CHAPTER-6

SUMMARY OF FINDINGS AND SUGGESTIONS

• Introduction
• Summary of Findings
• Suggestions/Recommendations
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6.1 INTRODUCTION

In this chapter, an attempt has been made to give in summary form the important findings of the study on resources and services (Vide Chapter-4), and on information gathering and use habits among users (Vide Chapter-5) of health science libraries in Karnataka State. Further this chapter has been dealt in two sections namely the summary of findings and the suggestions.

6.2 SUMMARY OF FINDINGS AND SUGGESTIONS:

6.21 SUMMARY OF FINDINGS:

The summary of findings is given under two sections. The first section gives the summary of findings on resources and services, while the second section deals with information gathering and use habits of users of health science libraries in Karnataka State.

6.211 Resources and Services of Health Science Libraries in Karnataka State: Summary of Findings

a) Characteristics Of Health Science Libraries:

Majority of the health science colleges under study, have been established during 1980's and 1990's, though the earliest college established dates back to 1920's. All the health science colleges/institutions are now affiliated to Rajiv Gandhi University of Health Sciences, Bangalore. A large number of health science colleges offer purely undergraduate courses. A few offer courses at the post-graduate and super specialty level. Majority of the health science colleges/institutions have student strength of less than two hundred and fifty. The
students' strength is relatively high in medical colleges when compared to dental, nursing and pharmacy colleges/institutions. Super-specialty students' are found in few medical colleges only and their number ranges depending on the number of such courses offered by the colleges. The strength of faculty including supporting staff is less than twenty-five in a larger proportion of health science colleges as a whole though medical colleges have higher faculty strength (including supporting staff) compared to other types of colleges/institutions.

Most of the colleges/institutions of health sciences belong to private management with only eleven being Government colleges. In a large number of nursing, pharmacy, dental college libraries the working hours on week days ranges between five to ten hours while majority of medical college libraries work for longer period. Departmental libraries are found in medical colleges only and that hospital libraries exist in two medical and one-pharmacy college libraries.

b) Manpower Resources:

Almost all the health science college libraries have full-time professional librarians and they have either Bachelor's or Master's degree in Library and Information Science. The designations of librarians vary with 'Librarian' being used by a majority of health science libraries. A large number of librarians have an experience of less than ten years and that the librarians of medical colleges have more professional experience than librarians of colleges of other types. The pay scales of librarians vary widely and twenty-five percent of them are paid a consolidated pay. Very few of the librarians have received in-service training and have membership to learned societies or professional associations. Though
professional, semi-professional and non-professional staff strength is relatively better in medical college libraries a large number of health science libraries have less than two professionals less than three semi-professionals and less than five non-professionals. In more than half of the health science college libraries the existing staff is not adequate. Staff meetings are not held in a majority of the libraries.

c) Information Resources:

The size of the collection is less than five thousand in a large number of libraries. The strength is more than ten thousand in few medical colleges. The size of book/monograph collection ranges between two thousand five hundred and thirty-two thousand five hundred. Back volumes of journals are not found in fourteen dental, four nursing and twelve pharmacy college libraries and that the collection is comparatively better in medical college libraries. A large number of libraries neither have reports, nor theses/dissertations, nor reprints, nor non-book materials like maps and charts, microforms, and a-v materials in their collection. Except few all the libraries subscribe to current periodicals, but do not get abstracting and indexing journals. Index Medicus Monthly, Index to Dental Literature, International Nursing Index, Excerpta Medica, Psychological Abstracts, Dental abstracts, are few of the abstracting and indexing journals subscribed by the libraries. Seventy percent of the health science libraries neither have SC/ST Book Bank nor poor-cum merit students book bank nor any other special collections.
d) **Financial Resources:**

Medical colleges and their libraries have higher college and library budgets indicating better financial resources than dental, pharmacy and nursing colleges and their libraries. Similarly, expenditure on books, current scientific periodicals, non-book materials, furniture and equipments, binding and other miscellaneous items is higher in medical compared to other types of college libraries.

