Availability of E-Resources and ICT Infrastructure in Medical College Libraries of Deemed Universities in Karnataka

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Abstract - **This study examines the availability of E-Resources and ICT infrastructure in medical college libraries of deemed universities in Karnataka. Further the study highlights Adequacy of print and E-resources, Library budget, the methods of library user education programmes, the efficiency of library staff in handling E-Resources and Services and the barriers in development of collection of E-Resources in medical college libraries of deemed universities. The result of the study shows that all the medical colleges have good ICT infrastructure. The BLDE University library has subscribed to the highest number of e-books and SDU has subscribed to the highest number of e-journals.**
Keywords: **E-Resources, ICT Infrastructure, Collection Development, User Education, Medical Colleges, Deemed Universities**

I. INTRODUCTION

The medical college libraries have subscribed to both print and E-resources of information in large amount to fulfil the requirement of faculty members and students of the institution for their academic purpose [1]. The libraries of medical colleges of deemed universities in Karnataka hold information generated in their universities as well as the information received from outside sources. The quality and accessibility of these information resources plays a vital role in medical sciences development [2].

II. METHODOLOGY

The study is restricted to the nine medical college libraries of the deemed universities in Karnataka. The data is collected from the librarians of medical college libraries or from a person in charge of the information centre through a structured questionnaire and personal interviews. SPSS software is used for the analysis of the consolidated data based on the objectives set for the study.

TABLE I MEDICAL COLLEGE LIBRARIES OF THE DEEMED UNIVERSITIES

S. No.	Name of the University	Name of the College	Year of Est.
1	B.L.D.E.UNIVERSITY BIJAPUR KARNATAKA	Shri B.M. Patil Medical college, Hospital & Research Centre, Vijaypur	29.02.2008
2	K.L.E. ACADEMY OF HIGHER EDUCATION AND RESEARCH BELGUM, KARNATAKA	Jawaharlal Nehru Medical College, Belagum	13.04.2006
3	JAGADGURU SRISHIVARATHREESWARA UNIVERSITY MYSORE-570004, KARANATAKA.	JSS Medical College, Mysore	28.05.2008
4	MANIPAL ACADEMY OF HIGHER EDUCATION UDUPI, MANIPAL-576104	Kasturba Medical College(KMC) Manipal	01.06.1993
		Kasturba Medical College(KMC) Mangalore	
5	SRI DEVRAJ URS ACADEMY OF HIGHER EDUCATION AND RESEARCH, KOLAR B.H. ROAD, TAMAKA, KOLAR-563101, KARNATAKA	Sri DevrajUrs Medical College, Kolar	25.05.2007
6	SRI SIDDARTHA ACADEMY OF HIGHER EDUCATION, TUMKUR DISTRICT-572102, KARNATAKA	Sri Siddhartha Medical College, Tumkur	30.05.2008
7	YENEPOYA UNIVERSITY MANGALORE, KARNATAKA	Yenepoya Medical College, Mangalore	27.02.2008
8	NITTE UNIVERSITY MANGALORE	K. S.Hegde Medical College	2008

III. OBJECTIVES OF THE STUDY

1. To know the collection strength of the medical college libraries of the deemed universities.
2. To know the E-Resources made available in the medical college libraries of the deemed universities.
3. To know the ICT infrastructure of the medical college libraries of the deemed universities.
4. To know the methods of library user education programmes of the medical college libraries of the deemed universities.
5. To know the efficiency of library staff in handling E-Resources and Services.
6. To know the barriers in collection development of E-Resources in medical college libraries of deemed universities.

IV. LIBRARY BUDGET

Adequate availability of funds to procure the resources of the library for rendering effective services to the users is necessary [4]. Expenditure incurred on procurement of sources of information and equipments in the deemed universities libraries indicates the financial commitment to strengthen the learning information resources to benefit the user community. Table II reveals the analysis of the distribution of library budget for print and electronic resources in Medical college libraries of deemed universities in Karnataka during the period of five years.

The Table II Cleary indicates that there is a gradual increase in the library budget during last five years. In 2012-13 the total budget allocated was 10,55,83,000 (Print 6,12,33000

and Electronic 4,43,50000), followed by the year 2013-14 with the annual budget allocated was 12,22,83,000 (Print 7,10,42000 and 5,12,41000), during the year 2014-15 the library budget allocated was 13,57,32,000 (Print 8,09,76000 and Electronic 5,47,56000).

