



DEDICATED TO MY PARENTS

Who gave me an enlightened world and asked me to do something great for the society and human being

Problems and Prospects of Health Science Libraries in Dhaka City: A Study

PROBLEMS AND PROSPECTS OF HEALTH SCIENCE LIBRARIES IN DHAKA CITY: A STUDY

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**A THESIS ON THE TOPIC MENTIONED ABOVE SUBMITTED IN PARTIAL
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Preface

The study presents a keen observation and evaluation of problems and Prospects of Health Science Libraries in Dhaka City to recommend and improved information management for better services for health scientists.

I would like to take this opportunity to thank the health science libraries and all the respondents that were interviewed in this study; Librarian of BIRDEM Library, Librarian of Anwar Khan Modern Medical College Library, Librarian of Bangladesh Medical College Library, Librarian of Holy Family Red Crescent Hospital Library and Librarian of Green Life Medical College library.

Thank you for taking the time to answer my questions. Also, I would like to thank my supervisor **Sheikh Mamun Mostofa**, Lecturer, Department of Information Science and Library Management, University of Dhaka for good discussions and feedback on this thesis. Without the love and support from my family this would definitely not have become the thesis it is today.

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Mohammad Raju, 27 of December 2014



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LIST OF ABBREVIATIONS / ACRONYMS

AACR	Anglo American Cataloguing Rules
AHRQ	Agency for Healthcare Research and Quality
ALA	American Library association
BANBEIS	Bangladesh Bureau of Educational Information and Statistics
BANSDOC	Bangladesh National Scientific and Technical Documentation Centre
BCSIR	Bangladesh Council of Scientific and Industrial Research
BDRCS	Bangladesh Red Crescent Society
BHIMA	Bangladesh Health Information Management Association
BHIN	Bangladesh Health Information Network
BIRDEM	Bangladesh Institute of Research and rehabilitation for Diabetes, Endocrine and Metabolic Disorders
BMC	Bangladesh Medical College
BMDC	Bangladesh Medical and Development Council
BMSRI	Bangladesh Medical Studies and Research Institute
CAS	current Awareness service
CH	Child Health
CPD	Continuing Professional Development
CWHCC	Community Welfare and Health Care Center
DAB	Doctors Association of Bangladesh / Diabetes Association of Bangladesh
DDC	Dewey Decimal Classification
DHS	Dushtha Shasthya Hospital
FAIMER	Foundation for Advancement of International Medical Education and Research
FCPS	Fellow of the College of Physicians Surgeons

FP	Family Planning
FRCS	Fellowship of the Royal College of Surgeons
HER	Electronic Health Record
HFRC	Holy Family Red Crescent
HIM	Health Information Network
HINARI	Health Inter Network Access to Research Initiative
HL	Health Library
HSRIS	Health Science Research Information System
ICDDR,B	International Centre for Diarrheal Disease Research, Bangladesh
ICT	Information Communication Technology
IMED	International Medical Education Directory
INASPERI	Innovation in Science Pursuit for Inspired research
ISD	Information System Development
IT	Information Technology
LAN	Local Area Network
Ndn	National diagnostic network
MBBS	Bachelor of Medicine and Bachelor of Surgery
M.D	Doctor of Medicine
MEDLARS	Medical Literature Analysis and Retrieval System
MEDLINE	Medical Literature Analysis and Retrieval System Online
MeSH	Medical Subject Heading
MIS	Management Information System
MRCP	Membership of Royal College Physicians
NSTIC	National Strategy for Trusted Identities in Cyberspace

PAAET	Public Authority for Applied Education and Training
PC	Personal Computer
SDI	Selective Dissemination Information
SPSS	Statistical Package for Social Sciences
TBA	Traditional Birth Attendants
UAE	United Arab Emirates
UDC	Universal Decimal Classification
UGC	University Grant Commission
URL	Universal Resource Locator
USMLE	United States Medical License Examination
VHWs	village Health Workers
WAN	Wide Area Network
WiFi	Wireless Fidelity
WWW	World Wide Web

Chapter- 1

**Introduction
&
Methodology**

Chapter- 1

Introduction & Methodology

1.1 Introduction

“Today's hospital library is an active,
service-oriented special library...
the library contributes to the hospital's primary
mission of providing patients with the best possible care”.

-Bradley (1983)

Although Bangladesh has been an independent nation for more than 40 years, Dhaka is the capital and professional education in health sciences remains a problem for achieving the cherished goal of the government, “Health for All.” Health is the basic need for 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 remarkably libraries are important components in providing effective medical education and proper health guidance. The main purpose of health science 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 is an asset for promotion and advancement of health sciences in a medical or 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 health science 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 Bangladesh, medical professionals are quite aware of the new technologies used by their counterparts in the developed countries. As the capital of the country, in Dhaka city, there are near about 150 more hospitals and more than 50 health science libraries. A survey was conducted to examine the present conditions and problems and prospects 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. The research is limited as regards I selected a few private medical in Dhaka city for conducting my research. A brief report of the research has been presented in the following paragraphs.

1.1.1 Health Care in Dhaka City

The government of Bangladesh, in building Dhaka, sought to ensure the welfare of its people. Health care is provided free of charge to all citizens and some category of other residents. But private hospitals are different from the government hospital. They are cost oriented and service condition is also far good than the government hospital. Hospitals and health units like clinics have been established in all the local areas of the cities. A number of preventive medicine facilities have also been established, and campaigns for immunization against smallpox, tuberculosis, polio, diarrheal diseases and meningitis are regularly conducted throughout the city.

Table 1.1 List of Public (Government) Hospital List in Dhaka City

Name of the Hospital	Address	Telephone No.
Shahid Suhrawardy Hospital	Ser-e-Banglanagar, Colleegegate, Shamoli, Dhaka	9122560-78
Bangabandhu Shiekh Mujib Medical University	Shabagh, Dhaka	8614001-9, 8614545
Bangladesh Association For The Aged & Institute Of Gerecitric Medicine	Agargaon, Sher-e-Bangla Nagar	9129814
Bangladesh Association For The Aged & Institute Of Gerecitric Medicine	Agargaon, Sher-e-Bangla Nagar	9129814
Control Of Diarrhoeal Disease Programme	1/13, Humayun Road, Block # B, Mohammadpur	9114574, 9114581
Dhaka Medical College & Hospital	Polashi, Dhaka	8616744, 9663429
Dhaka Shishu Hospital	Sher-E-Bangla Nagar, Dhaka	8116061-62, 8114571-72
Dushta Shasthya Hospital (D.S.K)	21/1, Khilji Road, Mohammadpur	8124952
Dustha Shasta Hospital	21/1, Khiljee Road, Mohammadpur, Dhaka- 1207	8124952
Icddrb	Mohakhali	8811751-60
Institute Of Chestdiseases Hospital	Mohakhali, Dhaka	8816268-72
Institute Of Child Health And Shishu Hospital	6/2, Barabag, Section # 2, Mirpur	8023894-5
Orthopedic Hospital	(Pangu Hospital) Shere-e-Bangla Nagar	9112150, 9114075
Shaheed Suhrwardi Hospital	Sher-E-Banglanagar, Dhaka	8113478
Sharkari Karmachari Hospital	Dhaka	9668017
Shishu Foundation Hospital	Bara Bagh, Mirpur	9001090
Sir Salimullah Medical College & Mitford Hospital	Dhaka	7319002-5, 7312398, 7117404

Table 1.2 List of Private Hospital List in Dhaka City

Name of the Hospital	Address	Telephone No.
Ad-Din Hospital	Moghbazar, Dhaka	9353391-3
Ahmed Medical Centre Ltd.	House # 71, Road # 15-A, (New), Dhanmondi C/A	8113628
Aichi Hospital	House # 13, Eshakha Avenue Sector # 6, Uttara Dhaka	8916290,8920165
Al Anaiet Adhunik Hospital	House # 36, Road # 3, Dhanmondi	8631619
Al- Helal Speacialist Hospital	150,Rokeya Sarani Senpara ParbataMirpur-10, Dhaka	9006820,9008181
Al Jebel-E-Nur Heart Ltd.	House # 21, Road # 9/A (New),Dhanmondi	8117031
Al- Rajhi Hospital	12, Farmgate. Dhaka -1215	8119229,8121172,9117775
Al-Ahsraf General Hospital	House # 12 Road # 21,Sector # 4,Uttara Dhaka	8952851-2
Al-Biruni Hospital	23/1, Khilzee Road, Shyamoli	8118905, 9115953
Al-Fateh Medical Seviles (Pvt) Ltd.	11, Farmgate over Bridge East Side	9120615
Al-Madina General Hospital (Pvt.) Ltd.	2/A, Golden Street, Ring Road, Shamoli, Dhaka	8118709
Al-Manar Hospital	5/4, Block-F, Lalmatia Dhaka- 1207	9121387, 9121588
Al-Markazul Islami Hospital	21/17, Babar Road, Mohammadpur	8114980, 9129426
Al-Mohite General Hospital & Diagnostic Centre	House # 11, Road # 2, Shamoli	9113831, 9114220 Ext 238
Amri Hospitals, Kolkata	Bangladesh Information Center: C/O R R Trading & Co. Erectors House (10 th Flr.) 18, Kemal Ataturk Avenue Banani C/A, Dhaka – 1213	9893528-9
Anjuman-E-Mofidul Islam	Dhaka	9336611
Anwar Khan Medical College and Hospital	Sector 8, Dhanmondi, Dhaka	9670295
Appolo Hospital	20/5, Babar Road, (Ground Floor), Block # B, Mohammadpur	8152549

Arimo General Hospital	Matuil, Deamra Road	
Arogya Niketan Hospital Ltd.	242-243, New Circular Road, Malibagh	9333730
Aysha Memorial Specialized Hospital	74/G, Arjatpara, Mohakhali, Dhaka	9122689, 9122690
B.D.F. Hospital	5/7, Humayaun Road, Block # D, Mohammadpur	8123730, 8116637
Bangal Nursing Home Ltd.	Lake Circus, Kalabagan, Dhaka	9114824
Bangkok Hospital Office, Bangladesh	Lion Complex (4th Floor), 73, New Airport Road, Tejgaon	9139777, 9134982, 9113864
Bangladesh Heart & Chest Hospital	Road # 27 (Old), 16 (New), House # 47, Dhanmondi	9114266, 8123977
Bangladesh Medical College	House # 35, Road # 14/A, Dhanmondi	9118202, 8115843
Bangladesh Telemedicine Services Ltd.	Comfort Tower, 167/B, Green Road, Dhanmondi	8124990 Ext 660, 284
Bari-Lizarov Orthopedic (Bio) Centre	House # 77 (New) 831 (Old), Road # 9/A (New) 19 (Old), Dhanmondi R/A	9120309, 8117876
Bari-Lizarov Orthopedic Centre	House # 831, Road # 19 (Old), Dhanmondi R/A	9120309, 8117876
Bdm Hospital	5/17, Humaund Road, Block # B, Mohammedpur	8113481
Bengal Nursing Home (Pvt.) Ltd.	70/C, Clke Circus kalabagan	8116007
BIRDEM	Shahbagh, Dhaka	8616641-50
Bnsb Dhaka Eye Hospital	Mirpur-1, Dhaka	8014476
Brain & Maind Hospital Ltd.	149/A, Airport Road, Farmgate, Baityl Shoraf Mosque Complex	8120710
Brighton Hospital Ltd	163, Sonargaon Road Hitirpool, Dhaka- 1205	8626901,9671186
Brighton Hospital Ltd.	169, Sonargaon road, Hatirpool	8626901-3
Bumrungrad Hospital	House- 154, Road- 11, Block- E, Banani, Dhaka.	8855254
Cancer Home	Cancer & Breast Clinic, GP-Cha, 149/1, Mohakhali	8815244
Care Madical Center Ltd.	41, Chamelibagh, Shantinagar	8318827, 9351190-11/23
Central Hospital Ltd.	House # 2, Road # 5, Green Road, Dhanmondi	9660015-19

Centre For Health And Development Medical Complex (Chd Medical Comple)	House # 16, Road # 16, Sector # 4, Uttara Model Town	8920670
Centre For The Rehabilitation Of The Paralyse (Crp)	Post CRP Chapin, Savar	7710464-5, 7711766
Chandshi Medical Centre	House # 9, Road # 27, Block # K, Banani	8821875, 9554571
China-Bangla Hospital (Jv) Ltd.	Plot # 1, Road # 7, Sector # 1, Uttara	8913674, 8913606
Cholera Hospital (Icddrb)	Dhaka, Mohkhali	871751-60,600171-8
Christian Medical Hospital	6/3, Nadda, Baridhara (North)	9886298, 8813375
City Dental College & Hospital	1085/1, Malibagh, Chowdhurypara	9341662-4, 8313305
City Hospital (Pvt) Ltd.	69/1/1, Panthapath	8617852, 8623205
City Hospital Ltd	69/1/1, Panthapath Dhaka	8623205,8617852
CMH (Dhaka Cantonment)	Dhaka	882770
Community Eye Hospital	40, New Elephant Road (1st floor), Dhaka	
Community Hospital	190/1, Wireless Rail Gate, Baramaghbazar, Dhaka	9351190-1 Fax 882-2-93387706
Community Maternity Hospital	22, Bijay Nagar	9358513
Crescent Gastroliver & General Hospital Ltd.	House- 60, Road- 8/A, Dhanmondi R/A, Dhaka.	9116851
Crescent Hospital & Diagnostic Complex Ltd.	22/2, Babor Road, Mohammadpur	9117524, 8119775
Crescent Hospital & Dignostic	22/2, Babar Road, Mohammadpur, Dhaka	9119524, 8119775
Crescent Gestolever & General Hospital	House # 60, Road # 8/A, Dhanmondi.	9116851
Delta Medical Centre Ltd.	House # 20, Raod # 4, Dhanmondi R/A	8617141-3
Dhaka Community Hospital	190/1, Baro Moghbazar, Wireless Railgate	9351190-91
Dhaka Ent (Ear, Nose, Thot) Hospital	House # 56, Road # 4/A, Dhanmondi R/A	8617503, 9613986
Dhaka General Hospital (Pvt) Ltd.	17, Hatkhola Road	7115351, 7116708
Dhaka Monorogh Chinic	House # 13, Road # I Block	9005050

	# 11/A, Mirpur Dhaka	
Dhaka National Hospital Ltd.	House # 55/1, Road # 27 (Old) 16 (New), Dhanmondi R/A	8122588
Dhaka Orthopaedic Hospital	843, Ring Road, Shamoli, Dhaka-1207	9112684, 912603
Dhaka Renal Centre & General Hospital	5 Green Corner, Green Road, Dhaka- 1205	8610928, 8621841-2
Dhanmondi Hospital (Pvt) Ltd.	House # 19/E, Green Road, Middle of Road # 6 & 7, Dhanmondi	8628849
Diabetic Association Of Bangladesh	122, Kazi Nazrul Islam Avenue, Shahbagh	8616641-50 Ext 2225
Diagnosis	44/C, Ahsad Avenue, Mohammadpur	814822
Diganta Anti Drug Hospital	House # 353, Road # 14, Block # B, Chanduaon R/A	031-671393
Doctors General Hospital	31/32, DIT Industrial Area, Postogola	7410731, 7413239
Dr. Salahudding Hospital	House # 37, Road # 9/A, Dhanmondi R/A	9122264, 9121779
Dr. Sultanas Poly Clinic	651, Shahinbagh, Tejgaon	9115244
Eden Malticare Hospital	753, Satmajid Road Dhanmondi, Dhaka- 1209	8150507-10,8151506
Eden Multicare Hospital	753, Satmasjid Road, Dhanmondi	8150507-10
Farabi General Hospital	Road # 14 (New), House # 8/3, Dhanmondi R/A, Dhaka- 1209.	81222471,9140442
Fashion Eye Hospital Ltd.	98/6-A, Elephant Road, Bara Moghbazar	9338986, 9343961
Faud Al Khatib Hospital	Almas Tower, 282/1, 1st Colony, Majar Road, Mirpur	9007188, 9004317, 8013638
Federal Medical College Hospital Ltd	20, Link Road, Bangla Motor	8613097-8
Gastroliver Hospital & Research Institute	69/D, Green Road Panthpath, Dhaka-1205	8620960,8625393,8627853
General Hospital Ltd	House # 60, Road # 8/A, Dhanmondi, R/A, Dhaka	9116851,91137181,9137182
General Medical Hospital (Pvt.) Ltd.	103, Elephant Road, Dhaka-1205	861932
Grain & Mind Hospital	149/A, Airport Road,	8120710

Ltd.	Farmgate, Baitus Sharaf Mosque Complex	
Green Hospital	House # 31, Road # 6, Dhanmondi R/A	8612412
Green Land Hospital	Azampur, Uttara, Dhaka	8914175
Greenland Hospital	House # 4, Road # 4, Sector # 7, Uttara Model Town	8912663
Harun Eye Foundation & Green Hospital	Road # 6, House # 31, Dhanmondi R/A, Dhaka	8612412, 8619068
Harun Green Hospital	House # 31, Road # 6, Dhanmondi R/A	8612412, 8619068
Hasnabad Hospital (Pvt) Ltd.	South West Side of Buri Ganga Bridge, Hasnabad	7419977
Health And Hope Ltd.	152/1-H, Green Road, Panthopath (Green Road – Panthopath Crossing)	9145786
Holy Family R. C. Hospital	Eskaton Garden Road, Dhaka	8311721-25
Hyfia General Hospital	1/A, Adabar, Ring Road, Shamoli, Dhaka	9120519
I.R. Ltd.	House # 50, Road # 2A, Dhanmondi	8618085
Ibn Sina Hospital	House # 47, Road # 9/A, Satmasjid Road, Dhanmondi	9128835-7, 9126625-5
Idial General Hospital Ltd.	50/A, Shantinagar	9357385
Infertility Care & Research Centre	5/13, Humayn Road, Mohammadpur	9119462
International Hospital	6, Eskaton Garden, Moghbazar	9333739
Islami Bank Hospital	24/B, Outer Cercular Road, Dhaka	9336421
Islamia Arogya Sadan Ltd.	House # 35, Road # 1, Dhanmondi R/A	8631988
Islamia Eye Hospital	Farmgate, Dhaka	8112856, 319315, 9119315
Jahangirnagar Hospital Ltd.	34/1, Manir Hossain Lane, Swamibagh New Road, Dhajagonj	7125152-4
Khaliqun Nessa General Hospital	61, Becharam Dewri	7312449, 7313583
Lion Foundation Eye Hospital	Lions Bhaban, Begum Rokya Sarani, Agargoan, Dhaka	9131990, 9138711, 8110894

