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The Effect of Medical Libraries on Medical Education: Evidence from Osun State, Nigeria

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Introduction

In health sciences librarianship, one of the key parametres for measuring the benefits from library service is the impact it has on improving patient care (Weightman & Williamson, 2005:4). Identifying the way to demonstrate this benefit to users, managers, and funding bodies is a challenge. Improving access to, and use of, training and research programmes has been one aspect of those programmes. Ogunbode (2005:15) states that, "every country should aim at improving the health of its citizens and plan to expand outreach annually." The World Health Organization (1987:28) reveals that nearly all developing countries are signatories to international declarations on the promotion of health care delivery.

Improving health communication by information managers calls for a variety of approaches, including:

- Improving access to health materials.
- Emphasis on readability and comprehension in these materials; e.g., journals, instruction guides, books, websites, etc., and
- The use of non-written materials such charts, diagrams, photographs, picture books, audio and videotapes, multimedia presentations, and so on (Weldon 2005:413).

Health literacy, as defined by Burnham and Peterson (2005:39), is, "the ability to obtain, read, comprehend, and use health information to make appropriate decisions." The development of appropriate and effective health communication has two main goals: to increase the role of information in the quality of health life and to eliminate disparities in health and health

information among people and groups (Alpi and Bibel 2006:275). The Library plays an important role in the dissemination of health information and the promotion of healthy lifestyles. Therefore, librarians should strive to meet the health needs of the community.

Ogunbode (2005:16) describes demographics as the key determinant of appropriate strategies for good health. Others are the health problem profiles and available resources (human and material, especially infrastructure, equipment, drugs, etc.). It is regrettable that a majority of the population of Nigeria (60-80%) live and work in villages and rural areas where there too few health professionals. Some rural dwellers rarely come in contact with any health professional.

For national health care to improve, health professionals must be encouraged to serve areas where the population is greatest and occurrence of diseases highest. Dervin (2005:47) supports Ogunbode's assertion that in order to reduce health disparities, it is vulnerable communities must be reached quickly. Libraries can reach out to these vulnerable communities by making heath information accessible at the point of need.

Objectives of Nigerian Medical Libraries

Federal and State University Teaching Hospitals in Nigeria were established to provide the best possible health care delivery to Nigerians in general and to those in its catchments areas in particular. Ogunbode (2005:4) indicates that the philosophy is simple: "to produce health professionals who are responsive to the needs of the community they serve." The objectives of the medical library are inevitably tied to the objectives of its parent institution. Roach and Addington (1975:58) as quoted by Garfield (1985:40) make it clear that, "Medical libraries are established to provide services and information resources to support and advance the mission to patient care, research and bio-medical education for health institutions." The library's position within an organization is therefore strategic and pivotal. It is key to the success and indeed to the very existence of an enterprise. Abels, Gogdil, and Zach (2002:227) state that in their research, "it is no over statement to say that whatever may be the future, the services of information provision will continue to be an essential instrument of human welfare." Likewise, Margetson (2002:78) recognizes the importance of dynamic access to information.

In the Nigerian health sector, there is an urgent improve library resources and managerial effectiveness. Medical libraries are established to meet health information needs. These cover a broad area of life. Medical information professionals must consider the role they play in society and their impact on that society. De Gennaro (1984:101) predicted correctly that, "there is the need to evaluate medical libraries, because in no distant time, the excellence and usefulness of a library will be measured not only by the state and quality of its collections, but also by the range of resources that its staff are able to deliver to users by conventional and electronic means from a growing variety of services. Users will no longer ask what the library has, but what it can provide."

Medical library roles are enumerated by Walzer, Stott, and Sutton (2000:262):

- Provision of current information to users in a quick and cost effective manner
- Provision of balanced perspective on medical issues
- Provision of alternatives to formal learning in form of material support for continuing medical education
- Provision of value services, which improves information delivery

- Dissemination of health information and promotion of healthy lifestyles
- Satisfying the health information needs of the community
- Locating and assisting in the development of relevant information or materials
- Pairing information outreach with other activities in which the populations already engaged e.g. workshops, conferences, community events etc and
- Integrating health information into ongoing programmes of the target population in the community, thereby empowering members of the health community

De Gennaro (1984:102) stresses the importance of assessment and evaluation. Lancaster (2001:307) distinguishes three levels of evaluation:

- Effectiveness;
- Cost effectiveness; and
- Costs benefit analysis.