e) **Physical Resources:**

Library buildings form part of the main buildings of their parent organizations for seventy-five percent of the health science libraries. The library buildings either forming part of the main buildings or independent, are suitable for library purposes. The total floor area of library buildings is higher in medical than dental, nursing and pharmacy college libraries. Though the seating capacity does not exceed one hundred in many of the libraries, the seating capacity is much better in medical college libraries. Medical colleges have provisions for 10000 to 100000 volumes, dental colleges for 15000 volumes, nursing colleges for 3000 volumes and pharmacy colleges for 5000 volumes. In addition to general reading and other provisions, the health science libraries have separate arrangements exclusively for faculty, post-graduates, and ladies. At the same time a large majority of health science libraries do not have any provision for personal book reading. Majority of the health science libraries neither have audio-visual, nor microform, nor photocopying, nor computer nor binding, nor conference rooms nor independent librarians chamber. Though the basic facilities such as drinking
water, toilets are found in a large number of health science libraries a significant
number of them do not have these facilities. There is no provision for expansion
of library buildings - either horizontal or vertical in a greater proportion of
libraries.

f) **Furniture And Equipments:**

The wooden furniture, closed - door almirahs, tables with multiple reading
with four seats and chairs with arms are used in a majority of health science
libraries. The modern library gadgets like vacuum cleaners and book trolleys are
found in very few medical and nursing college libraries.

g) **Library Committee:**

Though library committees are found in a large number of health science
libraries, the composition and structure of library committees vary and in majority
of the libraries, the librarian is a member-secretary of the committee and in a few
libraries, the librarian is neither a member nor an ex-officio secretary. The powers
and functions of library committees include formulation of policies, allocation of
book funds, scrutiny and selection of books. The library committee meetings are
being held at different intervals of time viz., once in six months, once in a month,
and once a year.

h) **Collection Development:**

Seventeen medical, nineteen pharmacy, eighteen dental and five nursing
libraries have collection development policies. Of the libraries having collection
development policies, a large number of them have it unwritten form. Faculty
members and library staff are collectively responsible for selection of books.
Publishers catalogue is a principle tool used for selection of books. Even though a large majority in general and medical, dental, nursing and pharmacy libraries in particular invite quotations, a good number of them also acquire books through direct purchase. Faculty recommendations form the rationale for selection of periodicals in most of the libraries. An average time lag of one month for Indian and three months for foreign periodicals is observed in receipt of periodicals. Half of the health science libraries are facing the difficulties in acquisition of books, of which hurdles in acquisition of foreign books, current periodicals, government/society publications non-availability of suitable agency to supply the books, are important.

i) Collection Organization:

Books are not at all classified in twenty-five percent of the health science libraries. Among those that classify, DDC and CC are prominently used for classification. Books are catalogued in seventy percent of the health science libraries. CCC and AACR2 are the two major catalogue codes used by the libraries to catalogue the books. MeSH is used to derive subject headings in a large number of libraries. Classified and card catalogues are maintained compared to other inner and external forms of catalogue. A large majority of libraries are yet to computerize their catalogues. Closed access is followed compared to open access. More than fifty percent of the libraries have separate textbook section. The arrangement of books on shelves is by subject.
j) Collection Management:

A large number of health science libraries are taking measures for preservation of books. Frequent dusting of the shelves is the most commonly used method in a large number of libraries. Other methods such as use of vacuum cleaners and insecticides are also used. A larger proportion of libraries undertake stock verification. The books are not weeded out in a large number of libraries. Among the libraries that weed out the books, a good number of them keep them separately. Most of the libraries do bind the documents. Majority of the libraries do not have their own binderies and depend on commercial binders.

k) Information Services:

Books are issued for home reading in all the pharmacy and nursing and a large number of medical and dental college libraries and register method is used for issue and return of books. Over due charges are collected in fifty-five libraries. On an average twenty-five books are issued and one hundred books consulted per day in fifty percent of the libraries. The average number of visitors visiting the libraries is relatively higher. Current/ back volumes of periodicals are not issued for home reading in large number of dental, nursing and pharmacy libraries while they are issued in a large number of medical libraries. Overnight borrowing of textbooks, reference books, current issues and back volumes of periodicals is available in half of the libraries. Reference service is provided in almost all the libraries. Bibliographies are not compiled and current awareness service, literature search service and translation service are not provided.
l) Resource Sharing:

Local libraries do share the resources occasionally. The catalogue of periodicals holdings is available in medical college libraries. Availability of union catalogue is better in libraries of medical colleges. Eighty percent of the libraries are not even members of HELLIS. The duplicate medical literature is also not exchanged with few medical college libraries being exception.

m) Use Of Information Technology:

Half of libraries do not have computers. Even those that have computers do not use them for library activities except for administrative purposes. Very few have CD-ROM databases particularly MEDLINE on CD, TOXLINE, CANCERLINE and Current Contents on CD. None of the libraries allow users to do literature search on their own. On an average the number of CD-ROM searches undertaken ranged between one and five. Those that have CD-ROM databases charge for carrying out searches. None of the libraries are subscribing to full text electronic databases.