Made H Clinic	62, Lake Circus, Kalabagan	9112076, 8117043
Maf Air Support	House # 299, Lane # 4, DOHS, Baridhara	8810164
Malakunessa General Hospital	House # 50, Road # 4/A, Dhanmondi, Dhaka	
Maula Buksh Sardar Charitable Hospital	24, Mohini Mohon Das Lane, Farashgonj	7120065
Medi Prime Orthopaedic Hospital	1/9, Humayan Road, College Gate, Mohammadpur, Dhaka-1207	9139226
Medistine Hospital	218, Outer Circular Road, Moghbazar, Dhaka	9345003
Meditech General Hospital (Pvt) Ltd.	House # 21, Road # 2, Nikunja # 2	8918345
Mental Health Care	19/12, Babar Road, Mohammadpur, Dhaka	
Meriland Hospital	Sector # 1, Road # 13, House # 4, Uttara	8919481
Millennium Heart & Feneral Hospital	4/9, Block # F, Lalmatia, Mohammadpur	9122115
Mirpur General Hospital	House # 35, Road # 1, Sector # 10, Mirpur	8015444
Mirpur Holy Crescent Hospital (Pvt) Ltd.	33, South Bishil, Mirpur-1, Dhaka	9000633
Modern Clinic Of Surgery & Midwifery	House # 5, Road # 11, Gulshan – 1	8821578
Modern Harbal	12, Shantinagar	9357693, 9358052
Mojibunnessa Eye Hospital Ltd.	House # 11 (New), Road # 28 (Old) 25 (New), Dhanmondi R/A, Dhaka	9130638, 9130701
Monoawara Hospital (Pvt)Ltd	54, Shidishwary Road, Dhaka	8318135,8318529
Monon Psychiatry Hospital	150, Mohammadpur (VIP Road), Dhaka	9131958
Monowara General Hospital	Golapbagh, Bishwroad	7519446, 7514717
Mother Care Hospital (Pvt.) Ltd.	3/10, Lalmatia, Block – A, Mirpur Road	9119355
Mounty Hospital	House # 67/A, Block – B, Lalmatia	8110864
Mujibunnessa Eye Hospital Ltd.	Hosue # 11, Road # 15 (New) 28 (Old), Dhanmondi R/A	9113057, 9130638

Mukti	Hosue # 2, Road # 2, Gulshan # 2, Dhaka	8827147, 606728
Munsor Ali Medical College	Sector # 11, Road # 19, Plot # 1/C, Chowrasta, Uttara	8917978
National Centre For Hearing & Speace	Mohakhali	8822007, 9881535
National Diagnostic Network (Ndn)	69-M, Green Raod, Panthapath	9664834, 8610647
National Heart Foundation Hospital	Mirpur, Dhaka	8014914
National Medical College & Hospital	53/1, Johnson Road, Dhaka	7117300
Neurology Foundation & Hospital	3/1, Lake Circus, Kalabagan, Dhaka-1205	8114846
New Al-Rajhi Hosital	32,green Road, Dhaka	8611213
New Mukti Clinic	301, Elephant Road, Dhaka	8611360
Nez-E-Noor Hospital (Pvt)Ltd.	House # 59, Road # 10/A (New), Dhanmondi, Dhaka.	9117439,9130152, 8123758,8118226
Nibedita Shishu Hospita Ltd.	11/1, Hair Street, Wari	7119473
Nirupom Hospital (Pvt) Ltd.	House # 118, Road # 9/A, Dhanmondi R/A	8114429
North South Medical Centre	19/10, Babur Road, Block – B, Mohammadpur	9122111, 9126089
O. S. B Eye Hospital	Mirpur, Dhaka	9003088
Ogsb Maternity Hospital	Edgha Mohdhan Zoo Road Mirpur -1, Dhaka	9005490
Padma General Hospital Ltd.	290, Sonargaon Road	9661528, 9662502
Pan Pacific Hospital & Training & Recerch Ins.	24, Outer Circular Road, South Shahjahanpur	9349794, 9351777
Parkway Healthcare Infomation Centre	Suite – B3, Level -10, Road # 53, Gulshan – 2	8850422, 8850423
Paroshmani	House # 46, Road # 2, Banani Dhaka- 1213	9889233,9893255
Penta Star Hospital	161/A, Kalabagan, Lakecircus	9113131
Platonic International	538/A, Pearabag, Boro Moghbar	9342065
Proshanti Hospital Ltd.	6, Shantibagh, 3 Outer Citcular Road	8318699, 9348728
Rayel Hospital	House # 2, Road # 7, Block -C, Section -6 Mirpur Dhaka-1216	

Renaissance Hospital & Research Institute Ltd.	House # 60/A, Road # 4/A, Dhanmondi	9663677, 9664930
Rihd Pangu Hospital	Sher-E-Bangla Nagar, Dhaka	9119234-8
Rmc Hospital & Dignostic Complex Ltd	House # 19, Road # 5, Sector # 7 Uttara Dhaka-1230	8923904,8952157
Rmo, Ibn Sina Hospital	House # 68, Road # 15/A, Dhanmondi R/A	819513-5, 813709
Rog Mukti General Hospital	24, DIT Plot, Postogola	7410504
Royel Hospital (Pvt.) Ltd.	31, Eskaton Road	8313096
Rushmono General Hospital	208-9, Outer Circular Road, Moghbazar, Dhaka-1217	8317819, 8317606
S.P.R.C. Hospital	62, Bara Moghbazar	9339089, 9342744
Salvation Specialized Hospital	House No- 36, Road No-3, Dhanmondi R/A	9674114
Samoly Orthopaedic Hospital	3/KA, RC Culture Housing Society, Ring Road, Shamoli, Dhaka	9121832
Saphena Hospital	111, DIT Road, Malibagh, Dhaka (House # 27, Road #, Dhanmondi, Dhaka)	
Savar General Hospital	WAPDA Road (1st & 2nd flr.), Malancha, Savar	06226-848
Shamoli Orthoprdrdic General Hospital (Pvt) Ltd	3/Ka, P.C Culture Housing Society, Ring Road, Shamoli	9121832
Shazada General Hospital	Block – D, 1/30, Kalwalapara, Mirpur – 1	8014860
Shefa Nurshing Home	12/10, Babur Road, Block # B, Mohammadpur	9111758, 8010916
Shoboj Moti Shastha Seba	287/12C, Biswa Road, Khilgaon	9347649, 9347650
Sonargaon Health Care (Pvt.) Ltd.	House # 99 (1st Floor), Road # 11/A, (Satmosjid Road), Dhanmondi R/A	8118823
South Asian Hospital Ltd.	69/E, Green Road, Panthpath, Dhaka	9665852
South View Hospital (Pvt.) Ltd.	House # 1, Main Road # 11, Block – B, Section # 10, Mirpur	8018065
Squar Diagnostic &	Ak Complex (2nd Floor)	8616389

Hospital Services Ltd	19, Green Road Dhaka-1205	
Stoncrast Hospital	House # 362/2, Road # 27 (Old) 16 (New), Dhanmondi	9129402, 9137132
Stone Cursh Hospital	House # 48, Road # 4/A, Dhanmondi R/A, Dhaka	9668482, 9660360
The Barakah General Hospital Ltd.	937, Outer Circula Road, Razarbagh	9346265, 9337534
The Kidney Hospital And Dialysis Centre	161/A, Kalabagan, Dhaka – 1205	8122019,8123056
The Mark Ent & General Hospital (Pvt) Ltd.	Plot # A/3, Section # 14 Mirpur, Dhaka	9871527, 9872241
The Specialized Hospital (Pvt) Ltd.	House # 40, Road # 10/A,Dhanmondi R/A, Dhaka	9118523, 8114230, 8110263
Theol Medical College Hospital	142-143, Cteen Road	9128286, 9124627
Trauma & Orthopaedic Hospital	House # 17, Road # 28(Old),15(New) Dhanmondi R/A, Dhaka	
Uro Care Medical Center	House # 73, Road # 9/A, Dhanmondi	9126113, 9113694
Uttara Central Hospital	House # 1, Road # 7, Sector # 1, Uttara Model Town	8911551, 8918778
Vision Eye Hospital	House # 27, Road # 27 (Old), Dhanmondi	8113302
Women And Children’S Hospital Pvt.Ltd	House # 48/6, Road # 9/A Dhanmondi, Dhaka	9115458,9121077
Yamagata Dhaka Friendship Hospital	6/7, Block -A Lalmatia Dhaka	9129354
Z.H. Sikder Women’S College & Hospital (Pvt) Ltd	Monica Estate, (West side of Dhanmondi)	8115951, 8113313

1.2 Statement of the Problem

The role of health information cannot be overemphasized in the twentieth-first century. To achieve the goals of a healthy nation by the year 2015, it is vital to stress the need for the supply of appropriate information to the right people at the right time (Ruff, 1985). The role of health information transfer is an important one to this end.

The title of the thesis, 'Problems and Prospects of Health Science Libraries in Dhaka City: A Study' means the improving quality of existing services and their nature depending on the available facilities and capacity of the health science libraries of the city. In this thesis, comprehensive attempts have been made for the improvement of the present condition of information services of health science libraries of Dhaka city.

1.3 Objective of the Study

The aim of this study was to explore the state of health sciences libraries in Dhaka city, to investigate their strengths and weaknesses, Opportunities and threats, particularly with respect to information service provision and use of information and communication technologies (ICTs), and to make recommendations for future developments.

The more specific objectives of the study were:

- To explore the current state of health sciences libraries in Dhaka city;
- To determine the adequacy or otherwise of the health sciences libraries' resources, services, and co-operative activities in Dhaka city ;
- To identify the health professionals' information needs, the information sources used by them, the adequacy of those sources, and the difficulties faced in acquiring information;
- To explore the perception of health towards information provision and the use of information and communication technologies in health sciences libraries;
- To develop a model for improvement of health sciences library practice and information provision and to make appropriate recommendations based on this;
- To provide some suggestions for improvement of health libraries in Bangladesh.

1.4 Scope and Limitations

The present study intends to cover only the health libraries in Dhaka city. However the study is limited in its scope covering only some leading private medical libraries in Dhaka city.

The topic chosen was very broad. This study attempts to examine in detail the present situation of medical libraries, and concludes with the problems faced by the librarians in various sectors and suggests the need and measures for implementation of advance health science libraries. As it is an individual task, there is a lot of barriers to me as time, budget, transport etc. As each of these topics can well support on its own a separate dissertation, it is difficult to give in depth treatment to all of them. The research is limited as regards I select a few private medical in Dhaka city for conducting my research.

The present study concentrates on a review of the following issues:

- Available literature of information services and modern techniques of Information system;
- Status of libraries of the Health Science Institution (selected medical centres) of Dhaka City;
- Present status and existing facilities of information services in the Health Science Libraries of Dhaka City;
- A model plan for designing an improved information network system for the national medical research organization for access and effective use of health science information;
- Recommendations for smooth running of the proposed model plan for improving information services in the health science libraries of Dhaka City;
- A conspicuous idea of the characteristics of remedial measures for the betterment of information services;
- Integration of library information system to the Management Information System (MIS).

1.5 Methodology of the Research

The study used four separate data gathering methods:

- (1) A literature review;
- (2) Profiling of libraries and library staff;
- (3) A questionnaire analysis of library users and use;
- (4) Interviews with library staff;

But I mainly followed questionnaire analysis of library users and use. The questionnaire designed for this research was for health professionals working in some private health libraries in Dhaka city. Its main purpose was to gather both quantitative and qualitative data, and to gain an accurate knowledge of present activities in health sciences libraries in Dhaka city. In addition, the questionnaire focused on the level of user satisfaction as it related to health libraries and information services.

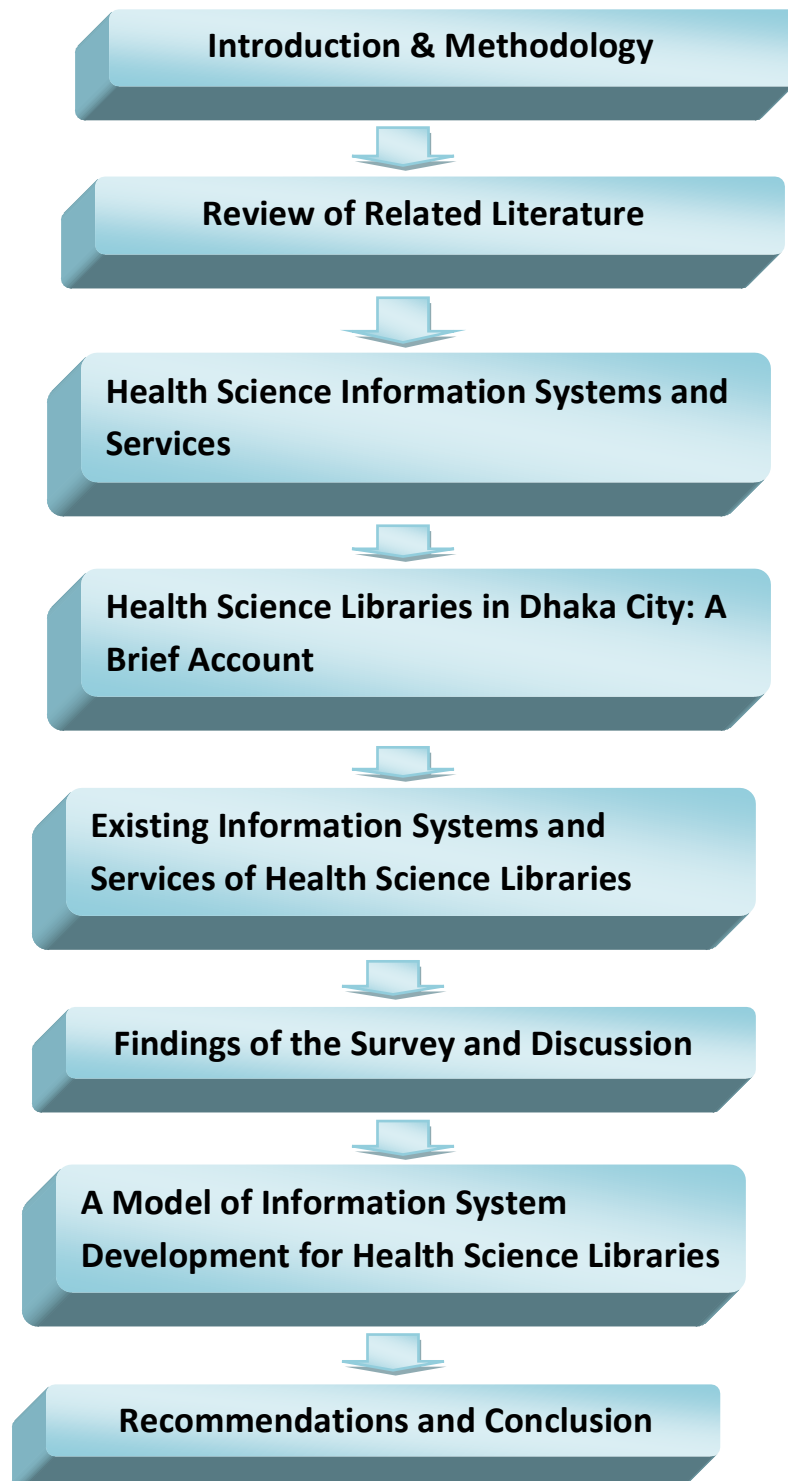
1.5.1 Nature of the Study

Every research work follows a particular methodology. This study, of course exploratory in nature, goes with primary data collection through questionnaire survey, data processing and data analysis, literature search, etc. Besides, some other traditional/conventional methods have been applied. Furthermore exploratory study helps in formulating appropriate hypothesis that is generally tested in conclusive study prepared based absolutely on published secondary data.

1.5.2 Design of the Study

A schematic diagram is presented below indicating the steps followed in carrying out the present study.

Figure-1.1 Design of the Study Plan



1.5.3 Sample Design

- A. For ensuring representativeness from health Science Libraries and Information centers in Dhaka City considering the functions, activities, operations, services and usefulness to the users, Health Science Libraries in Dhaka City were selected and brought under the investigation. The name of the libraries, year of establishment and location are presented in the following table:

Table 1.3 Names of the Sample Library and Information Centers

SL No.	Name of the Library	Year of Establishment	Location
01.	Bangladesh Institute of Research and rehabilitation for diabetes, Endocrine and Metabolic disorders (BIRDEM)	1986	Shahbagh, Dhaka
02.	Bangladesh Medical College	1986	House # 35, Road # 14/A, Dhanmondi
03.	Holy Family R. C. Hospital	1953	Eskaton Garden Road, Dhaka
04.	Green Life General Hospital	2010	Panthapath, Dhaka
05.	Anwar Khan Medical College and Hospital	2008	Sector 8, Dhanmondi, Dhaka

- B. One hundred and fifty (150) sample library users from different Health Science Library users, such as medical students, doctors, researcher and the Librarian have been interviewed through a semi-structured questionnaire. Users were selected applying judgmental sampling technique.

1.5.4 Data Collection Instrument

Based on the review of literature, two sets of structured questionnaire have been designed to collect data and information. One was prepared for the survey of the sample libraries and other for the interview of the library users. Both the questionnaires were duly pre-tested and finally structured keeping in view the objectives of the study.

1.5.4.1 Literature Search and Analysis

Several studies reported are supported to enrich the proposed study. Such as various medical indexing and abstracting tools like MEDLINE, MEDLARS and medical information available on CD-ROM related to the study have been consulted. Ten years dissertations abstracts both M. Phil and Doctoral of library and information science available in the Dhaka University Library have also been consulted. Besides, the investigator has systematically made a literature search from the 10 years Library Herald, Journal of the Countries library associations. The types of literature identified and located are books, monographs, periodical articles, proceedings, reports doctoral dissertations, etc. Besides different websites used in this study are located by means of search engines and databases of sample Health Science Libraries and identified the following URL: www.google.com, MSN etc. These materials have been analyzed for the research study.

1.5.4.2 Visit the Selected Health Science Libraries

The investigator took several visits to the different Health Science Libraries in order to know the existing facilities, strength and weakness of health science information system services in connection with this research work. The investigator personally surveyed and studied five Health Science Libraries in Dhaka City.

1.5.4.3 Questionnaire Method

Questionnaire method usually adopted in social research obtains information with the help of a questionnaire. A questionnaire is essentially skillful communication of objectives into set of questions intended to be answered in writing.

The researcher has made maximum efforts for collecting relevant data from Medical students, doctors, researchers, librarians and overall medical library users in Health Science Libraries of Dhaka City by employing the traditional method of empirical social science research i.e. questionnaire method. A structured questionnaire with both closed and few open were administrated to elicit both quantitative as well as qualitative information from respondents relevant to the study in the light of their observations and experiences. The relevance and utility of each item was carefully examined before their inclusion in the questionnaire.

1.5.4.4 Variables of the Study

Based on the analysis of the general and specific objectives of the present study eleven broad categories of variables for libraries and twenty seven specific variables for users were identified. The variables and indicators emerging out of the questionnaire for health science libraries and the library users have been shown in Tables 1.2 and 1.3 respectively.