He explains that effectiveness measures how well the library services satisfy the users. He believes that effectiveness can be measured with qualitative instruments such as questionnaires and interviews.

Research Objectives

- Socio-demographic status of users of medical libraries within the scope of study
- Degree of satisfaction offered by libraries to Patrons.
- Degree of satisfaction of users of the libraries.
- Influence of library use on health education
- Perceived Services Effectiveness (PSE) of library
- Perceived Information Source Quality (PISQ) of the library resources.

Literature Review

There is increasing pressure on health care professionals to ensure that their practice is based on evidence from good quality research. This pressure comes from various sources. Evidence-based health care encourages a questioning and reflective approach to clinical practice and emphasizes the importance of lifelong learning. Thus, good access to research-based evidence is necessary. Many governments are encouraging the development of evidence-based medicine because its advantages are understood, especially in terms of improved efficiency in the delivery of health care through the identification of effective treatment. Glanville, (1995:2111) as reported by Urquhart and Hepworth (2005:8), states that, "better-informed consumers will provide better initiative for clinicians in their research findings." He adds that, "physicians will need to access information on clinical effectiveness in order to improve the quality of care and to stay well informed on developments in specialty areas." Medical librarians and information professionals must reflect on the role those libraries play and the impact of such roles.

Braunstein (1988:48) describes the difficulty of measuring the productivity of libraries. Output measures such as circulation have been used as metrics, but libraries must be measured on their value, effectiveness, and efficiency. Calvert (1994:17) reports on a survey of public library effectiveness in New Zealand that, "libraries are viewed as social agents which must be responsive to the needs and wishes of various constituencies." In analyzing library effectiveness, it is necessary to determine not only what has been accomplished, but also what

should be accomplished. Calvert (1994:21) discusses a large number of service indicators that were grouped into broader service categories and used in measuring library effectiveness. Well-chosen measurements can demonstrate the value and impact of libraries to their communities, host organizations, and funding bodies (Nail 2006:237).

Methodology

A 24-item questionnaire was administered on 420 users. The questions were divided into Sections A, B, and C. Section A features data on demography, Section B looked into the information seeking behaviour of respondents while Section C was designed to test the relevance of recreational materials to medical education in Osun State.

Population

- Federal Ministry of Health Library
- National Library of Nigeria, Osun State Branch, Omo-West, Osogbo
- Osun State Public Library (Library Board), Opposite Fire Service, Oke-Fia, Osogbo
- Osun State College of Nursing and Midwifery, Asubiaro, Osogbo
- Ladoke Akintola Univeristy of Technology College of Health Sciences Library, Isale Osun, Osogbo
- Ladoke Akintola University of Technology (LAUTECH) Teaching Hospital Library, Osogbo

The instrument was administered on the sampled 420 users, out of which 400 were returned and found valid for analysis, giving a response rate of 95.2%. Appendix I contains a summary of the data. Summary of response rate is contained in Table II.

Results and Discussion

The discussion that follows in this section attempts to present and analyses the data collected from the questionnaire completed by the 400 respondents involved

Table II. Response Rate

NAME OF LIBRARY	NO. SAMPLED	NO. OF RESPONSES	PERCENTAGE OF RESPONSE
LAUTECH Teaching Hospital Library, Osogbo	100	96	96.0
LAUTECH College of Health Sciences Library	90	85	94.4
Osun State School of Nursing Library, Osogbo	60	58	96.7
Osun State Public Library, Osogbo	60	55	91.7
National Library of Nigeria, Osun State Branch	60	56	93.3
Federal Ministry of Health Library	50	50	100
TOTAL	420	400	95.2

