

University of Nebraska - Lincoln

DigitalCommons@University of Nebraska - Lincoln

Library Philosophy and Practice (e-journal)

Libraries at University of Nebraska-Lincoln

June 2010

A Survey of Medical College Libraries in Andhra Pradesh, India

Dr. P. Srinivasulu

Sri Venkateswara University, sinulissvu@yahoo.co.in

Dr. V. Pulla Reddy

pullareddyv@gmail.com

Follow this and additional works at: <https://digitalcommons.unl.edu/libphilprac>



Part of the [Library and Information Science Commons](#)

Srinivasulu, Dr. P. and Reddy, Dr. V. Pulla, "A Survey of Medical College Libraries in Andhra Pradesh, India" (2010). *Library Philosophy and Practice (e-journal)*. 391.

<https://digitalcommons.unl.edu/libphilprac/391>

A Survey of Medical College Libraries in Andhra Pradesh, India

Dr. P. Srinivasulu

Former Research Scholar
Dept. of Library and Information Science
Sri Venkateswara University
Tirupati - 517 502, A.P., India.

Dr. V. Pulla Reddy

Professor
Dept. of Library and Information Science
Sri Venkateswara University
Tirupati - 517 502, A.P., India

Introduction

Although India has been an independent nation for more than 60 years, professional education in health sciences remains a problem for achieving the cherished goal of the government, "Health for All." Health is the basic need of every individual. It is fundamental to national progress in any sphere. In terms of resources for economic development, nothing can be considered of higher importance than the health of the people. Even the ancient proverb "Health is Wealth" confirms this fact.

An individual or a person can be said to possess good health when he is physically, mentally, and spiritually sound. The ancient proverb "A Sound Mind in a Sound Body" reinforces this. Life is not worth living until we are physically and mentally sound. Hence, an efficient health care system is a must.

Excellent medical colleges are essential to prepare doctors with good knowledge and skills. Teachers, laboratories, and libraries are important components in providing effective medical education.

The main purpose of medical libraries is to support medical education, including teaching, research and patient-care. Just as a healthy brain is essential for a healthy human being, a healthy library is an asset for promotion and advancement of health sciences in a health institution.

The objective of a health science library is to assist medical professionals in enhancing and updating their knowledge and skills, and to provide them information regarding new innovations, views, theories and latest treatment for better patient-care, medical education, and research. The primary role of a medical library is to collect and organize recorded information in medicine and allied subjects to meet the clientele's needs.

In medical libraries, the latest technologies are increasingly used to collect, store, retrieve and disseminate a great amount of information to help medical professionals in their day-to-day education, research, and clinical practices. The medical websites and databases developed by medical institutions, associations, agencies, and publishers provide the latest information. In a developing country like India,

medical professionals are quite aware of the new technologies used by their counterparts in the developed nations.

In Andhra Pradesh, there are 32 medical college libraries. A survey was conducted to examine the present conditions of these libraries, to assess the extent of meeting the information requirements of users and to identify the drawbacks in the provision of services so that the suggestions can be made to improve these services. A brief report of the survey has been presented in the following paragraphs.

Objectives

The following are the specific objectives of the survey:

- To examine the working hours of the library, functioning of the library committee, and to know the type of access system followed in the library;
- To examine the qualifications and pay scales of the librarians of medical college libraries in Andhra Pradesh;
- To study the acquisition procedure for books and periodicals and technical processing in medical college libraries;
- To know the procedure for lending documents in medical college libraries;
- To examine the financial resources, staff strength, physical facilities, and services of these libraries;
- To examine the use of information technology in medical college libraries;
- To know the differences, if any, between the libraries of government and private medical colleges relating to the different aspects of libraries;
- To evaluate the medical college libraries with regard to books, periodicals, and staff on the basis of the standards and guidelines prescribed by Medical Council of India (MCI);
- To know the users' opinions towards library services and facilities;
- To assess the awareness of users on computerized medical databases and open access to electronic journals;
- To assess the level of satisfaction of users with regard to adequacy of multiple copies for prescribed books and latest editions in medical college libraries;
- To know the differences, if any, in the level of satisfaction between the various user groups, namely, undergraduate (UG) and postgraduate (PG) users and male and female users with regard to information resources, services and facilities provided by medical college libraries; and
- To suggest measures for improving the quality of resources and services of medical college libraries.