Table-1.4 Variables and Indicators (Selected Health Science Libraries of Dhaka City)

Type of Variable (s)	Indicator
Institutional Information	Name of the library, address of the library, type of library, name of the librarian, designation(service grade), highest qualification of the librarian, working hours of the library, area of the library, management of the library, library statistics, library inventory of equipments, strength of library staffs etc.
Library Users	Doctors, students, researchers, average number of users.

Library Collections	Books, reports, theses, conference/workshop proceedings, manuscripts, periodicals, audio-visual materials and major areas of related collection.
Library Finance and Budgeting	Library expenditure for 5 years, source of library collection, source of library finance.
Service of the Library/Information Centre	Reference services, CAS (Current Awareness Service), SDI(Selective Dissemination of Information), inter-library loan services, indexing and abstracting services, reprographic services, internet services, CD-ROM services, online library services.
Acquisition (method of book purchase)	By inviting quotations, appointing vendors from local book market, other sources.
Processing	Use of classification scheme for processing library materials- dewey decimal classification, colon classification, universal decimal classification, others and use of cataloguing codes-ALA, AACR-AACR-2 and other codes.
Circulation	Register, network system, lending system, fine system and user statistics
Inter-Library Loan Service/Resource Sharing	Average book loan or other materials in week, getting the information for the users when they need-by sending persons, by writing letters, by telephone, by mail, by all means.
Infrastructural Facilities	Computer, scanner, reprographic equipment, audio-visual equipment and others, name of software used, and opinion about the existing facilities, data processing, and retrieval, and circulation, clerical and administrative work.
Library Network	Participation of the library in resource sharing networks-local, national, regional and the inter-national and the importance of networking of health information system in Dhaka City.

Table-1.5 Variables and Indicators (Users)

Types of Variable (s)	Indicators
User Profile	Name, sex, name of institute, qualification, status, specialization
Use of Library	Purpose of library visit-regarding general books, for research purpose, searching periodical articles, use of IT, reference materials, current information, seminar/conference/workshop proceedings, periodicals etc. The way you get the information concerning your research topic- by scanning, abstracting and indexing periodicals, by sharing with colleagues, by attending technical programs, any other sources
Information Services	Needs of information services according to the priority document loan, reprographic service, current awareness service, reference services, selective dissemination, indexing and abstracting computer literature, inter-library loan service, bibliographical verification, audio-visual materials, citation services
Ranking of Services	Parameters of ranking the level of satisfaction and dissatisfaction – fully satisfied, marginally satisfied, fully dissatisfied and no comment; selected Health Science Libraries
Users Awareness	Techniques of awareness about the new arrivals of the library-through friends, through library staffs, through professionals, through technical meetings and others
Problems Identified	Insufficient reading resources, lack of proper information services, insufficient infrastructure, inconvenient working hours, resources arrangement problems, staff behavior, insufficient IT facilities, lack of awareness of the authorities, lack of updated information.

1.5.5 Data Processing and Analysis

The data collected from two sets of questionnaires (Library user and Librarian) of this study were duly edited to verify and analyzed to fulfill the stated objectives. All the questionnaires were duly coded after editing for computer input. The steps followed in the process of data input are:

- Conducting validation checks to ensure that data value have been correctly entered into the computer
- Preparation of output tables
- The statistical package was used to enter, edit, analyze and interpret the data.

1.5.6 Statistical Method

In the study pie charts and bar diagrams are used to represent the data. The objectives of statistical presentation of data are to summarize clearly (with considerable visual impact) the facts and inferences drawn from the data.

1.5.7 Formulation of Hypothesis

The following hypotheses are formulated:

- (i) The existing information services available in the health science libraries in Dhaka City are not sufficient to fulfill the requirements of the medical students, doctors, researchers and overall health science library users and resources.
- (ii) The medical students, doctors, researchers and overall health scientists of Dhaka City are in need of modern and computerized/automated health science information system for accessing and updating their knowledge.
- (iii) The resource sharing of health science information source among the Health Science Institutions are not up to the satisfaction of the medical students, doctors, researchers and overall health scientists.

- (iv) There is an urgent need for networking of health science information system in Dhaka City Health Science Libraries for effective and necessary information supply to the medical students, doctors, researchers and overall health scientists in Dhaka City and for this a uniformed Database should be maintained.

1.6 Implementation

The study was implemented in four steps:

Step-I : Reviewing of all literatures preparation of reading list

Step-II: Designing and testing of questionnaires, sample design, data collection, data analysis and presentation

Step-III: Presenting the existing status of the information service in the Health Science research system

Step-IV: Preparing/developing a model plan for improving the existing information services in the Health Science Library system in Dhaka City.

Figure- 1.2 Diagram of Organization of Theses

<p>Chapter 1 Introduction & Methodology</p>	<p>Introduction, Health Care in Dhaka City, Statement of the Problem, Objective of the Study, Scope and Limitations, Methodology of the Research, Nature of the Study, Design of the Study, Sample Design, Data Collection Instrument, Literature Search and Analysis, Visit the Selected Health Science Libraries, Questionnaire Method, Variables of the Study, Data Processing and Analysis, Statistical Method, Formulation of Hypothesis, Implementation</p>
<p>Chapter 2 Review of Related Literature</p>	<p>Review of Related Literature</p>
<p>Chapter 3 Health Science Information Systems and Services</p>	<p>Introduction, Information: Meaning and Definition, Types of Information, Characteristics of Information, Health Science Information, Categories of Health Science Information, Health Science Information System, Health Science Information Service, Importance of Health Science Information systems and services in Dhaka City perspectives, Conclusion</p>
<p>Chapter 4 Health Science Libraries in Dhaka City: A Brief Account</p>	<p>Introduction, Background of Health Science in Dhaka City, Performance of Health Science Information sector Dhaka City, Libraries, staff, users, usage, Education and training, Information services, ICTs, Challenges of Health Science Information in Dhaka City, Selected Health Science Information Institutes in Dhaka City, Conclusion</p>
<p>Chapter 5 Existing Information Systems & Services of Health Science Libraries in Dhaka City</p>	<p>Introduction, Information Needs of the health scientists and researcher, Development of health science information services in Dhaka City, Existing Information systems and services of health science libraries in Dhaka city, BIRDEM LIBRARY, Bangladesh Medical College Library, Holy Family Red Crescent Medical College Library, Green Life Medical College Librarv. Anwar khan Modern medical College Librarv. Conclusion</p>
<p>Chapter 6 Findings of the Survey and Discussion</p>	<p>This Chapter presents the findings of survey result in various tables, charts, pie graphs, bar graphs etc.</p>
<p>Chapter 7 A Model of Information System Development for Health Science Libraries in Dhaka City</p>	<p>Introduction, Existing status of information system in Health Science Information System in Dhaka, The needs of the improvement of the existing information systems and services of Health Science Information System in Dhaka city, The proposed model plan: Health Science Research Information System (HSRIS) with definition, The definition and goal of Health Science Research Information System (HSRIS), Development of the Health IT Workforce, A proposed roadmap for adoption, Conclusions</p>
<p>Chapter 8 Recommendations and Conclusion</p>	<p>Researcher suggested some recommendations for improving information services in the Health Science libraries in Dhaka City</p>



Chapter- 2

**Review of Related
Literature**

Chapter 2

Review of Related Literature

Introduction

Information Collecting and transmitting could have been the first profession of the world when a cave man took the job interview of a painter for the first time. Since then information has been used in every sphere of life in our society.

Literature search is itself information by nature. Every research work requires hard studies to get information related to literature as it is an essential for any investigation to identify the new problems and gaps in the area of research. It also helps to frame the study and intervention of the search findings. The present titled problem is modern in nature as it is related with the Health Science Libraries of Dhaka City. Research work on the improvement of the library services and their characters in Health Science Libraries in Dhaka City is very rare. Most of the literature on the topic in Europe, America and Africa are not available libraries and information centers in Bangladesh. Some work on the same topic is found in India and Middle-East. In this particular study, the following literature has been reviewed chronologically:

Dr RP Kumar (1993) realized that the study attempts to examine in detail the use of modern technologies in health sciences libraries. These technologies are telecommunication, photocopying, micrographics, audiovisual, computer applications, online and CD-ROM etc. It also aims to pin-point the need for development of these modern technologies appropriately.

AlShaya (2002) recommended extending physicians' access to electronic information sources, and enhancing information education opportunities for physicians, so they can learn to use IT and electronic information sources. He found that several environmental factors can make quite large differences to the physicians' use of new technologies such as availability and accessibility of electronic information services, status of physicians, and information searching skills and training. He saw it as essential to develop and implement national policies and guidelines for the provision of electronic information services in hospital libraries in Saudi Arabia.

Ahmad Khudair (2006) reported that ICTs were found to be playing an important role in the health sciences libraries, and have the potential to shape a paradigm shift of functions and activities. The libraries studied all provided various ICT facilities and electronic services, though the availability differed between libraries. These included personal computers (PCs), network and internet access, online catalogues, CD ROM resources, online databases and electronic journals.

David Bawden (2007) recommended that Health professionals are expecting faster access to health information and to be able to share such information with other professional bodies and individuals, but this is clearly not possible in the absence of a health information network. Health libraries would benefit from such a network by providing more convenient, accurate, and up-to-date information to all users.

B.T. Fidzani (2001) described the Health libraries' primary function is to meet the information resources and service needs of the population it serves as they relate to the programs offered within the college. To ensure that college libraries meet the information resources and service needs of the population they serve, standards were set against which they could be evaluated.

O.S. Oladokun (2001) suggest ways to further improve the library operations, equipment and technology with a view to improving quality and standard of service in Health Science libraries.

Sarah Barbara Watstein (2004) identified the emerging roles of Health Sciences librarians are considered within the context of changes and challenges facing both the profession of librarianship and the library. She has come to appreciate the degree to which health Sciences library resources and services are critical to the respective Hospital's mission.

Rosenberg (1986) focused on the Information for the health transfer process to the rural population aims at repackaging information to satisfy given health needs. The notion of repackaging information entails its processing and transformation into formats that are accepted, understood, and usable by the target population. Through this, the message is developed, the method of communication decided, and the form the information will take follows, and lastly evaluation.

Dr. V. Pulla Reddy (2010) stated that 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.

Dr. P. Srinivasulu (2010) believed that the main purpose of Health Science libraries is to support medical education, including teaching, research and patient-care. He mentioned also it 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.

Sampath Kumar and Biradar (2010) examined the use of information communication technology (ICT) in 31 Health Science libraries in Karnataka, India by investigating the ICT infrastructure, current status of library automation, barriers to implementation of library automation and also librarians' attitudes towards the use of ICT in Health Science libraries.

Hayati and Jowkar (2008) opine that the most problematic factors which slow down the adoption of electronic reference materials stem from unfamiliarity of academic librarians and users with computers and searching databases. They point out that the implementation of computers and information technology does not mean final acceptance and work productiveness.

Davarpanah (2003) in his study on medical libraries in Iran reported that due to language barriers, an overwhelming number of these libraries had utilized commercial library-oriented packages developed in the country.

Haneefa (2007) analyzed while Health Science libraries automate their library management activities and procure expensive electronic resources, they may not be optimally used. This is the main concern of Health Science libraries around the world. There are a lot of reasons for this state of affairs, like insufficient funds, inadequate infrastructure, lack of qualified medical library professionals and the like.

Jaffer (2008) reported on the status of medical libraries in the United Arab Emirates (UAE). He emphasized the need for strong medical information systems to be able to manage the rapid growth of medical information effectively. In addition, he recognized the need to develop indexing and abstracting services for UAE medical journals. He also identified the necessity of resource sharing and coordination between medical libraries.

Alian (2008) conducted a study of medical libraries in the state of Bahrain. Insufficient budgets, poor collections, absence of qualified staff, poor physical locations and lack of cooperation were the major problem facing these libraries in Bahrain.

Sulaiman Al-Ogla (1998) examined the status of hospital libraries in Riyadh, Saudi Arabia, in terms of their sponsoring organizations, staff, collection, facilities, and services. The study stressed the need to establish a library in each hospital, to develop greater international cooperation to improve library services, to shift the focus from ownership to access, and to hire professional librarians to improve information services for users.

M. Sewell (2002) depicted that health Science libraries need highly skilled specialized librarians. Therefore, they should hire professional staff with MILS degrees, particularly bilingual librarians (Native and English). All libraries should be headed by a librarian. In addition, attractive salary scales, appropriate incentives, and higher official status should be offered to attract qualified library professionals.

Al Moorthy (2000) guided that the health science libraries must be supported with adequate budgets to improve their collections, services, equipments and furniture. He also found out that to avoid wasteful duplication of effort and resources, some small hospital libraries should be merged into one library.

M. Ramzan (2004) investigated that all health science libraries in Morocco need a collection development policy to guide the proper and systematic growth of the collection in all formats. The top priority for hospital libraries should be building a core collection.

LO Carrasco (1996) depicted that intensive and comprehensive training programs for professional and support staff should be offered on an ongoing basis. Training should focus on providing information services and applying and using the latest information technology. Moreover, health science libraries can't continue to use traditional work methods. These libraries must automate their operations and services with currently available technology. All health science libraries in Kuwait should be connected to the internet to provide electronic access to remote and widely distributed electronic information.

M. Slaney (2010) described that medical information is of special importance because it directly supports the ultimate purpose of the health care system. It is therefore suggested that all hospitals have libraries for physicians and staff.

F Mohsenzadeh (2009) looked health science libraries can't function appropriately without ICT infrastructure, it is suggested that computers, printers, library software and different types of electronic information resources be provided to enhance quality health science library operations and information services in Masqat, Oman. He suggested library automation in health centers in Masqat is considered as the most important part of IT application in health science libraries, which help better services to clients. Therefore, automation of all health science libraries in Masqat should be carried out as this will enhance library services and resource sharing at national and international levels.

C.K. Lim, D.G Nazarian and S.G Parekh (2004) analyzed it is important for medical libraries to initiate training programs for library staff in collaboration with campus computer centers, departments of studies in library and information science, and medical library associations in Karnataka, India. It is also important for medical librarians to design library websites to provide links to their electronic/ online resources and web/internet-based services.

M.S. Jaffer (2002) proved to strengthen resource sharing; a cooperative national network of all health sciences libraries should be established. He looked the health sciences center library in Kuwait University should act as a central library to coordinate all activities such as interlibrary loan and shared acquisition. He mentioned also some encouraging trends like NSTIC, PAAET appeared in this area.

M R Miller (2009) investigated that some users of Regensburg medical library, Cape Town, South Africa, as their native language is Tsonga, need to have documents abstracted or translated. It is therefore suggested that a library provide these services. Sometimes health science librarians will need to seek help from outside to provide these services. He also looked hospital authorities should encourage and guide librarians to participate in seminars and workshops to improve understanding of library problems and thereby reach solutions.

Conclusion

Literature of any research work determines how many books, journals, publications, articles, reports etc. a researcher exerts to seek the result related to his/her thesis. A researcher is a good seer, a keen investigator, a witty reader and a great writer. But above all a researcher is to be a studious man for 'studies serve for delight, for ornament, and for ability' (Bacon, 1561). Review of related literature has been done on many topics such as information systems, information services, research, information needs, information sources, technology transfer, and problems of information systems, services and their characteristics, improvement of information systems and services in the field of Health Science Libraries in Dhaka City. Besides, the researcher worked on the major communication behaviors of researchers and extension workers of different countries. The investigator searched the writings of the eminent writers of many developed countries of the world in the ground of Health Science Library systems and services. The researcher explored the different functions and services of modern libraries (health science) such as current awareness service, online services, electronic cataloguing etc. through the internal publications, journals and books. Literature done above has made the researcher easy to have superb findings along with a good model of Health Science Library and solve the problems and the future prospects of Health Science Libraries of Dhaka City with the help of the questionnaire and its discussion.



Chapter- 3

**Health Science Information
Systems and Services**

Chapter 3

Health Science Information Systems and Services

3.1 Introduction

The role of health information cannot be overemphasized in the twentieth century. To achieve the goals of a healthy nation by the year 2014, it is vital to stress the need for the supply of appropriate information to the right people at the right time (Ruff, 1985). The role of health information transfer is an important one to this end. Information for the health transfer process to the population aims at repackaging information to satisfy given health needs. The notion of repackaging information entails its processing and transformation into formats that are accepted, understood, and usable by the target population. Through this, the message is developed, the method of communication decided, and the form the information will take follows, and lastly evaluation (Rosenberg, 1986). The medium used should be one that can be controlled by the target population. This would facilitate communication, which is the overall aim of information transfer. Further, information must be repackaged in the right format to increase the effectiveness of information usage. The target population should become convinced of the relevance of the information on offer so that, when they adopt the recommended package of behaviors and practices related to the new ideas, they view them as advantageous and for their own good (Akonga, 1988). This work highlights some of the ways in which health information has been repackaged for rural communities in the developing world. It also suggests how library and information professionals can contribute.

3.2 Information: Meaning and Definition

Information may be defined as the characteristics of output of a process, these being informative about the process and the input. The discipline independent definition may be applied to all domains, from physics to epistemology. Hierarchies of processes, linked together, provide a communication channel between each of the corresponding functions and layers in

the hierarchies. Models of communication perception, observation, belief, and knowledge are suggested that are consistent with this conceptual framework of information as the value of the output of any process in a hierarchy of processes. Topics or definitions (provided) include information, value, function, argument, process, informative, reversibility, message, channel, inverse functions, representation, perception, belief, knowledge, information loss, perfect information, incomplete information, and misinformation (Losee, 1999).

The term 'Information' has driven from two Latin words i.e. 'formatio' and 'forma' mean giving shape to something and forming a pattern respectively (devarjan, 1995). The term 'Information' has been defined in many ways. In general usage it may mean a 'message' the basic element with which a human being communicates from time immemorial. The definition of Information has gradually become complex as specialists and scholars interpreted it in different context. So we see that Information is one of the vital resources indispensable for every kind of development of the civilized society.

According to "Wikipedia" information, in its most restricted technical sense, is an ordered sequence of symbols. As a concept, however, information has many meanings. Moreover, the concept of information is closely related to notions of constraints, communication, control, data, form, instruction, knowledge, meaning, mental stimulus, pattern, perception and representation. (www.thefreedictionary.com/information)

G.B Davis, an eminent information scientist gave his opinion regarding information in the following way. Information is "Data that has been processed into a form that is meaningful to recipient and is of real perceived value in current as prospective decisions." He further observed that information is processed data and it has a meaning to its recipient (Davis, 1977).

According to ALA Encyclopedia of library and information services, "Information is a property of data resulting from or produced by process that produced the data transmission (in which case the definition and measures used in communication theory are applicable) it may be data organization , it may be data analysis." (ALA World Encyclopedia Library & Information Service, 1986)

J. Martin defined information as the staple diet for readers of newspaper and mass audience of the board casting media and the cinema. It is directed ceaselessly at those millions of consumers so relentlessly targeted by the advertising industry and dispensed around the clock from any number of inquiries desks at railway stations and airports, libraries and similar public or private service institution. (Martin, 1989)

From the stance of information theory, information is taken as a sequence of symbols from an alphabet, say an input alphabet χ , and an output alphabet Υ . Information processing consists of an input-output function that maps any input sequence from χ into an output sequence from Υ . The mapping may be probabilistic or deterministic. It may have memory or be memorials.