Table III: Library Used by Respondents

Name	TYPE OF LIBRARY	YES: NUMBER AND %	NO: NUMBER AND %	NEUTRAL: NUMBER AND %	TOTAL	%
LAUTECH Teaching Hospital Library, Osogbo	Medical	234 (58.5)	139 (34.8)	27 (6.8)	400	100
LAUTECH College of Health Sciences Library	Medical	159 (39.8)	215 (53.8)	26 (6.5)	400	100
Osun State School of Nursing Library, Osogbo	Medical	239 (5.8)	351 (87.8)	26 (6.5)	400	100
*Federal Ministry of Health Library, Osogbo	Medical	17 (4.3)	356 (89.0)	32 (8.0)	400	100
* Osun State Library Board, Osogbo	Public	77 (19.3)	291 (72.8)	32 (8.0)	400	100
*National Library of Nigeria, Osun State Branch	National	37 (9.3)	324 (81.0)	39 (9.8)	400	100
*Other Libraries		165 (41.3)	138 (34.5)	97 (24.2)	400	100

**These libraries have a substantial collection of medical books and have some medical users*

Table III depicts the frequency of library use by the respondents. The table clerifies the reasons for unequal distribution of questionnaires to the different libraries. However, 58.5% of

those sampled prefer to use LAUTECH Teaching Hospital, Osogbo. The library is centrally-located and easy to get to for most respondents. This was evident when 165 (41.3%) chose that library for those reasons. This confirms Bennett's (2004:1) view on the importance of the library as place and the location of the library.

Demographic Data

Out of 400 responses, 227 (56.8%) were males, 168 (42.0%) females, and 5(1.3%) did not indicate. Forty (6.8%) graduates, 234 (58.5%) undergraduates, 75 (18.8%) with other qualifications, while 51 (12.8%) did not indicate their qualification. The ages of respondents ranged from 10 to more than 40 years. Thirty nine (9.8%) were between 10 and 20 years old, 285 (71.3%) between 20 and 30, and 8 (2.0%) were over 40. Eleven (2.8%) did not disclose their ages.

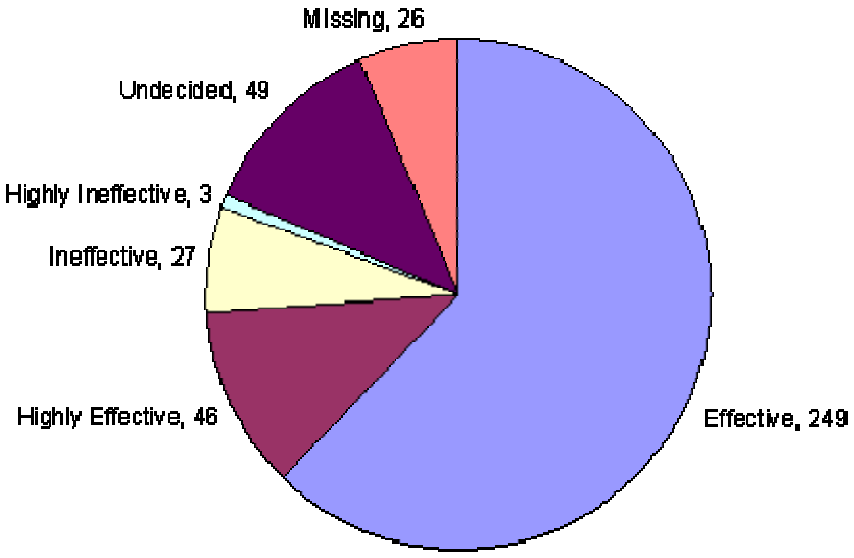

Figure I: Perceived Service Effectiveness (PSE) of the Library

Figure I shows the relative contribution of Perceived Service Effectiveness (PSE) as it affects medical education in Osun State. Two hundred and forty nine (62.3%) of the respondents agreed that PSE is effective, 19 (12.3%) were undecided. This corroborates Marshall 's (1992:170) report that 85% of the physicians surveyed agreed that the information provided by the librarian saved time, and 93% reported that they gained new knowledge, with resulting cost savings and improved patient care. Therefore, the Perceived Service Quality (PSE) of library services is good despite limited library resources.