Methodology

This survey uses a questionnaire. Two sets of questionnaires were designed for collection of data. One is intended for the medical college librarians and the other for medical college library users (UG and PG students).

Sample selection

There are 32 medical (Allopathy) college libraries in the study area. Among them, 11 are government colleges and 21 are private colleges. The investigator selected 22 medical college libraries out of 32 by simple random method to examine the present condition of these libraries.

There are 15,998 and 2,229 students studying UG (MBBS) and PG courses respectively in these 22 colleges. The investigator selected 388 UG (MBBS) students (2.4 percent of the population) and 138 PG students (6.2 percent of the population) using stratified random sampling method to know their views.

Data Collection

The questionnaire intended for the librarians was distributed to 22 librarians, to determine the present condition of their libraries. It consists of questions on physical facilities, library staff, library holdings, acquisition, technical processing, circulation, library services, stock verification, budget, library automation, and networking. The second questionnaire intended for medical students was distributed to 526 UG and PG students of medical colleges to obtain their views on the library facilities and services. It consists of questions on frequency of visit to library, library schedule, library collection, circulation, arrangement and maintenance, physical facilities, technical services, reference, CAS and SDI services, inter-library loan, availability of multiple copies and latest editions of books, reprographic service, and computerized services. The data were collected from 05-10-2005 to 10-02-2006.

Data Analysis

The data have been analyzed and interpreted according to the objectives of the study. Descriptive and inferential statistics were used in the analysis of data.

Findings

Basing on the analysis of the data collected, the following conclusions have been drawn with regard to medical college libraries and their users:

Medical College Libraries

Library personnel

- Most of the librarians (59.09 percent) have PG with BLISc/MLISc Degree.
- Most of the librarians (63.64 percent) have got training in computer applications.
- The majority of the librarians (64.55 percent) have 10 years or less than 10 years of experience.
- The majority of the librarians (54.55 percent) are getting consolidated pay and the remaining i.e., 45.45 percent of them are getting State Government/UGC scale of pay.
- The majority of the librarians (59.09 percent) felt that the staff members working in their libraries are not adequate to run the library effectively.

Location, working hours and access system

- Most of the medical colleges (77.27 percent) are situated in towns.
- One third of medical libraries (36.36 percent) follow the open access system. Thirty one point eight two per cent of the libraries follow closed access system and the remaining of them (31.82 percent) follow both the systems.
- Most of the government medical college librarians replied that their libraries work from 9.00 a.m. to 9.00 p.m. on working days.

Departmental libraries and library committee

- Most of the colleges (95.45 percent) have departmental libraries.
- Most of the libraries (95.45 percent) have library committees.
- Most of the library committees (15) are advisory in nature.

Library physical facilities

- Most of the colleges (54.55 percent) have no separate building for the library.
- Most of the libraries (59.09 percent) are not air-conditioned.
- Most of the librarians (90.91 percent) are satisfied with the present ventilation and lighting system in their libraries.
- The majority of the libraries (95.45 percent) possess adequate furniture and equipment.

Library collection

- Most of the medical college libraries (77.27 percent) have more than 10,000 books.
- Half of the medical college libraries (50 percent) subscribe to 51 or more than 51 Indian print journals.
- Half of the medical college libraries (50 percent) subscribe to 26-50 foreign print journals.
- Most of the medical college libraries (72.73 percent) did not subscribe to Indian and foreign periodicals as per the norms of Medical Council of India (MCI).
- The majority of the libraries (86.36 percent) are not subscribing to Indian on-line journals.
- The majority of the libraries (81.82 percent) are not subscribing to foreign on-line journals.
- All the libraries are acquiring books by inviting quotations from publishers and book sellers concerned.
- Most of the libraries (72.73 percent) are subscribing to periodicals through agents.
- Most of the libraries (86.36 percent) have non-book materials.