3.3 Types of Information

There are three types of information-Primary, Secondary and Tertiary

Primary Information means the original materials that has not been interpreted or analyzed. The examples of primary information are statistics, research articles, blogs, websites etc.

The Secondary Information means material created from primary material, interpreting original one. The example of secondary information are textbooks, review articles etc.

The Tertiary information acts as a tool in understanding and locating information. The examples of tertiary information are databases, subject gateways, dictionaries, bibliographies etc.

3.4 Characteristics of Information

Good information is that which is used and which creates value. Experience and research shows that good information has numerous qualities.

Good information is relevant for its purpose, sufficiently accurate for its purpose, completes enough for the problem, reliable and targeted to the right person. It is also communicated in time for its purpose, contains the right level of detail and is communicated by an appropriate channel, i.e. one that is understandable to the user.

i. Understandable:

Since information is already in a summarized form, it must be understood by the receiver so that he will interpret it correctly. He must be able to decode any abbreviations, shorthand notations or any other acronyms contained in the information.

ii. Relevant:

Information is good only if it is relevant. This means that it should be pertinent and meaningful to the decision maker and should be in his area of responsibility.

iii. Complete:

It should contain all the facts that are necessary for the decision maker to satisfactorily solve the problem at hand using such information. Nothing important should be left out. Although information cannot always be complete, every reasonable effort should be made to obtain it.

iv. Available:

Information may be useless if it is not readily accessible ' in the desired form, when it is needed. Advances in technology have made information more accessible today than ever before.

v. Reliable:

The information should be counted on to be trustworthy. It should be accurate, consistent with facts and verifiable. Inadequate or incorrect information generally leads to decisions of poor quality. For example, sales figures that have not been adjusted for returns and refunds are not reliable.

vi. Concise:

Too much information is a big burden on management and cannot be processed in time and accurately due to “bounded rationality”. Bounded rationality determines the limits of the thinking process which cannot sort out and process large amounts of information. Accordingly, information should be to the point and just enough – no more, no less.

vii. Timely:

Information must be delivered at the right time and the right place to the right person. Premature information can become obsolete or be forgotten by the time it is actually needed.

Similarly, some crucial decisions can be delayed because proper and necessary information is not available in time, resulting in missed opportunities. Accordingly the time gap between collection of data and the presentation of the proper information to the decision maker must be reduced as much as possible.

viii. Cost-effective:

The information is not desirable if the solution is more costly than the problem. The cost of gathering data and processing it into information must be weighed against the benefits derived from using such information.

ix. Presentation

The presentation of information is important to the user. Information can be more easily assimilated if it is aesthetically pleasing. For example, a marketing report that includes graphs of statistics will be more concise as well as more aesthetically pleasing to the users within the organization. Many organizations use presentation software and show summary information via a data projector. These presentations have usually been well thought out to be visually attractive and to convey the correct amount of detail.

3.5 Health Science Information

Health professionals and practitioners engaged in the task of improving the health standards of the Bangladeshi people need an efficient information support system so that they can deliver the health care services effectively. This support becomes much more relevant in the national efforts to achieve the goal 'Health for All by 2010'. Recent developments in computers and telecommunication technologies have revolutionized the modes and methods of information storage and retrieval. Now information cannot only be stored, retrieved, communicated and broadcast electronically in enormous quantities and at phenomenal speed, but it can also be rearranged, selected, marshaled and transformed. Any sequence of operations on information can be carried out without further human intervention.

3.6 Categories of Health Science Information

Health Science information is that kind of information which is needed in the development of medical research extension and education.

There are various categories of Health Science information:

1. International health science library
2. Libraries of national status in health science
3. Academic libraries of health science
4. Research Libraries of health science
5. Pharmaceutical libraries
6. Libraries of voluntary associations of health science

3.7 Health Science Information System

Health Science Information System and demonstrations are given by field health educators. A health Science Information System is the most natural way of information transfer. A health Science Information System may be addressed to one person or to a group in a Health Science library. It is normally combined with other methods, especially visual media such as posters, slides where there is electricity, and flannel graphs. Health Science Information System takes place at health facilities. Usually these systems are given first thing in the morning in the maternal, child health and family planning (MCH/FP) clinics. Systems are also given during home visits by community health educators.

The guideline on systems states that the library shall establish, promote, and maintain a range of services that will support the academic program of the institution and encourage optimal library use. In the light of the above, the questionnaire clearly spelt out a range of services expected to be performed by the libraries. These, among others, include library orientation, bibliographic instruction services, photocopying services, CD-ROM search services and reserve collection services. Current awareness is an essential service that should be done by any library. The absence of the CD-ROM facility could be attributed to lack of money of Institute of Health Science libraries and lack of foresight on the part of the librarians to plan for the facility. There were two respondents, representing 25 percent, that did not have reprographic facilities like a photocopying machine. This trend is capable of allowing some destructive users to mutilate and tear off relevant portions of library books. Only two libraries perform bibliographic instruction services. Other services like library orientation service, reserve collection service, issue and return service and inter library loans service are well undertaken by all the libraries. In line with the demand of modern technology, the questionnaire also asked for information on computerization of the libraries. The response indicated that none of the libraries were being assisted by computerization. There were indications, however, that plans were underway to introduce modern technology into these institutions in future.

3.8 Health Science Information Service

There are many medical colleges, and dental colleges in Dhaka. Besides this, there are nursing colleges, pharmacy colleges and other institutions. Each college/institution has a library of its own attached to it. The libraries can be classified into Medical, Research, Ayurvedic, Homeopathic, Dental, Unani and Pharmaceutical Libraries. They provide various services in information sector. Some of them are:

1. All the health sciences libraries should have telephone, telex, fax and e-mail facilities.
2. There should be between one and four photocopiers depending upon the size of the libraries.
3. The libraries should have an audiovisual collection.
4. The medium-sized libraries should have a microfilming unit.
5. Small health science libraries with a collection of about 25,000 should have a PC-XT.
6. The medium-sized libraries, with a collection ranging from 50,000 to 200,000 should have at least one PC-XT with a CPU of 16 bits, 512 Kb main memory, 2 Winchester discs (40Mb each), 4 terminals, one floppy drive and one 200 CPS dot matrix.

7. A National information/documentation centre for health sciences should be established in Dhaka similar to that of BANSDOC, BANBEIS, ICDDR,B, BCSIR etc, which would be equipped with all the modern IT equipment and would network with all the local libraries.
8. There is a need to make librarians aware of the latest technology so that they can impress upon the authorities the advantages of applying the latest technologies.

3.9 Importance of Health Science Information systems and services in Dhaka City perspectives

Health Science libraries in the Dhaka city are geographically located in urban centers with books as their major resource. They must extend their services and take on the provision of community information services. They must now provide problem-solving information to the community in collaboration with other agencies engaged in rural community development. These libraries must analyze the communities they serve to determine their specific health needs and their oral indigenous knowledge base. Each community has its own unique characteristics and features which must be identified. An understanding of what the community already knows and its experiences are vital for the effective planning and implementation of any information service extended to the community.

Librarians serving these communities must open up ways of compiling useful health information directories, fact banks, handbooks, bulletins, newsletters, and other resources. Such materials would be valuable to those involved in the transfer process. Libraries would in this way concentrate on meeting the needs of village health workers. These workers would in turn provide information direct to the community. They must aim at developing services within the existing framework rather than developing new ones. They must also take an active role in mobilizing the rural community to work together, generate information and help solve their health problems. An information service based on print media would not benefit the rural population whose majority cannot read and write.

The type of information service provided must recognize that information transfer is a two-way process. The target population should be able to provide feedback on how health policies work in practice, the needs that are not being met and/or how they feel information can best benefit them. It is necessary that at whatever level of the service, whether planning, designing, or actual provision of the service, the target population must be directly involved. They must become active participants in information activities through meetings and informal discussions. Librarians would have to monitor government policy and legislation on health issues, and where possible interpret it for the community.

Health professionals are expecting faster access to health information and to be able to share such information with other professional bodies and individuals, but this is clearly not possible in the absence of a health information network. Health libraries would benefit from such a network by providing more convenient, accurate, and up-to-date information to all users. On the other hand, health librarians are not satisfied with the current condition of their libraries and services. They expect development related to various issues concerning health sciences libraries in Dhaka (i.e. co-operation, policy, access to electronic sources, development of information services and information networks). Information networks could create and improve co-operation among health libraries in Bangladesh and with other health libraries elsewhere in the country.

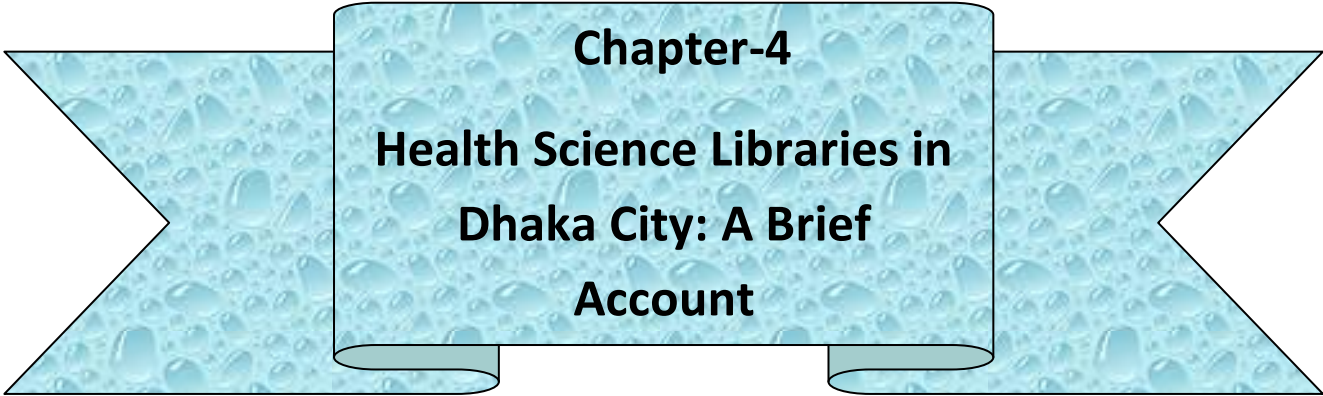
Importantly, it will help the healthcare environment to move towards the establishment of a flourishing health information society through popularizing the use of electronic resources and highlighting the benefits and advantages of the electronic learning programs. There will be links to all appropriate health sites, which would be authorized, authenticated and regulated. For example, users might find directories of governmental hospitals, governmental pharmacies, health sciences libraries, and guidance on organizing and using personal health libraries. In addition, a web-based health information network prototype could be a key enabler and catalyst for such change in the health profession, because the internet has the capability to meet changes of this kind. During formal education, health professionals should be provided with opportunities to acquire basic information handling skills. Health professionals should be provided with continuing educational programs which cover their information competencies and keep up with technological advances to maintain their information management skills.

Health libraries in Dhaka city were founded concurrently with the foundation of medical teaching programs and modern hospitals in major localities. The number of health libraries is increasing with the establishment of new hospitals and universities around the entire city. In recent years many health libraries in Dhaka city improving their condition in ICT sites, but there are also some problems in other sectors. The role of health information cannot be overemphasized in this century. To achieve the goals of a healthy nation by these days, it is vital to stress the need for the supply of appropriate information to the right people at the right time. The health libraries can play a vital role about that which is possible by health libraries.

The health science libraries of Dhaka city are well-used, and appreciated by their users, and the staffs are generally satisfied with their work. Problems and issues are identified: use of information communication technologies and digital resources; lack of proactive information services; education, training and continuing professional development for health library work; limited strategic planning and policy for these services. Recommendations are made for improvements.

3.10 Conclusion

The promotion of health through community participation and by acceptable means is a big challenge to the library and information profession. Libraries and information centers have to work in partnership with health professionals. They must harness the information generated for the communities and repackage it in acceptable formats for community use. The formats would include visual, oral or a combination such as film shows talks, demonstrations, meetings, and audio-visual presentations.



Chapter-4
Health Science Libraries in
Dhaka City: A Brief
Account

Chapter-4

Health Science Libraries in Dhaka City: A Brief Account

4.1 Introduction

Bangladesh is one of the oldest civilizations with a kaleidoscopic variety and rich cultural heritage. It has achieved multifaceted socio-economic progress during the last 43 years of its independence. As the seventh largest country in the world (by population), Bangladesh is well marked off from the rest of Asia by mountains and the sea, which gives the country a distinct geographical entity. India comprises sixty four districts and seven divisions. Bangladesh has made commendable progress in the technological, engineering and communication fields. Modern technologies are applied to information handling. Production of hardware and software technology is domestic. Dhaka is the capital and one of the biggest cities of Bangladesh.

National resources are augmented by establishing links with the international systems. There are many medical colleges, and dental colleges in Dhaka City. Besides this, there are nursing colleges, pharmacy colleges and other institutions. Each college/institution has a library of its own attached to it. The libraries can be classified into Medical, Research, Ayurvedic, Homeopathic, Dental, Unani and Pharmaceutical Libraries.

4.2 Background of Health Science in Dhaka City

People in poor countries like Bangladesh tend to have less access to health services than those in better-off countries, and within countries, the poor have less access to health services. Although a lack of financial resources or information can create barriers to accessing services, the causal relationship between access to health services and poverty also runs in the other direction. When health care is needed but is delayed or not obtained, people's health worsens, which in turn leads to lost income and higher health care costs, both of which contribute to poverty. Deprivations that lead to ill health are common in developing countries, and the poor in developing countries are particularly at risk. The relationship between poverty and access to health care can be seen as part of a larger cycle, where poverty leads to ill health and ill health maintains poverty. Here we review factors that affect access to health services in developing countries, focusing on the role of poverty. We then explore some ways that innovations in the delivery and financing of health care in developing countries could improve access to the poor.

Health Science libraries in Dhaka city were founded concurrently with the foundation of medical teaching programs and modern hospitals in major localities. The number of health libraries is increasing with the establishment of new hospitals and universities around the entire city. In recent years many health libraries in Dhaka city improving their condition in ICT sites, but there are also some problems in other sectors. The role of health information cannot be overemphasized in this century. To achieve the goals of a healthy nation by these days, it is vital to stress the need for the supply of appropriate information to the right people at the right time. The health libraries can play a vital role about that which is possible by health libraries.

The achievement of primary health care information calls for the involvement of individuals in their own health care information. Improvements in health information can come about only through information and education to the public to enable them to make healthy choices. The private hospitals strategy in Dhaka city, for example, focuses on health information promotion through provision of timely information at the community level. The aim of community based health care is that the community must be informed, motivated and involved. Through community-based health information schemes the standard top-down approach of conventional health care delivery would be replaced by an approach in which the organization and activities for health care information within the community are determined by local needs and conditions. Health concerns have, consequently, been brought into the mainstream of village activities. Health committees have been formed and village health workers (VHWs) have been appointed. These personnel help create a heightened community understanding of how people can organize themselves to prevent disease and improve their health. This way individuals gradually develop a positive attitude towards their own health information services as well as the community's well-being, and the ability to become development conscious.

Health information reform efforts in the Dhaka city have focused on resolving some of the fundamental irrationalities of the system whereby costs and services utilization are often not linked to improved doctors and students outcomes. Sociologists have contributed to these efforts by documenting the extent of problems and by confronting central questions around issues of accountability, reimbursement, and rationing that must be addressed in order to achieve meaningful reform that controls costs, expands access, and improves quality of health science library. Major reform rarely occurs without "paying off" powerful interests, a particularly difficult challenge in the context of a large and growing deficit. Central to achieving increased coverage and access, high quality, and cost control is change in reimbursement arrangements, increased accountability for both costs and outcomes, and criteria for rationing based on the evidence and accepted as legitimate by all stakeholders. Consensus about health reform requires trust. The traditional trust patients have in physicians provides an important base on which to build.

4.3 Performance of Health Science Information Sector Dhaka City

Health professionals are expecting faster access to health information and to be able to share such information with other professional bodies and individuals, but this is clearly not possible in the absence of a health information network. Health libraries would benefit from such a network by providing more convenient, accurate, and up-to-date information to all users. On the other hand, health librarians are not satisfied with the current condition of their libraries and services. They expect development related to various issues concerning health sciences libraries in Dhaka city. Information networks could create and improve co-operation among health libraries in Dhaka city and with other health libraries elsewhere.

4.3.1 Libraries, staff, users, usage

Staff numbers in the libraries surveyed varied between one and seven, with one library awaiting the appointment of a librarian. Seventeen were regarded as professional level staff, and 20 as Para-professional. A majority of library staff were not educated to university degree level, only half had any library/information qualification, and only one person had had any training in health information topics. All relied on substantial work experience to support their professionalism, given the limited impact of LIS formal education, and the lack of any continuing professional development (CPD) opportunities. Most were satisfied with their working environment, but had concerns about lack of facilities, training opportunities, their role and status (and consequent lack of input into decision making processes), and the lack of strategic policies and plans.

4.3.2 Education and Training

As noted above, the lack of formal education in LIS generally, and in health information specifically, and the lack of CPD opportunities, emerged as a significant factor preventing the development and improvement of the health sciences library services. Training in the use of ICTs came across as an important need.

The study also showed that the health professional library users felt a need for training and support in the use of ICTs and digital information resources, confirming the findings of others. Very few had received any training or support from library staff, and only half would ask for advice from them. This emphasizes the need for library staff themselves to be well-trained and confident with these topics. This is by no means limited to the Bangladeshi situation, but it is seen particularly strongly here.

4.3.3 Information Services

Satisfaction with library services and library staff was generally high; dissatisfaction was noted for provision of electronic resources and ICT systems, and for training provision. Knowledge sharing, among both users and library staff, was very limited, because of both technical factors and a lack of organizational infrastructure and policy.

4.3.4 ICTs

ICTs were found to be playing an important role in the health sciences libraries, and have the potential to shape a paradigm shift of functions and activities. The libraries studied all provided various ICT facilities and electronic services, though the availability differed between libraries. These included personal computers (PCs), network and internet access, online catalogues, CD-ROM resources, online databases and electronic journals.

4.4 Challenges of Health Science Information in Dhaka City

Urban communities like Dhaka city receive information on various aspects of health. They are provided with information about family planning, nutrition, communicable diseases, immunization, anti-smoking, traditional birth attendants (TBA) delivery, environmental health, and others. The information is presented to them in many formats. This allows for greater individualization because those who are unable to process the information in one format are presented with an alternative. This poses a challenge to librarians and other information workers. Should they sit back and leave the information transfer process to professionals such as community health educators, social workers, communicators and others? The challenge and task are great in the developing world where librarians are faced with very many problems. These problems range from **poor library infrastructure, lack of adequate trained manpower, lack of managerial skills among the existing trained manpower, lack of goodwill within the institutions that the libraries serve, to financial constraints and many others**. Developing world librarians and other information workers must face the situation and use their professional skills and will to deal with this challenge.