Fifty-eight health science libraries do not have Internet facilities. Twenty-seven libraries have ‘Full Internet connection’ and the type of connectivity being ‘Individual Computer TCP/IP Link’. Eighteen libraries have single user facility. Internet facility is made available during working hours and collect fees ranged between Rs. 20 and Rs. 40 per hour for the service. Most of the libraries that have Internet facility use it for communication (e-mail), visit websites of interest, access full text e-journals etc. A large number of users are trained in the use of Internet.
Audio-visual facilities like TV, overhead projectors, VCR, slide projectors; A-V cassette players, film projectors, and paxiscopes are available in few health science libraries. Photocopying facility is available in thirty-two, microfilm facility in thirteen libraries.

n) User Education Programs:

Sixty one percent of the libraries do not undertake user education programs. Of the libraries that undertake user education programs, undertake at undergraduate level and once or twice a year. The studies to know the information gathering and use habits of users at the institutional level have not been conducted at all. Exhibition of books is undertaken in few medical, dental, pharmacy and nursing colleges. In-house training for library personnel is not provided, conferences, seminars, workshops are not organized in a large number of libraries.

6.2 Information Gathering and Use Habits of Users of Health Science Libraries in Karnataka State: Summary of Findings

a) Characteristics Of Study Population:

 Majority of the users of health science libraries studied belonged to: the age group of less than 25 years, males, belongs to medical sciences, clinical specialization and undergraduates. A sizable fraction of the whole population neither had publications to their credit nor attended conference/s, workshops, and continuing medical education programs. Similarly they had neither membership to learned societies nor had knowledge of foreign languages. Majority had no personal library and lacked knowledge of computers
b) **Time Spent On Various Activities And Types Of Information Used:**

Most spent relatively more time for study than on gathering and use of information. There exists a statistical difference between the time spent on gathering and use, study and case discussions versus age. Though, the sex had no relation with the time spent on various activities, but area and specialty had a statistically significant difference with the time spent except research guidance. So also the position and the time spent on various activities had a statistically significant difference in so far as study, teaching, preparation for teaching and patient management.

A greater percentage of users gathered and made use of three types of information - course related, clinical and current information. For the users under the age group of < 25, course related materials form one of the major types of information, it was clinical, course related and current information for the users of age group of 26-45 and it was current, clinical and course related in case of users of > 46 age. There exists no significant difference in gathering and use of different types of information versus sex. But there exists a difference in gathering and use of different types of information vis-à-vis area of specialization of users. Similarly, there exists a difference between the types of information gathered and used versus specialty: pre-clinical, Para-clinical versus clinical. A majority of undergraduates gathered and made use of course related materials compared to post-graduates and faculty, while the latter gathered and used current and clinical information.
c) Purpose And Methods Used For Keeping Up-To-Date:

Majority of users (80%) studied gathered and used information for the purpose of study. Keep up-to-date, background reading, purpose of teaching, treatment and care, diagnostic, research and others followed it. The users of less than 25 years gathered and used for study purpose, while others gathered and used for the purpose of keeping up-to-date when compared to study. Relatively more number of females gathered and used information for study purpose compared to males for whom keeping up-to-date was important. Regardless of area - medical, dental, nursing and pharmacy - and specialty - be it pre-clinical, Para-clinical and clinical - of users, they gathered and used for study purpose than for keeping up-to-date. Most of the undergraduates gather and use information for study purpose compared to faculty for whom keeping up-to-date and teaching was more important, while for post-graduates keeping up-to-date and study purpose were equally important.

Most of the users in general and irrespective of their age, sex, area, specialty and position unfortunately prefer to go through the prescribed text books for keeping up-to-date than other methods of keeping abreast of the developments in their area of knowledge.

d) Use Of Information Sources:

Almost all the users under study used textbooks (except 2%) frequently for gathering and use of information followed by Primary journals, Yearbooks, Recent advances, while the remaining sources were not used by a large majority.
e) Literature Searching, Delegation And The Methods/Techniques Used:

Most of the users undertake literature search on their own. There exists a difference in literature search undertaken on their own and the various independent variables. The order of methods used for literature searching were: consulting content pages in a book; consulting indexes in books, going through the contents pages in a scientific journal, following the references given at the end of each chapter in books, following the references given at the end of each journal articles, consulting LIS Workers, consulting the library catalog, MEDLINE Search and others.