Technical processing

- The majority of the libraries (90.91 percent) are classifying books.
- Almost all the libraries (95.45 percent) are using Dewey Decimal Classification scheme for classification of documents.
- Most of the libraries (95.45 percent) opined that Dewey Decimal Classification scheme is more suitable for classifying the medical books.
- The majority of the libraries (90.91 percent) are cataloguing books.
- Most of the libraries (90 percent) are using AACR 2 for cataloguing books.
- The majority of the libraries (59.09 percent) are using card catalogue.

Circulation

- Almost all the libraries (95.45 percent) are issuing books and periodicals to the users for consultation and for home reading.
- Most of the libraries (86.36 percent) are collecting overdue charges from their users for not returning the books within the due date.
- The majority of the libraries (81.82 percent) are using Ledger System for issue and return of books.

Library services

- All the medical college libraries are providing reference and information services.
- The majority of the libraries (81.82 percent) are not providing inter-library loan service.
- The majority of the libraries (63.64 percent) are not providing bibliographic service.
- Most of the libraries (77.27 percent) are providing CAS/SDI services.
- Most of the libraries (90.91 percent) are not providing indexing/abstracting services.
- The majority of the libraries (63.64 percent) are providing access to MEDLINE to their users.

- The majority of the libraries (86.36 percent) are not providing referral service.
- Most of the libraries (72.73 percent) are providing Internet service.
- The majority of the libraries (63.64 percent) are not providing newspaper clipping service.
- The majority of the libraries (77.27 percent) are not providing book reservation facility to their users.
- Almost all the libraries (95.45 percent) are conducting orientation programmes to freshers.

Stock verification

- The majority of the libraries (63.64 percent) are carrying out stock verification annually.
- Most of the libraries (86.36 percent) are using Accession Register for stock verification of books.

Budget

- All the government medical college libraries are receiving budget from Government of Andhra Pradesh and all private medical college libraries are receiving budget from their college managements.

Library automation and networking

- The majority of the libraries (81.82 percent) are not automated.
- The majority of the libraries (54.55 percent) have access to Andhra Pradesh Wide Area Network (APSWAN).
- All the medical college libraries are interested in becoming members of Medical Information Networks such as HELINET of Rajiv Gandhi University of Health Sciences, Karnataka and HELLIS of WHO.
- Most of the librarians (77.27 percent) answered that they are aware of the advantages of library consortia.

Medical college library users

The following conclusions are drawn on medical college library users:

- Most of the respondents (64.64 percent) visit the library regularly.
- The majority of the respondents (64.26 percent) spend two hours and less than three hours a day in the library.
- Most of them (60.08 percent) visit the library to consult current periodicals only.
- The majority of the respondents (65.02 percent) have come to know the current publications in medical field through the teachers.

Library schedule

- Most of them (51.71 percent) are satisfied with the present library working hours.
- Most of the respondents (76.47 percent) expressed the view that the library should work on holidays.

Library collection

- Most of them (72.24 percent) are satisfied with the adequacy of book collection in their libraries. A considerable percentage of users (20.15 percent) are dissatisfied.
- The majority of them (44.49 percent) are satisfied with the adequacy of periodical collection.

- Most of them (60.84 percent) are satisfied with the adequacy of reference books. A considerable percentage of users (23.19 percent) are dissatisfied.
- The majority of the respondents (65.02 percent) are dissatisfied with the abstracts/indexes available in the libraries.
- A significant percentage of respondents (38.40 percent) are dissatisfied with the newspapers subscribed.
- Most of the students are dissatisfied with seminar/conference proceedings (69.20 percent), dissertations/theses/project reports (65.39 percent), patents/standards (70.72 percent), and audio-visual materials (54.75 percent), and the number of magazines subscribed (49.43 percent).

Circulation

- The majority of the respondents (40.69 percent) are satisfied with the book lending service of their libraries.
- The majority of the respondents (39.16 percent) are satisfied with regard to the number of borrower tickets issued to them.
- The majority of the respondents (40.69 percent) are dissatisfied with regard to the loan period allowed by the library.