4.5 Selected Health Science Information Institutes in Dhaka City

4.5.1 BIRDEM (Bangladesh Institute of Research and Rehabilitation in Diabetes, Endocrine and Metabolic Disorders)

Dr Mohammed Ibrahim first thought of diabetic care in the country. He realized that diabetes is such a disease where not only doctors but patients should be involved in the process of diabetic care. He thought the matter as a socio-medical care. Although the real extent of the problem of diabetes in the country was not evident, he could foresee the present picture at that time and organized a group of social workers, philanthropists and professionals.



With the help of them he established Diabetic Association of Bangladesh (then Pakistan) on February 28, 1956. Primarily an ad hoc committee was formed to run the organization. Later, on May 21, 1956 the first Office Bearers of the Association has been formed with the following members:

Ser.	Name	Designation
1.	Major Dabiruddin	President
2.	Dr Md Ibrahim	Vice President
3.	Mrs NurjahanMorshed	Vice President
4.	Mr A M SalimullahFahami	Secretary
5.	Miss TaheraKarim	Joint Secretary
6.	Dr M A Mannan	Joint Secretary
7.	Mrs F Dosani	Treasurer

Diabetic care was started in a tin-shed building at Segun Bagicha. The motto of Dr Ibrahim was 'no diabetic patients should die untreated, unfed or unemployed even if she/he is poor'. So, he committed to give primary care to the diabetic patients free of cost irrespective of socio-economic, racial or religious status. Even rich patients were not allowed to buy the primary diabetic care, but they could donate money to the association. The resources and fund was

raised through motivation programs. It is to be noted that, there were no indoor facilities initially at Segun Bagicha. Patients in need of hospitalization were sent to other hospitals. In the beginning of 70's few short-stay beds were established to take care of the serious patients.

Dr M Ibrahim was very much aware about the quality of the service provided to the patients. He used to address the patients by saying that 'we are grateful to you for giving us the opportunity to serve'. He also motivated other doctors to serve the patients with empathy. He included social welfare, health education, nutritional education and rehabilitation in the diabetes healthcare delivery system.

4.5.2 Anwar Khan Modern Medical College

4.5.2.1 History

The college was established in 2008 by businessman Anwer Hossain Khan, Masters in commerce from Dhaka University & present chairman of Shahjalal Islami Bank Ltd.

Chairmen = Mr. Anwer Hossain khan Principal = Prof. Dr. MD. Fazlur Rahman.



4.5.2.2 Location

This Medical College Hospital is situated at House # 17, Road # 8, Dhanmondi, Dhaka –1205.

4.5.2.3 Campus

The academic building of the college is built on its own and rented land having classrooms, lecture galleries, practical classrooms, departmental museums, a library etc. It also accommodates a cafeteria. There are separate hostels for male and female students.

The college was approved by the Government of Bangladesh. It is affiliated with Dhaka University, and has the recognition of the Bangladesh Medical and Dental Council (BMDC)

4.5.2.4 Course and curriculum

The main course offered is the Bachelor of Medicine and Bachelor of Surgery (MBBS) for 5 years of study. The College follows the curriculum approved by the Dhaka University and Bangladesh Medical and Dental Council.

The College has admitted 04 batches of students since its inception. The hospital is situated just behind the college building with all modern amenities offering emergency, outdoor and indoor services round the clock.

4.5.2.5 Journals

AKMMC Journal is published twice a year (January & July issue). It accepts original research paper, short communication related to various branches of Medicine, interesting case reports, review articles on topics of interest and letters to the editor. Papers should be solely contributed to the journal.

4.5.3 Holy Family Red Crescent Medical College

The Holy Family Red Crescent Medical College started its journey in the academic year 1999-2000 with active inspiration of the then Prime Minister Shaikh Hasina. The then Health Minister Shaikh FazlulKarim Salim MP, Chairman, Bangladesh Red Crescent Society Shaikh Kabir Hossain and all the Doctors and Staffs working in Holy Family Red Crescent Medical College Hospital under the leadership of Professor Dr. Md. Maniruzzaman Bhuiyan contributed tremendously to establish the College.

The Holy Family Red Crescent Medical College is a project of Bangladesh Red Crescent Society (BDRCS) and is run by a Governing Body duly formed by the representatives of sponsor organization Bangladesh Red Crescent Society (BDRCS), representatives from Dhaka University and Government of Bangladesh.



The College follows the course curriculum of MBBS course as laid down by Dhaka University and Bangladesh Medical and Dental Council. Government of Bangladesh regulates the criteria of qualification of students and Dhaka University conducts the professional examinations and certificates of MBBS degree are awarded by them.

It started its journey with 50 students in the academic year 1999-2000. Presently we have 719 students and 115 students are admitted per academic session including up to a maximum of 25% foreign students. Eight batches of students have already qualified as doctors and four batches have completed their internship training and one batch is undergoing internship training in Holy Family Red Crescent Medical College Hospital (HFRMCH) which is a tertiary care Hospital established in the year 1953 with 646 beds and delivering clinical services in all departments of medical science.

The Holy Family Red Crescent Medical College and Hospital is located in a quiet and serene environment in the heart of Dhaka city at 1, Eskaton Garden Road, Dhaka-1000 on 8.10 acres of land. The construction of the new modern six storied academic building covering an enormous area of one lac twenty three thousand square feet with all modern amenities is already completed and academic activities have been started in the mean time.

Since its establishment in the year 2000, Holy Family Red Crescent Medical College has come a long way in last 12 years and achieved great reputation amongst the non-government medical colleges in the country. They have adequate qualified teaching staff and modern teaching aids like computers, multimedia and overhead projectors for effective delivery of lectures. This medical college has a full-fledged library with sufficient text and reference books and journals. The library has high speed internet facilities with HINARI access. This institute is listed in database of AVICENNA (Former WHO medical directory). Holy Family Red Crescent Medical College is registered with FAIMER International Medical Education Directory-IMED. American Medical Council recently recognized MBBS Course completed form our Medical College. MRCP Part-I Orientation Course has been started in our Medical College in the mean time. The College

is also a centre for FCPS Part-II Examination. Their vision is to lead this institution into a Centre of Excellence for medical education, training and service.

4.5.4 Green Life Medical College

4.5.4.1 Background

Medical facility is one of the most important fundamental needs of a human being. About 35% of the people of Bangladesh are living below the poverty line. Most of them are deprived of quality and modern medical services. Every year a lot of people are dying because of the lack of proper treatment. Many of these people cannot manage proper treatment because of the lack of exact information; they get confused and fail to avail expected treatment.



Bangladesh is one of the rapid developing countries of the world. After independence Bangladesh has developed a lot, specially, in technology and communication sector. Medical sector has also been developed a lot. Bangladesh is now able to give proper treatment for different hazardous diseases.

Most of our urban people get the privileges to enjoy the government services because they have money. Besides, the poor village people always remain behind the curtain. Because of the lack of equal distribution of national services to all sorts of people the whole nation suffers from different problems and cannot foster the progress of development. In our country government medical services have not been properly developed. But different private sectors have worked with it and developed a lot and in most of the cases they ensure a world class service. But the problem is that almost all the private hospitals are very costly and people of all

classes are not solvent enough to get their services spending a huge amount of money. So the question comes. “Will those poor people always remain deprived of proper treatment?”

Ensuring the basic needs for the people is a work not only for the government. Every conscious citizen of this country should spread their hands to help the government. To work with it, they have a lot of young and enthusiastic people; we have enormous possibilities. But they have to ensure the proper use of these resources.

4.5.4.2 Who they are

Since January 2012, Creating Healthy Bangladesh Team has been working intensively as a voluntary and non-profit organization. In this era of technology for the first time they have launched a website which covers the names and addresses of all the doctors and hospitals of Bangladesh. Our team has worked intensively in the rural and urban part of the country and collected the details of hospitals. The objective of their team is to make those people aware who spend a lot of money but unfortunately fail to get rid of their diseases. Recently they have organized several successful health campaigns in different parts of the country. The team is also working very hard to remove Hepatitis-B from Bangladesh and through their campaigns they have already informed many people about the causes and effects of Hepatitis-B. The team is recently trying to start an emergency medical service so that they can ensure primary health care to the rural people and can connect them with the metropolitan cities. The pioneers of the team have gradually collected meritorious students from different parts of the country to form this welfare team. The ultimate objective of this team is to create a healthy Bangladesh.

4.5.5 Bangladesh Medical College

Bangladesh Medical College (BMC) is the first private medical college in Bangladesh. It was established in 1986 by a group of dedicated people called the founder members who were imbued with the ideals of providing quality medical education, research and services to people of this country at reasonable cost. The College and the Hospital are run by Bangladesh Medical Studies and Research Institute (BMSRI) which is a non political and non profitable organization. The members of the Institute are not entitled to any remuneration or dividends.

The establishment of a medical college imparting medical education leading to recognized medical degree was taken as the first and foremost aim of the Institute. Through the tireless efforts of the Founder Members the dream was realized against much opposition when permission was accorded by the Government of Bangladesh for the creation of the College on 13 April 1986.



Bangladesh Medical College started functioning from 24 April 1986. The Dhaka University granted affiliation to the College on 10 May 1988. Bangladesh Medical and Dental Council have recognized the College. The first batch of students from the College appeared in the 1st Professional MBBS Examination of the Dhaka University held in March 1990 after completing two years of prescribed course of studies. The College has been enlisted in the World Directory of Medical Schools effective 1986 published by the World Health Organization which entitles the graduates of BMC recognition all over the world. Graduates of BMC are eligible for limited registration with the General Medical Council of United Kingdom. They are also eligible to take the United States Medical License Examination (USMLE). Now the college has a new 6 storied academic building with adequate parking facilities. It has now been possible to accommodate most of the departments in more spacious place.

The attached Hospital is a tertiary care referral medical facility and provides excellent training to students and junior doctors. The Hospital has arrangements for 500 inpatients. It is well equipped and provides quality health care to the public at reasonable cost. The entire hospital staff is dedicated to excellence and service.

The College is recognized by the Bangladesh Medical and Dental Council since 1986. BMC has been enlisted in the World Directory of Medical Schools effective 1995 published by World Health Organization which entitles the graduates of BMC recognition all over the world. Graduates of BMC are eligible for limited registration with the General Medical Council of United Kingdom. They are also eligible to take the United States Medical License Examinations (USMLE).

The College and the attached Hospital in Dhanmondi Campus are accommodated in two 6 storied buildings with arrangements for 500 inpatients. The new building of the Hospital, called the Community Welfare and Health Care Centre (CWHCC), is built to international standards. It has an excellent Outpatient Department in addition to Inpatient facilities. The College also has a modern Accident and Emergency Department. The College has recently acquired a large and

modern mobile hospital with a fully air conditioned operation theatre, patient examination and treatment arrangements.

4.6 Conclusion

Despite improvements in providing access to health care information Dhaka city, substantial proportions of their populations have limited access. The user (students/doctors) in these cities suffer from a disproportionate burden of information lickings yet usually have less access to health care information, whether measured by geographic accessibility, availability, financial accessibility, acceptability, or quality of information. However, recent studies show that this outcome is not inevitable. Success depends in part on gaining a local understanding of the dimensions and determinants of access to health science information, along with determined attempts to improve services for the researcher and students of health profession. There are many innovations in financing, service delivery, and regulation of care that hold promise for improving access for the user. The same can be said of older strategies. In either case, the challenge remains to find ways to ensure that vulnerable populations have a say in how strategies are developed, implemented, and accounted for and to ensure that information and incentives are aligned in ways that can demonstrate improvements in access by the health science information seeker.

Chapter-5

**Existing Information systems and
services of health science libraries
in Dhaka city**

Chapter-5

Existing Information systems and services of health science libraries in Dhaka City

5.1 Introduction

People in poor countries tend to have less access to health services than those in better-off countries, and within countries, the poor have less access to health services. Although a lack of financial resources or information can create barriers to accessing services, the causal relationship between access to health services and poverty also runs in the other direction. When health care is needed but is delayed or not obtained, people's health worsens, which in turn leads to lost income and higher health care costs, both of which contribute to poverty. Deprivations that lead to ill health are common in developing countries, and the poor in developing countries are particularly at risk. The relationship between poverty and access to health care can be seen as part of a larger cycle, where poverty leads to ill health and ill health maintains poverty. Here we review factors that affect access to health services in developing countries, focusing on the role of poverty. We then explore some ways that innovations in the delivery and financing of health care in developing countries could improve access to the poor.

5.2 Information Needs of the health scientists and researcher

Demonstrations involve a mix of theoretical teaching and practical work. They are aimed at helping the community learn new health skills. Real objects and models are used during demonstrations. Photographs and posters are also sometimes shown. Demonstrations are realistic and must fit in with the local culture. Materials and objects used are normally those that are familiar to the community.

The type of information service provided must recognize that information transfer is a two-way process. The target population should be able to provide feedback on how health policies work in practice, the needs that are not being met and/or how they feel information can best benefit them. It is necessary that at whatever level of the service, whether planning, designing, or actual provision of the service, the target population must be directly involved. They must become active participants in information activities through meetings and informal discussions. Librarians would have to monitor government policy and legislation on health issues, and where possible interpret it for the community.

5.3 Development of health science information services in Dhaka City

Dhaka is a densely populated city. Most of the people here live under the poverty line. There are many public medical colleges in Dhaka city. The health science information system of Dhaka city is improving day by day. The medical college libraries are now changing their condition from the old version. They are entering the new era of modern information system.

5.4 Existing Information systems and services of health science libraries in Dhaka City

5.4.1 BIRDEM Library

BIRDEM Library is a well established medical and health science library of the country. It is started in 1975 at Segun Bagicha and shifted to Shahbagh in 1981 and re-shifted to present premises in 1985.

A short description of the library is given below

- Library hours: Saturday to Thursday
From 7.30 am to 9.00 pm
- Annual budget: Tk. 37 lac for 2014-2015
- Library manpower: 10 persons (Professional-5, Non Professional-5)
- Total number of books: 7413 copies
- Total number of international journal: 21 titles (List enclosed)
- Back volume bound journal: 2748
- Floor area: 5200 S.ft
- Number of reading accommodation: 82 persons (approx)
- Electronic facilities: Internet Facilities
- MEDLINE: Available in Online as **PubMed**
- Photocopy service: Instant photocopy service

Type of Services:

- Use of library visits by patrons: (users)
- New member collection
- Books & Monographs processed (automated & manual)
- Lending service to users
- Electronic communication media for storage and retrieval and dissemination of information
- MEDLINE : Available in Online as PubMed

- POPLINE/PubMed : Available in Online
- Photocopy services : Instant photocopy services
- We have full access to the HINARI & INASP PERI
- Internet facilities
- Facilities available for guiding library patrons as to how to use library materials independently and how to write scientific papers.

[Source: Annual Report 2014-2015]

5.4.2 Bangladesh Medical College Library

The library started with the establishment of the Bangladesh medical college. This library is situated in the part of the main building of the college academy. Recently the library introduced networking system in it. The collection of the library is enough enrich. This is a modern medical library. This library has open access system for the users and the teachers and researchers. The library provides various library services to the users like: Library use instruction, reference service, CAS service, Photocopy service etc.

A short description of the library is given below

- Collection: At present (2014)- 7171 books, in 2013- 6800 books
- Catalogue: This library use MESH catalogue
- Catalogue system: Classified and Dictionary catalogue both
- Library network: Local Area Network
- Number of visitors (per day): Approximately 50 users

A short description of the library staffs is given below

Designation	No. of Staffs	Qualifications(Highest Professional & Educational including Computer education)
Librarian	1	M.A in Library Science
Deputy Librarian	1	M.A in Library Science
Assistant librarian	1	Completed graduation
Library assistant	1	M.A in Library Science
Library attendant	3	
cleaner	1	

[Source: Librarian, BMC]

5.4.3 Holy Family Red Crescent Medical College Library

Holy Family Red Crescent Medical College LIBRARY is one of the famous hospital libraries. There are two parts of the library: one for the students and another one for the teachers and researchers. Both are situated in the part of the main building. Library also provides internet service for the students. The library is close for the students and open for the doctors.

A short description of the library is given below

- Collection: At present (2014)- 2800 books, in 2013- 2500 books
- Catalogue: This library use classified catalogue
- Catalogue system: Classified catalogue
- Classification scheme: DDC
- Library network: Local Area Network
- Number of visitors (per day): Approximately 35 users

A short description of the library staffs is given below

Designation	No. of Staffs	Qualifications(Highest Professional & Educational including Computer education)
Librarian	1	Diploma in Library Science
Assistant librarian	1	Diploma in Library Science
Library assistant	1	
Cleaner	1	

[Source: Librarian, HFRCMC Library]

5.4.4 Green Life Medical College Library

Green Life Medical College Library is one of the most well furnished libraries among the medical college libraries in Dhaka city. The library is situated with the part of the main building in 13th floor. The library is fully central AC system.

A short description of the library is given below

- Collection: At present (2014)- 1267 books, in 2013- 1050 books
- Catalogue: This library use dictionary catalogue
- Number of visitors (per day): Approximately 50 users
- Electronic facilities: Internet, E-mail available

Designation	No. of Staffs	Qualifications(Highest Professional & Educational including Computer education)
Librarian	1	M.A in Library Science
Assistant librarian	1	M.A in Library Science
Library assistant	1	No response
Cleaner	1	No response

[Source: Librarian, Green Life Medical College Library]

5.4.5 Anwar Khan Modern Medical College Library

The college library is spacious, well furnished with comfortable sitting arrangement, located at the academic building. It has a good collection of medical textbooks, references, monographs and journals on various subjects which can provide up to date information to the students and teachers. The library is also equipped with computers. It has user friendly access system, the library is provided with separate reading area for students as well as teachers. It remains open from 8.00 am to 5.30 pm in all working days. The library remain closed on Fridays and national holidays. It has access to all medical related websites like HINARI, PubMed, Wikipedia and other online and also WiFi coverage.

A short description of the library is given below

- Collection: At present (2014)- 1900 books, in 2013- 1600 books
- Catalogue: This library use classified catalogue
- Catalogue system: Classified catalogue
- Classification scheme: DDC
- Library network: Local Area Network And WiFi
- Number of visitors (per day): Approximately 40-50 users

A short description of the library staffs is given below

Designation	No. of Staffs	Qualifications(Highest Professional & Educational including Computer education)
Librarian	1	M.A in Library Science
Assistant librarian	1	Diploma in Library Science
Library attendant	1	H.S.C
Cleaner	1	

[Source: Librarian, Anwar khan Modern medical College Library]

5.5 Conclusion

This is the overall condition of health science libraries in Dhaka city. There are also many definitions of access to health services, with most researchers recognizing that access is related to the timely use of services according to need. Although some researchers distinguish between the supply and opportunity for use of services and the actual using of health services, most view access to health services as including realized need. Here we use a conceptual framework that builds on longstanding descriptions of access to health services that includes actual use.