f) Number Of Books, Primary Scientific Journals, Abstracting And Indexing Journals Used:

Users used on an average 4.1 books, 3.31 titles of scientific journals, 1.31 abstracting journals and 1.12 indexing journals.

g) Use Of Foreign Language Materials And Method/s Used To Locate

Large majority users in general and irrespective of age, sex, area, specialty and position in particular didn’t gather and use information in languages other than English. The users who had gathered and used foreign language materials mostly located the materials through abstracting and indexing journals, and followed journals in translation, consulting the tools published by translation pools including ‘Index Translationum’.

h) Most Important And Significant Academic/ Research/ Patient Care Related Situation Encountered, The Sources Used To Solve And The Reasons

The two most important significant situations encountered by a large majority of users irrespective of their age, sex, area, specialty and position to
which they belong were for finding up-to-date information and getting relevant information.

Similarly, irrespective of the age, sex, area, specialty and position, they used library and information center to solve most significant situation/s encountered by them. Convenience, accessibility, accuracy and timeliness were the reasons for a large majority of users’ dependence on the sources.

i) Use Of Libraries, Library, Information Workers, And Success In Getting Information

Only half of the users visited libraries everyday. The users belonged to the age group < 25 and 26-45 years visited libraries everyday while users belonged to the age group of > 46 years visited libraries twice a week. There exists a significant statistical difference between the visits to libraries versus age, sex and position. A large majority of users irrespective of their age, sex, area, specialty and position were mostly successful in getting information from their respective libraries.

More than half of the users studied didn’t visit other libraries. Those who visited other libraries were mostly successful in getting information from other libraries. More than half of the users studied sought advice from library and information workers. Except sex and specialty, all other variables had a bearing on it and more than half were not successful in getting information from them. All the independent variables barring sex, had a bearing on the success in getting information from the library and information workers.
j) Reasons For Use And Purpose Of Using Library And Information Centers

Easy accessibility and good information resources were the two reasons for the use of library and information centers for most of the users irrespective of their age, sex, area, specialty and position. Majority of the users regardless of their age, sex, area, specialty and position used libraries to read textbooks, followed by to refer journals and reference sources.

k) Use, Approaches To And Usefulness Of Different Parts Of A Library Catalogue

Only half of the users have used library catalogue. Statistically significant differences were found with respect of use of library catalogue versus independent variables. Majority of the users regardless of their age, sex, area, specialty and position used all the approaches to library catalogue. The subject and author catalogues were found very useful for many, while the use of author catalogue was found to be associated with position, title catalogue with age and position, but regardless of independent variables, the subject catalogue was found very useful.

l) Awareness, Use And Usefulness Of Services Of National Documentation Centers

More than half of users were not aware of services of National Medical Library, New Delhi, while three-fourth of users were not aware of services of National Informatics Center, New Delhi. Eighty percent of users were not aware of services of Indian Scientific Documentation Center, New Delhi, whereas sixty percent of users were not aware of services of National Center for Science Information, Bangalore.
m) **Difficulties Encountered, Training Received And The Need For Orientation:**

Most of them faced difficulties in gathering and use of information due to lack of time, lack of access to all the information, locating suitable sources, lack of computerized services, unfamiliarity of information sources, lack of specialized training in literature searching and others.

Majority of the users have not received training and education in gathering and use of information and hence expressed the need for training and education.

6.2 **SUGGESTIONS/RECOMMENDATIONS:**

Based on the study, the suggestions/recommendations for (i) planning and development of resources and services of health science libraries and (ii) for promoting the information gathering and use habits of users of health science libraries in Karnataka state have been given:

6.21 **Suggestions/Recommendations for Planning and Development of Resources and Services of Health Science libraries in Karnataka:**

It is recommended that the Medical Council of India, Dental Council of India, Nursing Council of India and Pharmacy Council of India with representatives from LIS experts including librarians and principals of health science colleges/institutions shall:

(a) work out and formulate standards for manpower requirements - professional and non-professional - in terms of nature and level, size, qualifications - academic and professional, salary and emoluments and other terms and conditions, required to serve in medical, dental, nursing and pharmacy
college libraries keeping in view the levels of courses offered, the number of students and faculty to be served, the size and nature of library and information services to be provided.

(b) work out and standardize the designations of professional staff of health science libraries at different levels and to devise uniform pay scales for different cadres commensurate with their academic and professional qualifications, and duties and responsibilities.