Arrangement and maintenance

- Most of the respondents (76.05 percent) are satisfied with regard to arrangement and maintenance of books in the library; but a considerable percentage of users (23.95 percent) are dissatisfied.
- Most of them (60.08 percent) are satisfied with regard to efficiency and pleasing behaviour of the staff members in the library.

Physical facilities

- Most of the respondents are satisfied with regard to accommodation (71.86 percent), library furniture (71.48 percent), ventilation and lighting (73 percent), and toilets (65.40 percent).
- However, the majority of them (67.30 percent) are dissatisfied with non- air-conditioning of libraries.

Use of library catalogue

- Most of the users (78.14 percent) replied that they had not used the library catalogue/OPAC to locate books.

Reference, CAS and SDI services

- Most (50.57 percent) replied that their libraries provide reference service.
- The majority (52.09 percent) replied that their libraries had not provided Current Awareness Service (CAS).
- Most of the users (70.34 percent) expressed the view that they had no idea about Selective Dissemination of Information (SDI) service.

Inter-Library loan and book reservation

- The majority of them (54.37 percent) replied that their libraries did not get books on inter-library loan.

- Most of them (84.42 percent) replied that their libraries had not provided the reservation of book facility.

Multiple copies and Latest editions

- The majority of them (46.39 percent) are satisfied with regard to the multiple copies of books available in the library.
- The majority of the respondents (41.06 percent) are satisfied with regard to latest editions of books available in the library.

Reprographic service

- Most (52.09 percent) to their satisfaction replied that their libraries provide them reprographic service.

Computerized services

- Almost all the respondents (96.20 percent) replied that computerization of the various operations of the libraries is necessary.
- Most users (62.36 percent) replied that their libraries have Internet facility.
- Most replied that they are aware of Index Medicus (60.65 percent), MEDLINE (85.55 percent), PubMed (66.54 percent), and Web Portals (54.94 percent).
- Most (79.09 percent) stated that they have knowledge in using computers.
- Almost all the respondents (97.72 percent) felt that the networking of medical college libraries is necessary.
- Most (92.40 percent) replied that their colleges did not have digital library.
- Most users (80.61 percent) replied that they were not aware of open access electronic journals.

Overall satisfaction

- The majority (56.27 percent) are satisfied with the overall services and facilities in the library.

Recommendations

The following are the recommendations made by the investigators on the basis of analysis of the data, and suggestions from both the medical college librarians and users of medical college libraries.

Training in computer applications

The study shows that 36.36 percent of librarians do not have training in computer applications. As it is necessary to computerize the medical college libraries, training in computer applications is essential. Hence, the librarians should be given training in computer applications.

Pay scales of the librarians

The majority of the private medical college librarians (55.55 percent) are getting consolidated pay. Hence, the Government of Andhra Pradesh and Medical Council of India should take necessary steps for providing them UGC/State Government scales to librarians working in private medical college libraries so that they can serve the users with more devotion.

Access system followed

In the open access system, the users have the freedom to choose the books they like. The collection is well used in the open access system. The present study reveals that nearly one third of the medical college libraries are following closed access system and 31.82 percent of them are following open access and closed access systems. Hence, the authorities concerned should take necessary steps to follow open access system by the libraries.

Library committee

A few medical college libraries (4.55 percent) do not have library committees. Hence, the authorities of these colleges should constitute library committees for smooth functioning.

Library staff

Most of the librarians (59.09 percent) felt that the staff members working in their libraries are not sufficient to run the library effectively. The minimum staff members as per the norms of Medical Council of India in the library should be 12 members including professionals and non-professionals. The average number of staff working in medical college libraries at present is 10.95 members. The average number of professional staff members working in medical college libraries at present is 4.2 members. As per the norms of Medical Council of India, it should be 8 members. Hence, the Government of Andhra Pradesh and Medical Council of India should take necessary steps to appoint more library staff members as per the norms of Medical Council of India.

Library collection

As per the norms of MCI, each medical college library should have not less than 10,000 text and reference books. The study reveals that five private medical college libraries (22.73 percent of total libraries) have books less than 10,000. Hence, the managements of these colleges should take necessary steps to improve the book collection as per the norms of Medical Council of India.