Chapter-6

**Findings of The survey
and discussion**

Chapter-6

Findings of the Survey and Discussion

The authenticity and cogency of the research depends upon the validity of research data. Hence, it is imperative to provide the reader with details of data collection and generation, analysis method of the problems, with their solutions or effects of the researched data. This section gives a good indication of what is expected to get out of research. The investigator has attempted the data analysis and possible outcomes to the theory and questions that the users have raised. This chapter is good place to summarize the significance of the work. The researcher has tried to find out the existing information systems and services of health science libraries of Dhaka City, available infrastructural facilities, modern library facilities, library professionals ability, some of the basic and general information of the libraries and the details about materials processing etc.

Table 6.1 Basic facts of selected health science libraries in Dhaka City

Name of the library	Year of establishment	Address of the library	In separate building (Y/N)
Anwar Khan Modern Medical College Library	2008	Sector 8, Dhanmondi, Dhaka	No
Bangladesh Medical College Library	1986	House # 35, Road # 14/A, Dhanmondi	No
Green Life Medical College Library	2009	Panthapath, Dhaka	No
BIRDEM Library	1986	Shahbagh, Dhaka	No
Holy Family Red Crescent Medical College Library	1953	Eskaton Garden Road, Dhaka	No

(Source: Survey Data, 2014)

Table 6.1 reveals that all the Health Science libraries for the current study were established during 1953 to 2009. Holy Family Red Crescent Medical College Library was established in 1953 and the latest one is Green Life Medical College Library, which is established in 2009. No library has it's separate building. All of the libraries are part of the main building.

Table 6.2 Institutional Information of Health Science Libraries in Dhaka City

Name of the institution	Name of the library	Website	Type of the library	Working hours/day
Anwar Khan Modern Medical College	Anwar Khan Modern Medical College Library	www.akmmc.edu.bd/	Health Science (Private)	9.00 a.m. to 05.00 p.m.
Bangladesh Medical College	Bangladesh Medical College Library	www.bmc-bd.org/	Health Science (Private)	9.00 a.m. to 04.00 p.m.
Green Life Medical College	Green Life Medical College Library	www.omat.in/green_life-medical_college	Health Science (Private)	9.00 a.m. to 05.00 p.m.
BIRDEM	BIRDEM Library	www.birdem-bd.org/	Health Science (Private)	09.00 a.m. to 04.00 p.m.
Holy Family Red Crescent Medical College	Holy Family Red Crescent Medical College Library	www.hfrcmc.edu.bd/	Health Science (Private)	08.00 a.m. to 02.00 p.m. and 02.00 p.m. to 08.00 p.m.

(Source: Survey Data, 2014)

Table 6.2 shows that all libraries operate within the official hours, which is 09.00 a.m. to 05.00 p.m. Only Bangladesh Medical College Library and BIRDEM Library close at 04.00 p.m. On the other hand, Holy Family Red Crescent Medical College Library is used generally two shifts. One starts at 08.00 a.m. and close at 02.00 p.m. and the second shift is starts at 02.00 p.m. and close at 08.00 p.m. All sample libraries have communication facilities like telephone, fax and e-mail. All surveyed health science libraries have their individual websites.

Table 6.3 Library Wise Respondents

Name of the library	Respondents
Anwar Khan Modern Medical College Library	30
Bangladesh Medical College Library	30
Green Life Medical College Library	30
BIRDEM Library	30
Holy Family Red Crescent Medical College Library	30

(Source: Survey Data, 2014)

There were five (05) respondents in the questionnaire on the library service provider (Librarians) of five Health Science Libraries in Dhaka City and 150 respondents from the students and researchers the respective health science libraries. The investigator collects information equally from the selected health science libraries, which is 30 from each one.

Table 6.4 Strength of Library staff and & information provider and catalogue system of Health Science Libraries in Dhaka City

Name of The Library	Strength of Library staff (No.)			Strength of Information provider (No.)		
	Professional	Semi-professional	Non-professional	Professional	Semi-professional	Non-professional
Anwar Khan Modern Medical College Library	2	0	2	1	2	4
Bangladesh Medical College Library	2	2	3	1	0	2
Green Life Medical College Library	1	1	1	1	1	2
BIRDEM Library	0	0	2	8	0	0
Holy Family Red Crescent Medical College Library	2	0	1	2	2	3

(Source: Survey Data, 2014)

Table 6.4 represents the strength of the Health Science libraries and information provider. BIRDEM library has the highest number of professional information provider and Anwar Khan Modern Medical College Library and Green Life Medical College Library have only 1 professional information provider. Holy Family Red Crescent Medical College Library has the highest number of library professionals and staffs.

Table 6.5 Institutional information of Health Science libraries in Dhaka City

Name of the library	Catalogue	Maintaining Library Statistics (Y/N)
Anwar Khan Modern Medical College Library	Card form	Yes
Bangladesh Medical College Library	Card form	Yes
Green Life Medical College Library	Card form	Yes
BIRDEM Library	Card form	Yes
Holy Family Red Crescent Medical College Library	Card form	Yes

(Source: Survey Data, 2014)

Table 6.5 represents the status of library service delivery. All of the libraries use card form catalogue system. It shows that the system needs to be changed with the experience of other automated library services. The statistics of the information materials are maintained in all of the libraries.

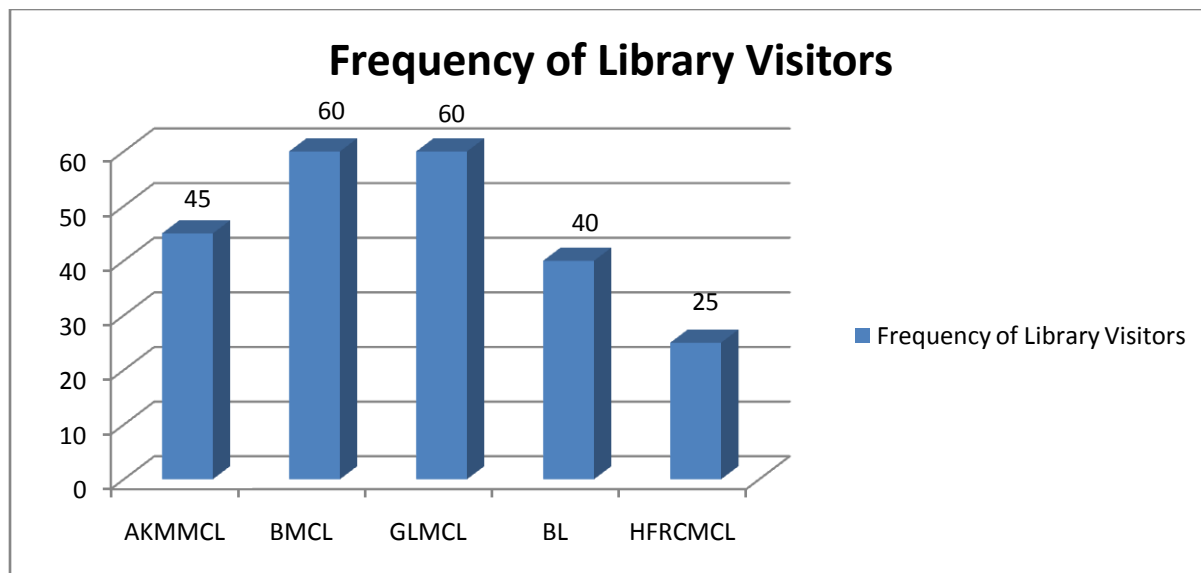


Figure 6.1 Frequencies of Library Visitors

Figure 6.1 represents the frequency of library visit by the respondents of Health Science libraries per day in numbers. It says that Bangladesh Medical College Library and Green Life Medical College library is highest in position of the frequency of daily library visits. Both library visits every day approximately 60 respondents and Holy Family Red Crescent Medical Library is in lowest position. The visitor here is only 25 per day.

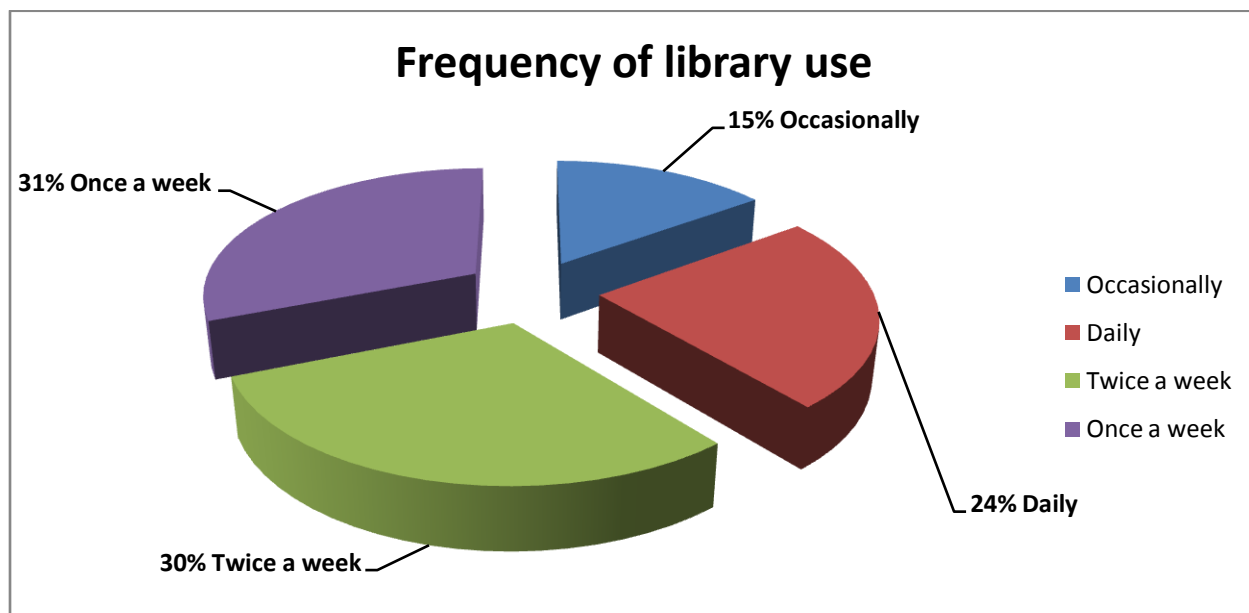


Figure 6.2 Frequencies of Library Use

Figure 6.2 represents the frequency of library visit by the respondents of health science libraries of Dhaka City. It says that the health science libraries are most frequently used by the respondents taken from the health science library user mainly occasionally (15%) than daily (24%).

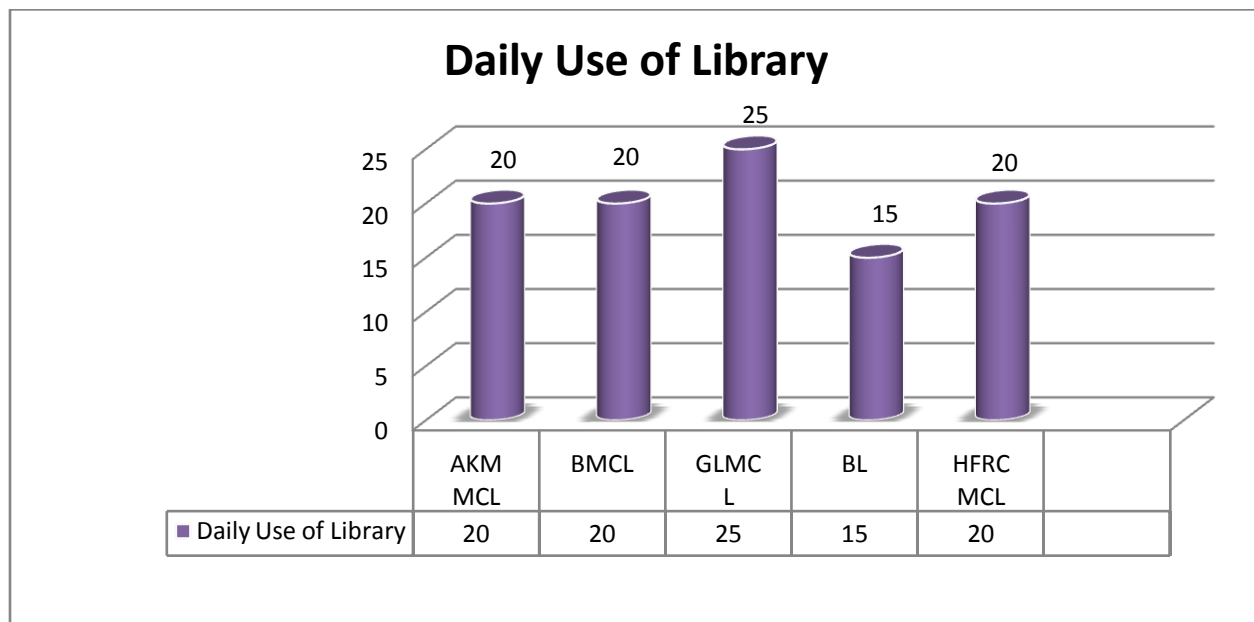


Figure 6.3 Daily Use of Library

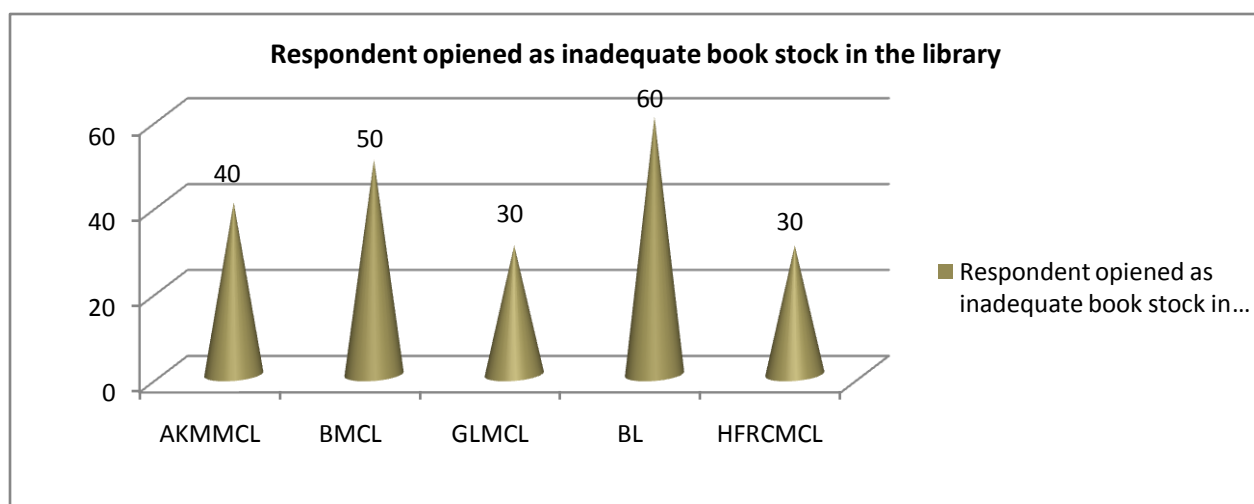


Figure 6.4 Respondent opined as inadequate book stock in the library

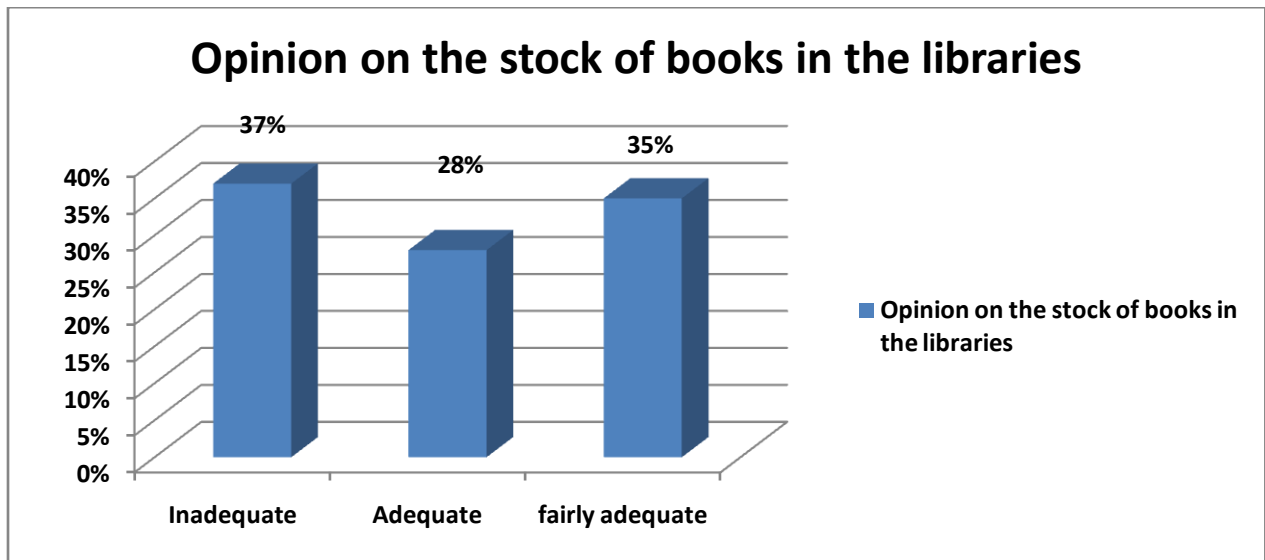


Figure 6.5 Opinion on the stock of books in the libraries

Figure 6.4 and 6.5 represent Respondent opined as inadequate book stock in the library and Opinion on the stock of books in the selected health science libraries in Dhaka City. Figures represent opinion of the respondents of Health Science libraries about the books for research work in percentage. Average 30% respondents on average opined inadequacy of books and others opined adequate. Medical library wise, Green Life Medical College Library respondent’s opined 70% inadequacy of books and BIRDEM Library respondents opined 40% inadequacy of books.