Table IV: Reasons For Disparities In Library Use

Reasons	Yes	%	No	%	Undecided	%	Total	%
Lack of up-to-date Journal	284	71.0	74	18.5	42	10.5	400	100
Older edition books	203	50.8	91	22.8	106	26.5	400	100
Need for more space	227	56.8	61	15.3	112	28	400	100
Inadequate hours of operation	163	40.8	120	30.0	117	29.3	400	100
Distractions	157	39.3	197	49.3	46	11.4	400	100
Lack of air conditioner	271	67.1	90	22.5	39	9.8	400	100
Lack of generating plant	102	25.5	280	70.0	18	4.5	400	100
Lack of supportive materials, e.g., AV and ICT	106	26.5	280	70.0	14	3.5	400	100
Toilet facility	188	47.0	169	42.3	43	10.7	400	100
Lack of Internet access	274	68.5	79	19.7	47	11.8	400	100

Respondents have specific reasons for being dissatisfied available medical libraries. Two hundred and three (50.8%) complained that there are only older edition books, 163 (40.8%) wanted longer library hours, while 157 (39.3%) complained of distractions. The physical plant is also important, with 271 (67.1%) indicating a need for air conditioners, 102 (26.5%) complaining of lack of generating plant in case of a power outage, and 106 (25.5%) expressing the need for other supportive materials. However, 235 (58.8%) agreed that there were a good number of libraries with qualified personnel.

The finding is contrary to O'Reilly's (1982:774) assertion tha,t "quality of information had a great impact on information utilization for decision making which would reflect the outcome of the action taken in the field of medicine". This tremendous effort will help reduce health disparities, hence the importance of librarians reaching out into the community by making relevant health information accessible at the point of need. Therefore, the Perceived Information Source Quality (PISQ) of medical library services cannot be guaranteed as greater number of respondents, 192 (48.5%) seldom find the required materials in the libraries.

Table V: Factors in Choice of Recreational Materials' (Newspapers, Magazines And Other Media)

Factors	Yes	No	Not indicated	Total
Contains News Items	107 (26.7%}	197 (49.3%)	96 (24.0%)	400 (100%)
Political News	160 (40.0%)	143 (35.8%)	97 (24.2%)	400 (100%)
General Information	77 (19.3%)	224 (56.0%)	99 (24.7%)	400 (100%)
Entertainment	160 (40.0%)	143 (35.8%)	94 (24.2%)	400 (100%)
Leisure	110 (27.5%)	96 (24.0%)	194 (48.5%)	400 (100%)
Health Information	26 (6.5%)	271 (67.7%)	103 (25.8%)	400 (100%)
Sports	31 (7.8%)	265 (66.2%)	104 (26.0%)	400 (100%)
Others	24 (6.0%)	265 (66.2%)	111 (27.8%)	400 (100%)

Table V seeks to find out the level of interaction between the uses of recreational materials in medical education. The survey found that there are no direct relationships between studying medicine and use of recreational materials as the table above presented an unimpressive picture. Only 26 (6.5%) of the respondents indicated their use of recreational materials to support their education. One hundred and seven (26.7%) listen to news and other information from the Television and Radio, 160 (40.0%) read political news from newspapers and magazines, 77 (19.3%) uses print media to obtain general information. Thirty one (7.7%) of the respondents seek for sport news while 24 (6.0%) use recreational materials for some other purposes.

The result of the above inquiry on the non-use of recreational materials show that very many users are ignorant of the power in the use of serial collection of tools for research whereas, newspapers it has been asserted by Akewukereke (2005:57) that newspapers have a great influence on education generally in the vicinity. She found out from a research work that; inherent in newspaper and magazine articles are advantages of availability, relative cheapness and currency of information. Also, the information is readable by individuals with varying reading abilities and interest as and when they like; and most of these serial collections are primarily sources of information on al subject medicine inclusive.

Table VI: Preferred Sources of Recreational Materials

Source of information	Yes Number and Percentage	No Number and Percentage	Undecided Number and Percentage	Total Number and Percentage
Guardian	96 (24.0)	106 (26.5)	19.8 (49.5)	400 (100)
Sun	32 (8.0)	289 (72.3)	79 (19.7)	400 (100)
This Day	147 (36.8)	171 (42.7)	82 (20.5)	400 (100)
Tribune	79 (19.8)	239 (59.7)	82 (20.5)	400 (100)
Comet	7 (1.8)	311 (77.7)	82 (20.5)	400 (100)
Punch	233 (58.2)	120 (30.0)	47 (11.8)	400 (100)
Others	58 (13.3)	256 (64.0)	91 (22.7)	400 (100)

Table VI revealed that 96 (24.0%) indicated their interest in Guardian Newspapers, 32 (8.0%) were in support of the Sun with 147 (36.8%) chose This Day Newspaper. Also, 79 (19.8%) prefer Tribune to Comet as only 71(.8%) indicated their interest in the latter. The research reported two hundred and thirty three (58.2%) of the respondents having interest in Punch Newspapers.