As per the norms of Medical Council of India, the number of journals in each library shall be 100, out of which one-third shall be foreign journals subscribed on continuous basis. The study reveals that most of the medical college libraries (72.73 percent) did not subscribe to periodicals as per the norms of MCI. Hence, the Government of Andhra Pradesh and Medical Council of India should insist on medical colleges subscribing to the journals as per the norms of MCI so that the users can get latest information in medicine.

At present most of the libraries are not subscribing to Indian e-journals (86.36 percent) and foreign e-journals (81.82 percent). Hence, the necessary steps should be taken by the medical college libraries to shift gradually from print to e-journals to reduce the expenditure on the subscription of periodicals.

Library services

The majority of the medical college libraries are not providing inter-library loan service (81.12 percent), bibliographic service (63.63 percent), indexing and abstracting services (90.91 percent), referral service (86.36 percent), newspaper clipping service and book reservation facility (77.27 percent). A considerable percentage of libraries are not providing access to MEDLINE (36.36 percent) and CAS/SDI services (22.73 percent). The study also reveals that the majority of the respondents (54.34 percent) replied that their libraries do not get books on inter-library loan. Most of them (84.42 percent) also expressed that their libraries do not provide the reservation of book facility. Hence, the authorities

concerned of these libraries should take necessary steps to provide these services for the benefit of users after the feasibility study.

The study also reveals that nearly half of the students (47.91 percent) replied that their libraries are not providing reprographic service. They also informed that this service is essential in their libraries. The study also reveals that 13.64 percent of libraries are not providing this service. As per the requirements of the MCI, there shall be provision for one room for copying facility. Hence, the authorities should take necessary steps to provide this service to users by themselves or by private agencies. The study also reveals that 27.27 percent of libraries are not providing Internet service to their users. It also reveals that considerable percentage of students (37.64 percent) are dissatisfied with regard to Internet facility. Hence, the authorities should take necessary steps to provide Internet facility with adequate number of computer systems with high speed access.

Most of the users (70.34 percent) stated that they have no idea about SDI service. The survey reveals that significant percentage of respondents (45.06 percent) are not aware of Web Portals, Index Medicus (39.35 percent), PubMed (33.46 percent) and MEDLINE (14.55 percent). Hence, the library authorities should take appropriate steps to create awareness among the users about the importance of these services through user education programmes, namely, lecture method, library tour, audio-visual method and printed booklet.

Stock verification

A considerable percentage of libraries (36.36 percent) are not carrying out stock verification annually. Hence, the necessary steps should be undertaken to carry out stock verification annually in medical college libraries.

Library automation

It is necessary to computerize the various operations in the library for retrieving information accurately and speedily. Most of the medical students (96.20 percent) felt that it is necessary to computerize the various operations of the library. The study reveals that most of the medical college libraries (81.82 percent) are not automated. The survey also indicates that a considerable percentage of librarians (36.36 percent) do not have training in computer applications. Hence, the authorities concerned, in both government and private medical colleges, should take the necessary steps to provide training to the library staff in library automation. They should also take necessary steps to provide training in the use of library software packages such as SOUL and LIBSYS etc. It would be better if all medical college libraries use one software package for uniformity and networking of libraries. The library staff members should be deputed to attend refresher courses, workshops, seminars and conferences relating to computer applications in libraries. Hence, the college authorities should take initiative to computerize the various operations in their libraries. Government of Andhra Pradesh and Medical Council of India also should insist that the college authorities should computerize their libraries for quick retrieval of information at the time of inspection.

Access to APSWAN

The study reveals that a considerable percentage of libraries (45.45 percent) do not have access to Andhra Pradesh Wide Area Network (APSWAN). Hence, access to APSWAN is to be provided to these libraries.

Library consortia

A few librarians (22.73 percent) are not aware of the advantages of library consortia. Hence, they should be informed about the advantages of library consortia. The Government of Andhra Pradesh should

take necessary steps to establish medical college libraries consortia for better use of resources among themselves.