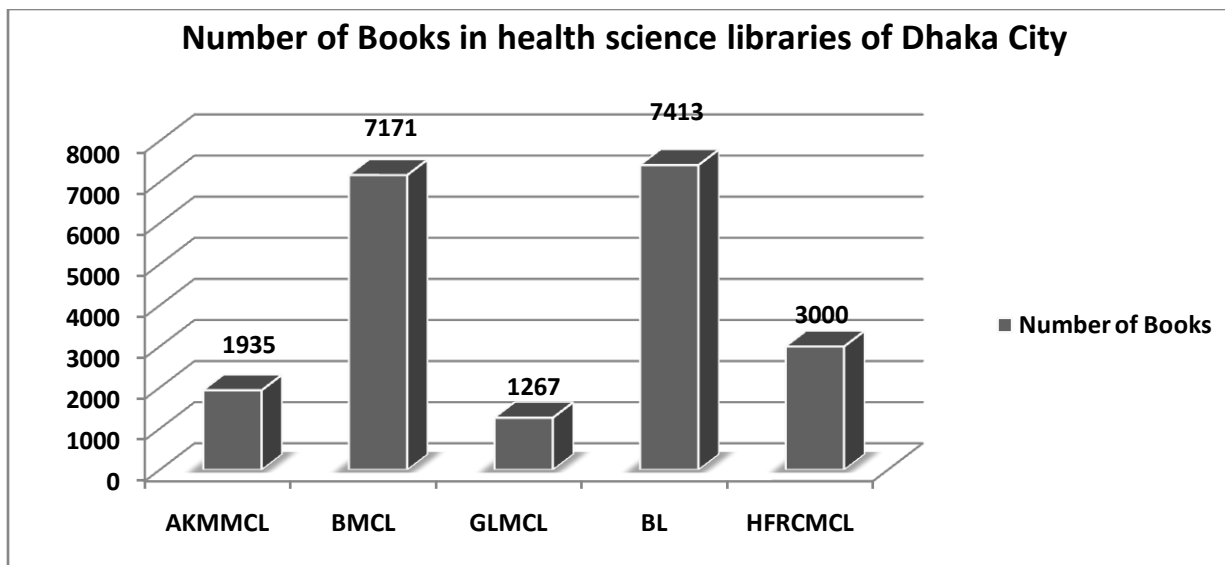


Figure 6.6 Number of Books in health science libraries of Dhaka City

Figure shows that BIRDEM library has the highest number of books i.e 7413 books while Anwar Khan Modern Medical College library, Green Life Medical College library and Holy Family Red Crescent Medical College library have the lowest number of books i.e less than 4000.

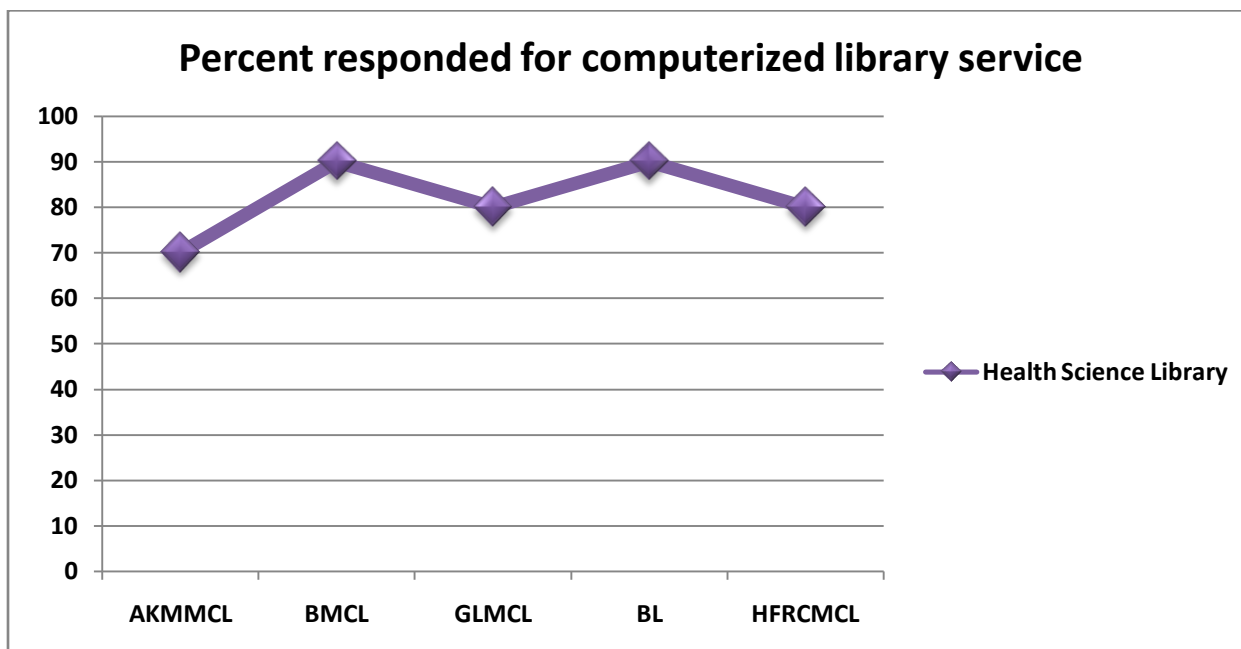


Figure 6.7 Percent responded for computerized library service

Figure 6.7 represents the percentage of computerized library service from the user of the health science library in Dhaka city. Bangladesh Medical College Library and BIRDEM library have the highest percentage, i.e 90% and Anwar Khan Medical College Library has the lowest percentage, i.e 70%.

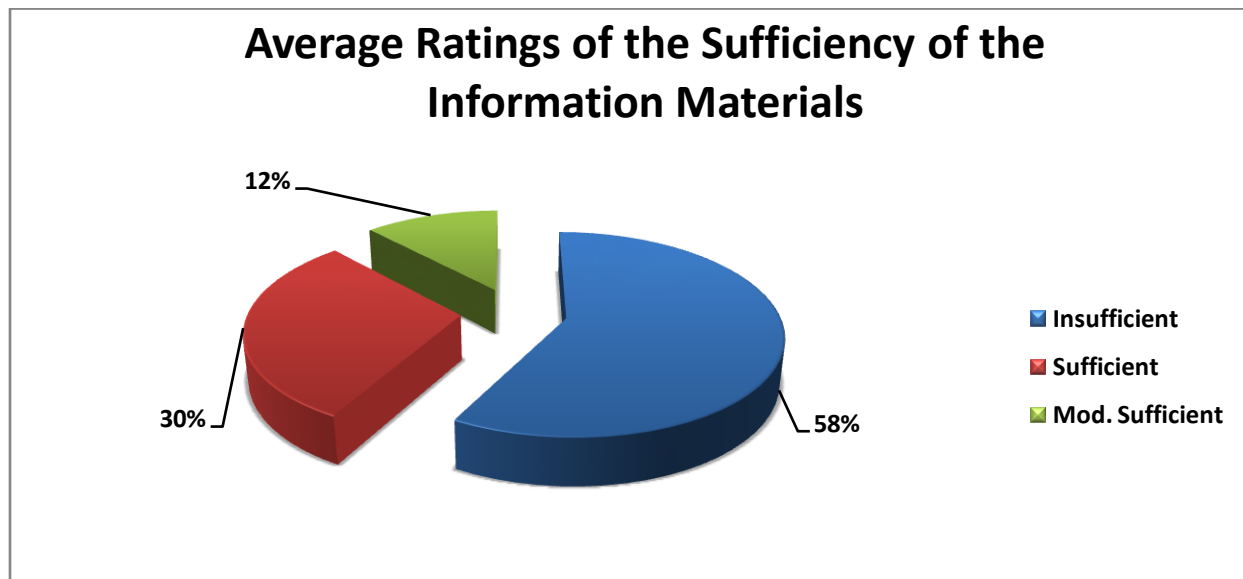


Figure 6.8 Average Ratings of the Sufficiency of the Information Materials

Figure 6.8 represent the Average Ratings of the Sufficiency of the Information Materials in all the selected libraries of health science in Dhaka City. Among all the libraries the on average insufficiency is 58% and sufficiency is 30%.

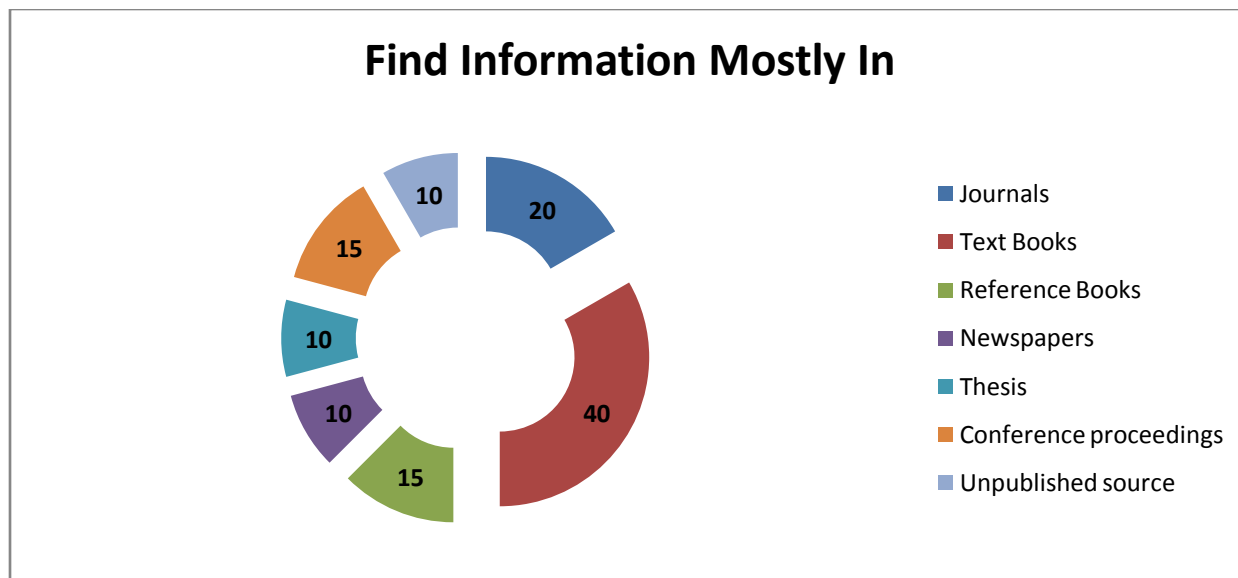


Figure 6.9 Find Information Mostly In

Figure 6.9 represents that user of the health science library finds their information mostly through the Text book, i.e 40%.

Table 6.6 Catalogue system used in health science libraries in Dhaka City

Name of the Library	Catalogue System	Classification Scheme
Anwar Khan Modern Medical College Library	Classified Catalogue	DDC
Bangladesh Medical College Library	Dictionary and Classified Catalogue Both	MeSH
Green Life Medical College Library	Dictionary and Classified Catalogue Both	No response
BIRDEM Library	Classified Catalogue	MeSH
Holy Family Red Crescent Medical College Library	Classified Catalogue	DDC

(Source: Survey Data, 2014)

Table 6.6 shows that all of the libraries mainly uses classified catalogue none but BIRDEM library and Bangladesh Medical College library use Mesh (Medical Subject Heading) catalogue. Anwar Khan Medical College Library and Holy Family Red Crescent Medical College Library uses DDC classification scheme.



Figure 6.10 Library Satisfaction Level

Figure 6.10 shows the library satisfaction level of the user of health science libraries in Dhaka City. Total 50% users are satisfied with overall library service, 30% users are satisfied with only library service and 20% users are satisfied with the collection of the library materials of the respective libraries.



Chapter-7

**A Model of Information
System Development for Health
Science Libraries in Dhaka City**

Chapter-7

A Model of Information System Development for Health Science Libraries in Dhaka City

7.1 Introduction

It is important to bring necessary reforms in technology generation, assessment and dissemination institutionalization of new approach of ICT as well as upgrading the skills of the health information scientists and extension workers added with hardware and software support. Electronic health (e-health) information refers to the delivery of health care information with support from various information and communication technologies, such as the electronic health record (EHR), telemedicine information, clinical decision support, and computerized provider order entry systems. It is widely believed that e-health information can address many of the problems currently faced by the Bangladeshi health care information systems and services.

E-services of health science information describe the use of the Internet to facilitate, execute, and process any phase of services, including informing, transacting, interacting, and distributing (Berthon et al., 1999; DeLone and McLean, 2004). Despite setbacks that have occurred in many types of e-commerce, e-services have continued to expand in general commercial uses, such as banking and travel (Colby and Parasuraman, 2003), health care (Guglielmo, 2001), education (Wilson, 2004), and government (Maida et al., 2005). Services are a particularly good match for the Internet, as features including customization, sampling, and interactivity predominantly benefit commerce that is information-based and service-oriented (Berthon et al., 1999). Yet, the simple presence of a service on the Web may no longer be sufficient to capture and hold customers' interest, making the successful deployment and operation of e-services increasingly difficult to ensure (Harrison, 2000; Zeithaml et al., 2002). In a recently reported interview, bank managers estimate that half of the customers who began using the bank's e-services continued for less than six months (Kim and Prabhakar, 2004). When deciding how to overcome such high levels of attrition, it is important for organizations to understand what factors drive customers' perceptions and evaluations of e-services.

7.2 Existing status of information system in Health Science Information System in Dhaka

The proposed service is to offer regularly updated health and scientific articles and publications, and online health guidance relating to patients' particular problems. This network would help health professionals and health information professionals perform effective functions within one setting, which will enhance their information seeking and satisfy their information needs. The proposed network will promote various channels of communication and co-operation in the healthcare environment.

Importantly, it will help the healthcare environment to move towards the establishment of a flourishing health information society through popularizing the use of electronic resources and highlighting the benefits and advantages of the electronic learning program\'. There will be links to all appropriate health sites, which would be authorized, authenticated and regulated. For example, users might find directories of governmental hospitals, governmental pharmacies, health sciences libraries, and guidance on organizing and using personal health libraries. In addition, a web-based health information network prototype could be a key enabler and catalyst for such change in the health profession, because the internet has the capability to meet changes of this kind. This prototype has not yet reached the level of real implementation and evaluation, because of time and resource limitations. Future development will be assessed after the network has been launched and tested by users.

7.3 The needs of the improvement of the existing information systems and services of Health Science Information System in Dhaka City

In view of the importance of ICT in the healthcare system, it is very desirable that a network is developed to provide health information sources and services that will satisfy the information needs of health professionals in Bangladesh. Such a health information network could also help to identify and locate health information resources and services through the internet.

The problem facing the health system in Dhaka is that the "body" (the health professional) and "soul" (the health information professional) are not joined as one to form a single entity. As a result of this separation, health professionals spend a great deal of time in information searching, while the health information professional's role is underestimated. To overcome this problem, as a part of this study, there was developed the design of a prototype of a Bangladesh Health Information Network (BHIN) interface, instantiated as a website.

7.4 The proposed model plan: Health Science Research Information System (HSRIS) with definition

The results of the study, summarized above, show problems in the Bangladeshi health library situation, particularly with reference to the limitations of ICTs, electronic information sources, and proactive information services, with training and CPD, and with strategies and policies for health libraries, especially those that will improve co-operation and networking.

Health professionals are expecting faster access to health information and to be able to share such information with other professional bodies and individuals, but this is clearly not possible in the absence of a health information network. Health libraries would benefit from such a network by providing more convenient, accurate, and up-to-date information to all users. On the other hand, health librarians are not satisfied with the current condition of their libraries and services. They expect development related to various issues concerning health sciences libraries in Riyadh (i.e. co-operation, policy, access to electronic sources, development of information services and information networks). Information networks could create and improve co-operation among health libraries in Dhaka city and with other health libraries elsewhere. Regrettably, the current computing systems in most hospitals do not facilitate access to the health library database and other databases located in some hospitals and research departments. Furthermore, there is a need for information services' development and the need to draw up a clear plan. In addition, there are some problems facing the implementation of ICT, some of which are the lack of training programs, lack of co-ordination, and poor management. Health sciences libraries need to develop a type of co-operation, which lasts longer, for continuous development attached to formulated policies upon which librarians and users can rely.



The model is modified and simplified to provide an “organizational visionary model” for the Bangladeshi health library situation. This proposed model attempts to represent the main factors in an understandable and usable way. Looking towards the future, health sciences libraries in Dhaka, with the adoption of the organizational visionary model, are expected to move from a traditional organizational structure and modalities towards a continuous spectrum of change. In order to facilitate incorporating technology in the work process, many professional development opportunities should be available. Therefore, predictions should be made to enable the implications of change to be positively managed rather than merely survived; health librarians’ participation can effectively manage that change in their own organizations. The environment is characterized by flexibility, collaboration, and interaction across units, with staff and users actively working together to foster an informative and successful environment. However, the change and development process in health sciences libraries in Dhaka needs to be simplified and presented in such a way that the participants in that change will accept and support the process. The technological infrastructure should make possible the support of a wide variety of options for offering various library and information services either within hospital buildings or online. Health sciences libraries development in Dhaka should continue to move to online and electronic resources to enhance remote access, meeting the need for resource access in any place and at any time. The model incorporates a collaborative approach in order to bridge the gap between change decisions and progress in real time. The priority is to participate in changing and improving the current condition of health sciences libraries in Dhaka.



This includes management style, advanced technology, improved communication channels, innovation trend, organizational and people development, and teamwork setting. The proposed model attempts to bring together and balance the internal focus of the library staff with an external focus on library users and its mission. It reaffirms the library's traditional mission while proposing changes in how that mission can best be achieved utilizing the new technologies and openness to change. The proposed change is to enable hospitals to achieve the libraries' mission of being supportive, responsive to the eminence of healthcare distinguished by its commitment to openness, innovation, and excellence in applying well planned strategies and change practice.

7.5 The definition and goal of Health Science Research Information System (HSRIS)

The thorough empirical study, used a variety of methods, allowed a rich and reliable understanding of the Bangladeshi healthcare library environment to be developed. Based on this, a visionary organizational model, to support the management of change, was developed, together with the prototype for a BHIN.

The goal of the Health Science Research Information System (HSRIS) is to strengthen Information Management culture using modern tools within health science information institution, Dhaka, so that health science information becomes more efficient and effective. The major objectives are:

- The electronic information services delivered to health professionals should be developed and improved to enable them to make more efficient use of their time.
- During formal education, health professionals should be provided with opportunities to acquire basic information handling skills.
- Health professionals should be provided with continuing educational programs which cover their information competencies and keep up with technological advances to maintain their information management skills.
- Advice and training programs should be conducted using various methodologies, for example: one-to-one, within group, online consultation, live training courses (either on site or e-learning).
- Policy makers for the healthcare system in the country should develop and implement policies and strategies to make certain that all health professionals have appropriate access to all forms of health and medical information.

- Be more proactive and assertive in demanding improvement in and development of the current situation of few available resources and inadequate access to needed information.
- Give more consideration to improving ICT skills in order for them to use various types of resources and not be limited to traditional printed materials.
- Hospital management should work together with health information specialists to create and develop an information society in the healthcare environment.
- Should participate in national and international conferences and meetings to discuss various issues related to their profession.

7.6 Development of the Health IT Workforce

In addition to the development of best practices to support providers in implementing various e-health information technologies, the roadmap also asks the e-health information community to develop a workforce capable of utilizing e-health information systems to deliver quality, safe, and effective care to patients. Analysis from the Bangladesh Health Information Management Association (BHIMA) (2006) reveals that no current systematic plan exists to train current and future members of the health care information workforce, including HIM workers, physicians, and nurses. Resources from inside and outside of academia are necessary to help prepare the health care information workforce to adequately use and implement e-health information in clinical settings.