(c) make a provision to depute library and information workers serving in health science libraries to undergo continuing education and training - short term and long term - programs including conferences, seminars, workshops etc., with a view to update their professional knowledge and skills.

(d) work out the standard formula to fix the number and ratio of professional, semi-professional and non-professional staff strength required to be recruited in health science libraries as the existing norms of various councils as well as the present staff strength are inadequate.

(e) work out and organize periodically and regularly workshops, seminars, conferences on latest topics to professional staff of health science libraries to bring them to the main stream on par with other health professionals.

(f) work out and take measures to initiate, encourage and infuse scientific temper and positive attitude towards in-house research on health science librarianship.

(g) work out and develop standards/norms with regard to the nature - quality and quantity, type and kinds of information resources, nature of the
collection that health science libraries need to have keeping in view, the number
of courses offered and their levels, students and faculty strength, and other indica-
tors.

(h) identify and recommend for the subscription of core abstracting and
indexing journals/services to be subscribed in medical, dental, nursing and
pharmacy as most them are not subscribing.

(i) make a provision for periodical evaluation/assessment of collection
against the academic programs to identify the existing status and take
measures to meet the programs and activities of the colleges/institutions.

(j) work out and recommend a formula for allocation of higher budgets to
libraries in medical, dental, nursing and pharmacy by parent institutions in view
of increase in the cost of information resources.

(k) recommend for suitable independent library building fully equipped
with all the modern furniture and equipments with a provision for expansion -
horizontal and vertical, with enough lighting, ventilation and space for stack
rooms, reading, reference, periodical, separate reading of personal books and
drinking water and other amenities.

(l) recommend for constitution of library committees in libraries with
principal as the Chairman, faculty and student representatives and LIS experts in
health sciences librarianship as members and the librarian as member secretary to
monitor the over all working and functioning of libraries.

(m) work out the infrastructure requirements with respect of application of
information technology to library and information work in terms of hardware,
software, human ware including use of CD-ROM databases, library software package/s and Internet.

(n) Rajiv Gandhi University of Health Science, Bangalore and Government of Karnataka shall insist and impose the standards/norms to be developed by various councils at the time of giving fresh/continuation of affiliation to colleges/institutions.

II Suggestions/Recommendations for Library and Information Workers:

It is recommended that the library and information workers shall:

(a) formulate and draft a collection development policy document in written form based on the results of in-house user research conducted at the institutional level and based on the input from the parent institution regarding the courses and programs, following the Guidelines provided by Collection Development Division, American Library Association. The CDP should form the basis for developing information resources in libraries.

(b) classify, catalogue, index and prepare abstract for documents and organize them in classified order in the library.

(c) prepare and maintain library catalogues in machine readable form in Common Communication Format to facilitate easy access and exchange of information among health science libraries.

(d) make arrangements for conservation, preservation, maintenance, stock verification, periodic evaluation and weeding of library collection.
(e) workout the modus operandi for sharing resources at local, regional and national level in order to make optimum use of resources in the field of health science.

(f) identify, design and plan computer based library and information services including Internet based services to library users based on the results of feasibility studies for providing both traditional and advanced services.

(f) subscribe to all the relevant CD-ROM databases and setup a facility for searching databases.

(g) establish Internet facility in the library and educate and train the users in its use.

(h) conduct user education program employing suitable method/s to introduce, familiarize and acquaint the users in the use of library, its resources and services.

(h) conduct user training programs to introduce, familiarize and acquaint different sources of information - primary, secondary and tertiary - print and non-print including electronic sources, employing various methods and techniques, followed by assignments and exercises in their area of specialization within the field of health science.

III Suggestions/Recommendations for Users of Health Science Libraries:

It is recommended that the users - undergraduates, post-graduates and faculty - of health science libraries shall undergo formal user education and training program/course covering the following aspects: Time Management, Study Skills, Reading Skills, Listening Skills, Library Orientation, Bibliographic
Instruction, Library and Information Skills, Communicating Skills, Writing Skills, Sources of Information - Primary, Secondary and Tertiary including and Information Utilization Process with a view to make them learn all the skills required to make best use of information from wide sources of information including libraries and the Internet.

IV Suggestions/Recommendations for Principals:

It is recommended that the Principals/Heads of Institutions of health science colleges/institutions shall provide favorable environment and extend their support and cooperation to the librarians in making the libraries modern temples of learning.