Library schedule

The study reveals that 48.29 percent of users are not satisfied with the working hours of the library. Among them 26.61 percent of them suggested that the libraries should work from 9.00 AM to 12 midnight and the remaining 21.67 percent of them are suggested that the library should work round the clock. Hence, the authorities concerned should take necessary steps to extend the library hours from 9 A.M. to 12 midnight if feasible.

Library collection

The study reveals that a considerable percentage of the users (23.15 percent) are dissatisfied with regard to reference books. More than one third of the users are dissatisfied with the Internet facility (37.64 percent), newspapers (38.4 percent) and magazines (49.43 percent) subscribed. More than half of the users are dissatisfied with periodical collection (55.51 percent) and audio-visual materials (54.75 percent). Majority of them are dissatisfied with abstracts/indexes (65.02 percent), dissertations/ theses/ project reports (65.39 percent), seminar/ conference proceedings (69.20 percent) and patents/standards (70.72 percent). Hence the authorities concerned should take necessary steps to develop the present collection of different types of reading materials as mentioned above with which the uses are dissatisfied.

Book lending service

A significant percentage of respondents (40.68 percent) are dissatisfied with regard to the loan period allowed by the library. Hence, the authorities should take steps to extend the loan period. A few libraries (4.55 percent) are not issuing books and periodicals to the users for home reading. The study also reveals a considerable percentage of medical students (37.45 percent) are neither satisfied nor dissatisfied and 21.86 percent of them are dissatisfied with regard to book lending service. To increase the use of library collection, provision should be made in these libraries for lending of books. A considerable percentage of students (27.57 percent) are dissatisfied with regard to number of borrower tickets issued to them. Hence, the authorities concerned in these libraries should take necessary steps to increase the borrower tickets issued.

Arrangement and maintenance

A significant percentage of users (23.95 percent) replied that they are dissatisfied with arrangement and maintenance of books. Hence, the authorities concerned should take the necessary measures to improve the arrangement and maintenance of books on the shelves.

Physical facilities

Good physical facilities in libraries help use the library collection to the maximum extent. The study reveals that 45.45 percent of libraries do not have independent buildings. It also reveals that 16.73 percent of medical students are neither satisfied nor dissatisfied with regard to adequate accommodation in their libraries. It also reveals that 11.41 percent of them are dissatisfied in this regard. As per the Medical Council of India, "There shall be a central library (1200 sq.m.) with seating arrangements for at least 150 students for reading and good lighting and ventilation and space for stacking and display of books and journals. There shall be provision for:

- Staff reading room for 30 persons
- Rooms for librarian and other staff
- Room for daftaries and book binders
- Microfilm reading room
- Journal room
- Room for copying facilities
- Video and Cassette room (desirable) and
- Air-conditioned computer room with MEDLARS and Internet facility

Hence, the authorities concerned should take necessary steps to provide necessary accommodation as per the norms stated above. Hence, Government of Andhra Pradesh and Medical Council of India should insist on separate library building with the provision for the above at the time of inspection.

As per the requirements of MCI, there shall be provision for air-conditioned computer room with MEDLARS and Internet facility. The survey indicates that most of the users (67.30 percent) are not satisfied with regard to air-conditioning. The study also indicates a significant percentage of respondents are dissatisfied with accommodation (28.12 percent), library furniture (28.52 percent), ventilation and lighting (27 percent) and toilets (34.60 percent) available in their libraries. Hence, the authorities of these medical colleges should consider air-conditioning of their libraries to maximize the use of libraries and should consider the improvement of the facilities by examining the present situation.

Technical service

Most of the users (78.14 percent) replied that they have not used the library catalogue/OPAC to locate books in the library. Hence, the authorities should take appropriate steps to create awareness of catalogue/OPAC among the users by conducting user education programmes.

A few medical college libraries are not classifying books (4.55 percent). A few of them (9.19 percent) are not cataloguing books. The authorities concerned of these libraries should take necessary steps to classify books according DDC and to catalogue them according to AACR 2 as the majority of the medical college libraries are already using DDC and AACR 2. For providing subject headings all medical college libraries can use Medical Subject Headings (MeSH). It is used by the National Library of Medicine (NLM) for assigning subject headings to books and journal articles, in medical sciences.