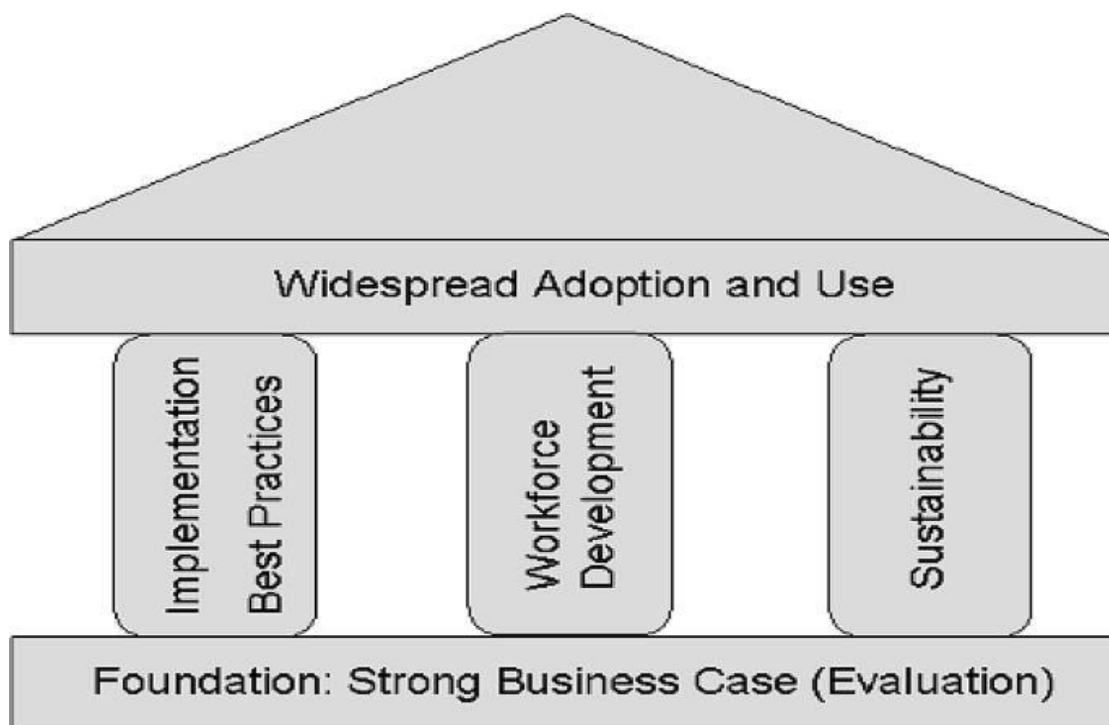
There are several early initiatives aimed at addressing the need for a trained e-health information workforce. BMIA has announced its 10x10 program, an initiative aimed at training 10,000 clinicians by 2015. BHIMA offers several certifications for various HIM-related careers. HIMSS also offers a certification program in e-health information systems. Despite early initiatives from these e-health professional organizations, more partnerships between academic and private organizations are required to truly transform the current workforce.

7.7 A Proposed Roadmap for Adoption

The Agency for Healthcare Research and Quality (AHRQ) has a portfolio of projects that are independently examining the use of e-health information in clinical settings. I have interacted

with these projects, monitoring their progress and providing them with access to knowledge resources. Common challenges and successes experienced by projects in the portfolio inspired me to draft the following roadmap, a framework document designed to initiate dialogue and motivate action. These activities in the e-health information community generated the idea to create a general framework that would assist in developing all forms of e-health information to change health care delivery, making patient care processes safer, more efficient, and of higher quality.

The foundation for the roadmap is a business case developed by e-health information researchers that will lower the risk of adoption for health care information providers. A strong foundation will enable three targeted efforts by the e-health information community to partner with providers, payers, and policymakers. First, the roadmap will help the e-health information community disseminate the business case and make available implementation best practices to providers seeking information.



Second, it will guide the nation to develop a workforce capable of implementing and utilizing e-health technologies information in clinical settings. Finally, the roadmap will outline methods to ensure sustainability of e-health's role in health care information delivery. The roadmap was designed not as a prescriptive model for any one particular technology, but rather a framework to help the e-health information community to demonstrate real value to providers, integrate

IT into clinical practice, and disseminate best practices to providers in the many settings that currently define the Bangladeshi health care information landscape.

7.8 Conclusions

Our research corroborates prior studies of satisfaction and extends this line of research to identify a comprehensive set of antecedents to expectations based on health science information. Our research model can be applied to predict satisfaction with e-health or other e-services at early stages of design and during pilot testing. Organizations can influence some of the antecedents we identify, and our findings suggest that efforts in this direction can significantly improve satisfaction of online customers. Thus, while existing research has centered on studying the immediate determinants of satisfaction, including expectations, performance, and disconfirmation of expectations, our study provides a more complete and integrated view of satisfaction models in the context of e-health information services.

Chapter-8

**RECOMMENDATIONS
and CONCLUSION**

Chapter 8

Recommendations and Conclusion

The promotion of health through community participation and by acceptable means is a big challenge to the library and information profession. Libraries and information centers have to work in partnership with health professionals. They must harness the information generated for the communities and repackage it in acceptable formats for community use. The formats would include visual, oral or a combination such as film shows talks, demonstrations, meetings, and audio-visual presentations.

The results of the study, summarized above, show problems in the Dhaka city health library situation, particularly with reference to the limitations of ICTs, electronic information sources, and proactive information services, with training and CPD, and with strategies and policies for health libraries, especially those that will improve co-operation and networking. Health professionals are expecting faster access to health information and to be able to share such information with other professional bodies and individuals, but this is clearly not possible in the absence of a health information network. Health libraries would benefit from such a network by providing more convenient, accurate, and up-to-date information to all users. On the other hand, health librarians are not satisfied with the current condition of their libraries and services. They expect development related to various issues concerning health sciences libraries in Dhaka (i.e. co-operation, policy, access to electronic sources, development of information services and information networks). Information networks could create and improve co-operation among health libraries in Bangladesh and with other health libraries elsewhere.

The main factors, coming from the results described above, may be summarized as:

1. Lack of health information professionals;
2. Weakness of libraries and information services;
3. Digital/information divides amongst health sciences libraries;
4. Information systems implemented are not fully utilized;
5. Users' dissatisfaction with current ICT and services in the health sciences libraries;

6. Difficulties in accessing electronic information resources and weakness in the printed resources collections;
7. Low cooperation among health sciences libraries of Dhaka city;
8. Lack of studies conducted by hospitals to investigate health professionals' information needs;
9. Centralized and structured bureaucracy in the management of health sciences libraries;
10. Lack of health library staff participation in decision making; and
11. Slow pace of development.

Regrettably, the current computing systems in most hospitals do not facilitate access to the health library database and other databases located in some hospitals and research departments. Furthermore, there is a need for information services' development and the need to draw up a clear plan. In addition, there are some problems facing the implementation of ICT, some of which are the lack of training programs, lack of co-ordination, and poor management. Health sciences libraries need to develop a type of co-operation, which lasts longer, for continuous development attached to formulated policies upon which librarians and users can rely. The results of the questionnaires showed that there is strong support for an initiative to provide Bangladeshi institutions with a National Health Library, a Virtual Health Library, and an Association of Health Information Professionals in the country. Support for these was expressed by both health professionals and health library staff, as being ways of helping to overcome the kind of problems noted above.

As a first step towards accomplishing these aims, the study reported here makes two recommendations:

- (1) The creation of a model for organizational change and development, applicable to the Dhaka city health library situation; and
- (2) The creation of a prototype website for a putative Bangladesh Health Information Network (BHIN).

The thorough empirical study, used a variety of methods, allowed a rich and reliable understanding of the Bangladeshi healthcare library environment to be developed. Based on

this, a visionary organizational model, to support the management of change, was developed, together with the prototype for a BHIN. Finally, the following specific recommendations could be made.

Recommendations for health professionals

1. The electronic information services delivered to health professionals should be developed and improved to enable them to make more efficient use of their time.
2. During formal education, health professionals should be provided with opportunities to acquire basic information handling skills.
3. Health professionals should be provided with continuing educational programs which cover their information competencies and keep up with technological advances to maintain their information management skills.
4. Advice and training programs should be conducted using various methodologies, for example: one-to-one, within group, online consultation, live training courses (either on site or e-learning).
5. Policy makers for the healthcare system in the country should develop and implement policies and strategies to make certain that all health professionals have appropriate access to all forms of health and medical information.
6. Be more proactive and assertive in demanding improvement in and development of the current situation of few available resources and inadequate access to needed information.
7. Give more consideration to improving ICT skills in order for them to use various types of resources and not be limited to traditional printed materials.

Recommendations for health library/information specialists

1. Improve their technical and technological skills to deliver effective information services.
2. Develop their professional attitudes and their practice paradigm from a reactive to a proactive stance.
3. LIS educational programs should develop their curriculum to match the demands and challenges of the health information profession.
4. Staff members should be developed through a continuous training facility (continuous professional development).
5. Hospital management should work together with health information specialists to create and develop an information society in the healthcare environment.
6. Should participate in national and international conferences and meetings to discuss various issues related to their profession.
7. Establish a national association (The Association of Health Information Professionals).
8. Training program evaluation should be considered in order for hospitals and health sciences libraries to develop their training services.
9. A professional qualification in Library and Information Science must be considered as a condition of employment for specialized positions in health libraries.

It is to be hoped that the results of the study reported here (and in more detail in Khudair, 2005) may be of interest and value in countries other than Bangladesh, since many of the issues and constraints will be the same.

Conclusion

Health professionals are expecting faster access to health information and to be able to share such information with other professional bodies and individuals, but this is clearly not possible in the absence of a health information network. Health libraries would benefit from such a network by providing more convenient, accurate, and up-to-date information to all users. On the other hand, health librarians are not satisfied with the current condition of their libraries and services. They expect development related to various issues concerning health sciences libraries in Dhaka city (i.e. co-operation, policy, access to electronic sources, development of information services and information networks). Information networks could create and improve co-operation among health libraries in Bangladesh and with other health libraries elsewhere.



APPENDIX- 1

Appendix-I (Questionnaire Booklet-1)

SECTION 1

BACKGROUND INFORMATION

(PERSONAL DATA)

**PROBLEMS AND PROSPECTS OF HEALTH
SCIENCE LIBRARIES IN DHAKA CITY: A
STUDY**

Name:

Please tick (✓) mark whichever is appropriate for you:

1. Age of the respondents:

- 20-25
- 26-30
- 31-35
- 36-40
- 41-45
- 46 and above

2. Sex : Male Female

3. Designation:

- Professors
- Assoc. Professor
- Asst. Professor
- Lecturer
- Any other (Please specify).....

4. Please indicate your present academic qualification:

- M.B.B.S.
- M.D/M.S.
- Ph.D
- Any other (Please specify).....

5. If you are a student please select the appropriate year of study from below:

- Foundation
- 1st
- 2nd
- 3rd
- 4th
- 5th

SECTION 2 **LIBRARY USE**

1. How much Important the library is to you?

- Very important
- Important
- Not important

2. Average Time Spend in the library?

- 1-5 hours per week
- 6-10 hours per week
- 11 and above hours per week

3. Do you face any problem in obtaining information?

- Yes
- No

4. Does the library staff assist you in using the library?

- Yes
- No

5. Do you think library staffs are enough skilled and trained to meet your information need?

- Yes
- No

6. How do you meet the information from the library? Through-

- Catalogue
- Requisition Slip
- Librarian
- Others

7. Do you think library IT facilities are essential for providing effective library service?

- Yes
- No

8. How far the library collections meet your information need?

- Most adequately
- Adequately
- Satisfactorily
- Poorly

9. Please identify the major challenges of the existing information service.

- Insufficient reading materials
- Insufficient IT facilities
- Lack of modern information service
- Others
- Lack of infrastructural facilities

10. Why do you visit the library?

Please encircle (o) whichever is appropriate.

3- More often

2- Often

1-Less often

No.	Visit the library	More Often	Often	Less Often
10.1	Look for a book	3	2	1
10.2	Look for a journal article	3	2	1
10.3	Review newly arrived items	3	2	1
10.4	Photocopy	3	2	1
10.5	Use library computers	3	2	1
10.6	Use a place to study	3	2	1

11. How much overall satisfied are you with the library?

Please encircle (o) whichever is appropriate.

3- Extremely Satisfied

2- Satisfied

1-Not Satisfied

No.	Overall Satisfaction	Extremely Satisfied	Satisfied	Not Satisfied
11.1	Library service	3	2	1
11.2	Library collection	3	2	1
11.3	Reading room service	3	2	1
11.4	Overall library satisfaction level	3	2	1

SECTION 3
INFORMATION NEED

Please (o) encircle whichever is appropriate.

- 3- To great extent
2- To some extent
1- Almost no extent

No.	Need of Information	To Great extent	To some extent	Almost no extent
1.	I need information to keep abreast with latest developments in the area related to my field	3	2	1
2.	I need information to gain knowledge about the new drugs	3	2	1
3.	I need statistical information regarding various disease/epidemics to treat patients suffering from similar symptoms	3	2	1
4.	I need information for preparing research projects in my area of specialization	3	2	1
5.	I need information to write or review an article	3	2	1
6.	I need information for preparing conference/seminar papers	3	2	1

SECTION -4

INFORMATION SOURCE

1. How much do you depend on the following types of information?

Please (o) encircle whichever is appropriate.

3- To great extent

2- To some extent

1-Almost no extent

No.	Sources of information	To great extent	To some extent	Almost no extent
1.1	Journals	3	2	1
1.2	Text books	3	2	1
1.3	Reference books	3	2	1
1.4	Newspapers	3	2	1
1.5	Dissertations/Thesis/Research Reports	3	2	1
1.6	Conference proceedings	3	2	1
1.7	Unpublished sources	3	2	1

2. To what extent do you adopt the following electronic media?

Please (o) encircle whichever is appropriate.

3-Very often

2-Sometimes

1-Never

No.	Sources of Information	Very often	Sometimes	Never
2.1	Internet	3	2	1
2.2	CD-ROM	3	2	1
2.3	On-line database	3	2	1

SECTION-5

INFORMATION BARRIERS

Please (o) encircle whichever is appropriate.

- 3-Very often
- 2-Sometimes
- 1-Never

NO.	Barriers of Information	Very often	Someti mes	Never
1.	There is always shortage of books and journals in my library	3	2	1
2.	Latest books and journals are not available in the library	3	2	1
3.	Indexing and Abstracting services are not available in the library	3	2	1
4.	Library staffs do not assist in using library resources	3	2	1
5.	Lack of Medical Subject knowledge among librarians	3	2	1
6.	I do not have access to online service and Internet in the library	3	2	1
7.	Lack of physical facilities viz. AC Room, Seating facilities etc	3	2	1

SECTION-6
SUGGESTIONS

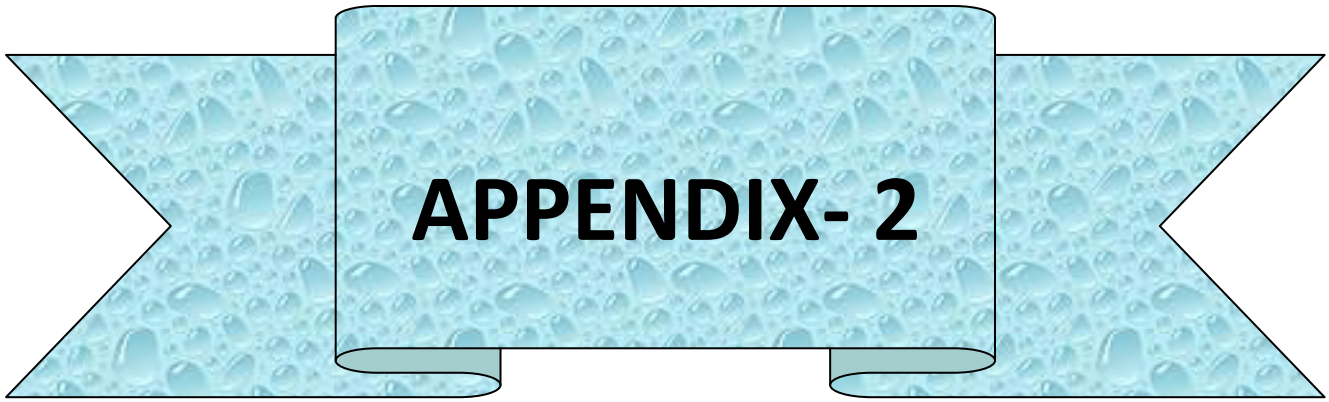
1. More bibliographic search facilities should be available:
 Yes No
2. Inter-library loan service should be developed among health libraries:
 Yes No
3. Prepare computerized databases of serials and other holding should be:
 Yes No
4. Health Science library should make a cooperative networking for resource sharing:
 Yes No
5. There should be more libraries professional to help the medical practitioners:
 Yes No
6. Please mention your personal suggestion:

.....

.....

.....

Thank You for your kind cooperation



APPENDIX- 2

Appendix-II (Questionnaire Booklet-2)

**PROBLEMS AND PROSPECTS OF HEALTH SCIENCE LIBRARIES IN DHAKA CITY:
A STUDY**

FOR LIBRARIAN OR LIBRARY IN-CHARGE

1. Name of the library:
2. Date of Establishment:
3. Type of Organization:
 - Government
 - Non- Government
 - Private
 - Autonomous

LIBRARY COLLECTION

4. Please mention the total collection in your library during last 3 years:
 - 2012:
 - 2013:
 - 2014:

LIBRARY SERVICES

5. Please indicate the services provided to the users:
 - Library use instructions
 - Assistance at reference desk
 - Circulation service
 - Bibliographical service
 - Current Awareness Service
 - Inter library loan/article delivery service
 - Photocopy service
 - SDI service
 - Any other:
6. Which catalogue code is followed in the library?
 - AACR-I
 - AACR-II
 - ALA
 - Others:

7. Which catalogue system is followed?

- Dictionary
- Classified
- Both

8. Which classification scheme is followed in your library?

- DDC
- UDC
- LC
- MeSH
- Others:

LIBRARY FACILITIES

9. Library building is?

- Independent
- Part of the main building
- Provision of extension

10. What types of system existing in the library?

- Open-access system
- Close-access system
- Semi-open-access system

STATUS OF COMPUTERIZATION

11. Have you created any in-house computerized database in your library?

- Yes
- No

12. If yes, please give the name of database and number of records:

SL. No.	Name	No. of Records	Till Date

13. You are having:

- Stand alone
- Network

14. If you are on network, please tick () whichever is applicable and mention the number of nodes.

- LAN (Including that of parent organization) Number of nodes:
- LAN (Only the library) Number of nodes:
- Any other (Please specify):

15. Which software are you using for making your Database:

LIBRARY STAFF

16. Please mention the numbers of professional with their designation and qualification:

Designation	No. of Staffs	Qualifications(Highest Professional & Educational including Computer education)

LIBRARY USER

17. Please mention total number of users visit the library per day:
.....

Thank You for your kind cooperation



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