The table as seen above X-rayed the preferred sources of recreational materials according to responses gathered from respondents, it is glaring that there are diverse areas of interest by the response received. It may be difficult for an individual library to gather all the papers to satisfy users. However, cooperative acquisition and inter library cooperation can be the solution. This will further strengthen the relationship that exists among the medical libraries.

The study also sought to find out whether there is any significant association between the ages of the respondents and adequacy library materials. The result revealed a significant association.

Table VII: Relationship Between Age and Adequacy of Library materials

Age Bracket	Enough Yes	Enough No	X	Total Number	P Value	Remark
10 - 20 years	13 (36.1%)	23 (63.9%)	22.911	36 (100)	0.001	Very Sig.
21 - 30 Years	40 (14.7%)	233 (85.3%)		273 (100%)		
31 - 40 Years	18 (34.0%)	35 (66.0%)		53 (100%)		
41 years & above	4 (51.1%)	3 (42.9%)		7 (100%)		
Total	75 (20.3%)	294 (79.7%)		369 (100%)		

X2 = 22.911, P = 0.001 Very Significant Value

The opinion of people within the age group of 21 - 30 signified less availability of materials as compared with people within ages 31 - 40 and 41 and above who constituted the highest number within the study group.

The assumption that there is a significant association between ages of respondents and adequacy of educational materials in the various reading centres had a significant association. The result as found showed a significant relationship as two hundred and ninety four (79.7%) were dissatisfied with the available library materials in meeting their medical educational needs. It was also found that 74.0% of users who are between ages 21 - 30 years form the greater number of unsatisfied users. Correspondingly, this category of users constituted the greatest percentage of the study group. The Chi-Square value obtained was 22.911 at P > 0.05 level of significance.

Therefore, the results revealed a significant association between ages of respondents and whether there were enough educational resources at the information centres under review.

Summary of User Expectations

1. Increased Information and Communication Technology (ICT)
2. Improvements in facilities and equipment
3. Centralization of the library to give equal opportunity to all users
4. Recognition by the parent organization of the needs of health science libraries for up-to-date resources
5. Recruitment of qualified personnel
6. Involvement of Patrons in the planning and implementation of some Library programmes so as to facilitate awareness and promote service effectiveness

Summary of Findings

- All health care decision makers must know how to filter research for quality and how to appraise evidence from research;
- Extensive information on channel effectiveness is already available and computer-based systems that will present clinicians with evidence when they need it are being developed.
- Good library and information support is being made available to doctors and other health workers to enable them make a positive impact on clinical decision-making;
- Information alone is often not sufficient to encourage changes in practice;

- A national dissemination strategy for important research messages combined with local support mechanisms may increase changes in practices; and
- For information to be accessible, it must be packaged and published in formats that promote easy identification and encourage users.

Conclusion

Medical libraries can play a critical role in medical education and provide a balanced perspective on medical issues. In addition, a variety of services have been developed to improve information delivery. Information providers are convinced that medical libraries are useful; however, this is not enough. The value of our activities must be demonstrated regularly, using both qualitative and quantitative information. We must take our basic statistics and turn them into performance metrics, and then we must share that data. Well chosen metrics can demonstrate the amazing value and impact of libraries in their communities. All stakeholders must help ensure that we communicate this impact and value. Finally, we must share our stories and allow our users to share their stories too.