Multiple copies

Most of the respondents are dissatisfied with regard to multiple copies of books (53.61 percent) available in the library. Hence the authorities should take necessary steps to purchase more number of copies to meet the requirements of students. The authorities should also procure latest editions of books as most of the students (58.94 percent) are dissatisfied in this regard.

Digital library facility

Most of the respondents (92.40 percent) replied that their colleges do not possess digital library. For sharing resources effectively and for efficient information retrieval, establishment of digital library is essential. Hence digital library facility should be made available for the benefit of users.

Open access electronic journals

Most of the users (80.61 percent) replied that they are not aware of open access electronic journals available on Internet. The medical college libraries are unable to meet the requirements of users due to the increase in the cost of books and periodicals, insufficient budgetary provisions and increasing needs of user community. In these circumstances, there is need to share the existing resources among the libraries. Hence, the authorities should take necessary steps to create awareness among the users about the open access electronic journals.

Selected Sources on Medical Libraries and Medical Information-Seeking

Ajuwon, G.A. (2004). Use of computer and the Internet in a Nigerian teaching hospital. *Journal of Hospital Librarianship* 4 :73-88.

Ajuwon, G.A. (2006). Use of Internet for health information by physicians for patient care in a teaching hospital in Ibadan, Nigeria. *Biomedical Digital Libraries* 3 :12 <http://www.bio-digilib.com/cicontent/3/1/12>

Asemi, A. (2005). Information searching habits of Internet users: A case study on the Medical Sciences University of Isfahan, Iran. *Webology* 2 (1), article 10. <http://www.webology.ir/2005/v2n1/a10.html>

Asquari, J. N., & Haywood, J. (1997). Computer awareness among medical students: A survey. *Journal of Medical Education* 31 (3), 225-229. Available: <http://www.pubmed.com/cbi.nlm.nih.gov/entrez>

Banga, K., & Padda, A.S. (2004). A study of knowledge attitude and practices of faculty members of Govt. Medical College, Amritsar regarding the use of computers. *Indian Journal of Medical Informatics* 1 (2). <http://www.iami.org.in/journal1/knowledge.asp>

Blumberg, P., & Sparks, J. (1999). Tracing the evolution of critical evaluation skills in students' use of the Internet. *Bulletin of the Medical Library Association* 87 (2):200-5.

Davis, M. H., & Harden, R. M. (2001). E is for everything in e-learning. *Medical Teacher* 23 (5): 441-444

Drury, P. 2005. E-health: A model for developing countries. *Health International* 2 (2): 19-26

Edwards, S.L., & Bruce, C.S. (2002). Reflective Internet searching: An action research model. *The Learning Organization: An International Journal* 9 (4), 180-188.

Harden, R. M. (2002). Development in outline based education. *Medical Teacher* 24 (2): 117-120

Inamdar, S. C., & Rotti, S.B. (2004). Computer use among medical students in an institution in Southern India. *National Medical Journal of India* 17 (1):8-10.

Maharana, B., Biswal, S., & Sahu, N.K. (2009). Use of information and communication technology by medical students: A survey of VSS Medical College, Burla, India. *Library Philosophy and Practice*. Available: <http://unlib.unl.edu/LPP/maharana-biswal-sahu.htm>

Millennium Development Goal. [Online] Available: <http://un.org/millenniumgoals>

Nurjana, M. I., Lim, T. A., Yeong, S. W., Foong, A. L., & Ware, J. (2002). Utilization of information technology in medical education: A questionnaire survey of students in a Malaysian institution. *Medical Journal of Malaysia* 57 (Suppl E): 58-66.

Parekh, S.G., Nazarian, D.G., Lim, C.K. (2004). Adoption of Information Technology by physicians. *Clinical Orthopaedics and Related Research* 421 :107-11.

Tillman, H. N. (2003, March 28). Evaluating quality on the net. <http://www.hopetillman.com/findqual.html>

Trivedi, M., & Joshi, A. (2008). Computer and Internet use by health care professionals in a rural medical college in India. *Library Philosophy and Practice*. Available: <http://unllib.unl.edu/LPP/trivedi-joshi.htm>