Information Science*, 19 : 2(1993) : 1-14.

**Table 7 Use of Assistance in Literature Searches by Respondents**

(n = 158)

Mode of Assistance	Frequency	Percentage
By Medical Doctors	66	41.8
By Research Assistants	25	15.8
By Librarians	52	32.9
Other means	15	9.5
Total	158	100.0

In Table 8, an attempt was made to collect data on the information sources of medical doctors and more specifically on how they learn of the information they finally use. Using Voigt method, an attempt was made to relate the approaches to information to the purpose for which it is sought and, finally, to determine which secondary sources medical doctors depend on most which lead them to printed information. Voigt has proposed that purposes for use of literature could be divided into three approaches; namely, current approach, everyday approach and exhaustive approach.<sup>22</sup>

**Table 8 Rank Order of Information Sources by Respondent**

(n = 158)

Type of Sources	Current Approach	Everyday Approach	Exhaustive Approach
<b>Formal Sources</b>			
Journals	1(72)(45.6%)	1(46)(29.1%)	1(37)(23.4%)
Abstract Journals	3(18)(11.4%)	4(21)(13.3%)	3(31)(19.6%)
Review Publication	4(15)( 9.5%)	5(15)( 9.5%)	3(25)(15.8%)
Current Awareness Publication	5(10)( 6.3%)	3(25)(15.8%)	5(15)( 9.5%)
Textbooks/monographs	2(27)(17.1%)	2(32)(20.3%)	4(20)(12.6%)
Reference materials	6( 7)( 4.4%)	6(10)( 6.3%)	6(12)( 7.6%)
Newspapers	7( 5)( 3.2%)	7( 7)( 4.4%)	7(10)( 6.3%)
Access to databases	8( 4)( 2.5%)	8( 2)( 1.3%)	8( 8)( 5.1%)
<b>Semi Formal Sources</b>			
Technical reports	2(55)(34.8%)	1(60)(38.0%)	1(64)(40.5%)
Theses	3(40)(25.3%)	3(48)(30.1%)	3(45)(28.5%)
Conference Papers	1(63)(39.9%)	2(50)(31.6%)	2(49)(31.0%)
<b>Informal Sources</b>			
Conversation with peers	3(30)(19.0%)	1(61)(38.6%)	3(38)(24.1%)
Symposia, meetings	2(39)(24.7%)	3(35)(22.2%)	1(54)(34.2%)
Lectures, Seminars	1(67)(42.4%)	2(42)(26.6%)	2(48)(30.4%)
Communication with peers	4(22)(13.9%)	4(20)(12.6%)	4(18)(11.3%)

22 M. J. Voigt, *Scientists Approach to Information*. AARL Monograph 24. (Chicago : American Library Association, 1961), pp. 20-33.

This section summarizes rank orders indicated by the respondent Medical doctors on the query on formal, semi-formal and informal information sources for three approaches. All the respondents ranked "Journals" first, indicating the importance of these sources to keep up with one's professional field. "Access to databases" were considered least important. This pattern is similar to the formal sources in the everyday and exhaustive approach. In the case of semi-formal sources, all three approaches indicated similar trends. As regards to the informal approaches, all three types of approaches indicate different patterns. However, here, "communication with peers abroad" received the lowest priority, where discussions with local peers and attendance at symposia and meetings were noted to be more important. In order to determine the most important source of information out of formal, semi-formal and informal approaches, the respondents were separately asked to select the most important one out of the three. Results show that approximately 98 percent of the respondents have indicated formal information source in the form of printed journals as the most useful source for them.

### **Conclusion**

The survey revealed that the greatest information need of Medical doctors is to keep up with current development in their chosen field. Results obtained in the study suggest that the respondent Medical doctors use informal and semi-informal sources to a lesser extent. The study also revealed that Medical doctors do not have the tendency to delegate information gathering to their subordinates. A notable observation made during this study was the behaviour of Medical doctors in seeking and gathering information where they spend a longer period of time at each visit to library. This is due to the non-availability of electronic media such as databases, both online and CD-ROM, Internet facility, etc.