Libraries play essential non-partisan roles in providing information that allows users to make informed decisions. Better-informed consumers may provide another incentive for clinicians to be more aware of research findings. Consumers need access to information on clinical effectiveness in order to improve the quality of care and to stay well-informed on developments in specialist areas. We must examine the resources that are already available to clinicians, strategies for finding and filtering information, and the ways of improving dissemination. This will prove that libraries can make a difference in transforming lives

Recommendations

- Medical libraries must define their user communities, understand what they value, and develop library collections and services to meet these varying needs and demands
- The challenge of assessing use and usability of medical collections and services must be taken seriously
- Information providers must learn how to demonstrate and communicate the value of their services
- Librarians should seek partnerships with community health centres, non private organizations, academic institutions, other libraries, etc.
- Qualified health science librarians, aided by modern information technology, must provide a broader range of information and help locate needed information more quickly
- Libraries must reach out with health information to vulnerable people
- The Medical Library Association must play a strong role in supporting appropriate funding for medical libraries.

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Appendix I. Summary of Data

Name	Federal Ministry of Health Library, Osogbo	National Library of Nigeria, Osun State Branch	Osun State Library Board	LAUTECH College of Health Sciences, Isale, Osun	LAUTECH Teaching Hospital Library, Osogbo	Osun State School of Nursing and Midwifery Library, Asubiaro
Users	415	340	490	516	582	380
Hours	8-6	9-7	8-6	8-6; Sat. 8-2	8-6; Sat. 8-2	8-6
Services	Medical and Health Administration	National	Public Library	Medical	Medical	Medical
Clientele	Medical and Health Administration	General Public	General Public	Medical and Non-Medical		Medical and para-Medical
Staff, Prof	NA	4	15	6	3	0
Staff, Clerical	1	8	12	14	7	1
Collections:						
Journals	Few	Few	Few	Few	Few	0
Reference	48	801	5,260	615	231	59
Books	538	4,350	48,600	2,850	1,500	660
Serials	Small	Medium	Large and recent	Large	Medium	Small
IT	1 computer	1 computer	18 Computers	2 Computers, Photocopier, and Internet Facility	2 computers	1 computer
Adequacy of facilities and equipment	Inadequate	Inadequate	Adequate	Very adequate	Somewhat inadequate	Inadequate
Remarks	Restricted to medical researchers only; inadequate resources	The Library is relatively new and accommodated in a rented apartment	inadequate library services to local government areas.	Library not centralized	Inadequate collections	No professional staff to man the library

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Increasing evidence also shows that school sanitation and hygiene education programmes offer high cost benefit (Danida, 2007). Unfortunately, the promises of school health and hygiene education programmes have not always been fulfilled by either the government or stakeholders in education especially in the rural communities.Â 3. What are the effects of sanitation practices on studentâ€™s health? 4. To what extent have the school management contributed in providing facilities that will enhance sanitation practices?Â Health: a state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity. Organization: A social unit of people that is structured and managed to meet a need or to pursue collective goals. Medical science is one of the most scientifically progressive fields. Over the years, breakthroughs in medical science have either created an alternative to dangerous or ineffective procedures or have found new solutions to historic challenges. Technology has played a significant role in many of these medical changes. Today we will look back on the inventions that revolutionized medical science. 1. Medical thermometer. Source: Pixabay. Thermometers are so ubiquitous today, yet we are not exactly sure who invented the device. We also provide some evidence for negative health effects of nearby oil spills on surviving children. Keywords: oil spills, Nigeria, infant mortality, child health. JEL Classification: I100, I180, J130, Q530. Suggested Citation: Suggested Citation. Bruederle, Anna and Hodler, Roland, The Effect of Oil Spills on Infant Mortality: Evidence from Nigeria (September 14, 2017).Â Medical Anthropology eJournal. Subscribe to this fee journal for more curated articles on this topic. FOLLOWERS.Â If you need immediate assistance, call 877-SSRNHelp (877 777 6435) in the United States, or +1 212 448 2500 outside of the United States, 8:30AM to 6:00PM U.S. Eastern, Monday - Friday. Submit a Paper. Section 508 Text Only Pages. Best Evidence Medical Education (BEME) is defined as: â€œThe implementation by teachers and educational bodies in their practice, of methods and approaches to education based on the best evidence available.â€ Five steps have been recognized in the practice of BEME. These are: framing the question, developing a search strategy, evaluating the evidence, implementing change and evaluating that change.Â 21. The effects of audie nce response syst ems on learning outc omes in health prof essions educat ion. 22. Features of educati onal intervent ions that lead to com pliance with hand hygiene in heal thcare professio nals within a hospi tal care set ting. 23.