TABLE II LIBRARY BUDGET

S. No.	Year	Library Budget		Total
		Print	Electronic	
1	2012-13	6,12,33000	4,43,50000	10,55,83,000
2	2013-14	7,10,42000	5,12,41000	12,22,83,000
3	2014-15	8,09,76000	5,47,56000	13,57,32,000
4	2015-16	8,11,53000	6,57,13000	14,68,66,000
5	2016-17	9,08,12000	7,05,19000	16,13,31,000

In 2015-16 the budget allocated to the library increased to 14,68,66,000 (Print 8,11,53000 and Electronic 6,57,13000) and in the year 2016-17 the total library budget allocated was 16,13,31,000 (Print 9,08,12000 and Electronic 7,05,19000) for procurement of information resources. The Table I clearly shows that the share of electronic resources is increasing every year. It indicates that libraries are shifting from print to electronic resources.

V. ALLOCATION OF BUDGET SUFFICIENT FOR PROCUREMENT OF EIR

The opinion of the librarians regarding the allocation of budget to the Library and Information Centre is sufficient for procurement of E- Resources.

TABLE III ALLOCATION OF BUDGET SUFFICIENT FOR PROCUREMENT OF ERI

S. No.	Opinion	BLDE	KLE	JSS	MU (U)	MU (M)	SDU	SSU	YPU	NIITE	Total (N=09)	Percentage
1	Sufficient	✓	✓	✓	✓	✓	✗	✗	✗	✗	05	55.56
2	Partially sufficient	✗	✗	✗	✗	✗	✗	✗	✓	✓	02	22.22
3	Not sufficient	✗	✗	✗	✗	✗	✗	✓	✗	✗	01	11.11
4	Can't say	✗	✗	✗	✗	✗	✓	✗	✗	✗	01	11.11
	Total										09	100

The Table III shows that 05 (55.56%) librarian's opine that the budget allocated for procurement of E- Resources is 'sufficient', followed by 02 (22.22%) librarian's opine that the budget allocated is 'partially sufficient' and 01 (11.11 %) librarian opine as 'not sufficient'.

VI. LIBRARY COLLECTION STRENGTH

A library is a collection of sources of information and similar resources, made accessible to a defined community for reference or borrowing [5]. The Deemed University libraries in India are still more heavily dependent on print resources than on electronic resources. The details of print and non-print information resources available in the medical

college libraries under the study have been presented in Table IV.

It is quite evident from the data presented in Table IV that the Manipal University Library, Manipal has the largest collection of books, bound volumes of periodicals, theses and dissertations and e-Journals.

The Manipal University Library, Mangalore occupies the second place with a collection of more than 42 thousand of books, and large number of bound-volumes of periodicals, theses and dissertations. The Yenepoya University libraries have comparatively a small number of collections.

TABLE IV LIBRARY COLLECTION STRENGTH

S. No.	Library Collection	BLDE	KLE	JSS	MU (U)	MU (M)	SDU	SSU	YPU	NIITE
1	Books	17371	28716	65000	69261	42550	23000	15400	14872	16963
2	Current Periodicals	175	204	2000	1781	139	152	130	250	214
3	Bound Volumes of periodicals	7378	10003	9075	38973	21044	10351	3200	7125	3507
4	Case Studies	-	52	100	-	-	-	-	32	-
5	Newspapers clippings	-	912	500	7	-	-	-	20	-
6	Theses and Dissertations	451	711	318	6935	1901	634	510	312	314
7	Conference Proceedings	174	98	50	-	250	-	95	100	53
8	Reference Books (Dictionaries, Encyclopedias etc.)	415	311	504	13	556	612	310	140	137
9	E- Books	3926	318	1000	12756	7300	162	218	175	1186
10	E- Journals	297	589	1580	5860	3135	3051	310	2050	
11	Audio-Video educational materials	118	217	200	-	150	-	120	114	96
12	CD-ROM Resources	410	728	310	867	1350	1142	240	774	615
13	Electronic Theses and Dissertations	116	110	150	-	-	180	90	95	124
14	E- Conference Proceedings	-	--	120	-	-	-	10	-	-
15	E- Standards/Specifications	--	17	50	-	-	-	20	-	-
16	E-Reference Resources (Dictionaries, Encyclopedias, etc.)	61	54	70	-	-	-	17	18	45

VII. ADEQUACY OF PRINT AND E-RESOURCES

The adequacy of E- Resources and Services has been summarised in the form of Table V. The Table V shows that 08 libraries have adequacy of E-Resources and Services and 01 library contend that they do not, representing 88.89% and 11.11% of the total responses, respectively.

TABLE V ADEQUACY OF PRINT AND E-RESOURCES

Opinion	BLDE	KLE	JSS	MU (U)	MU (M)	SDU	SSU	YPU	NIITE	Total (N=09)	Percentage
Yes	✓	✓	✓	✓	✓	✓	✗	✓	✓	08	88.89
No	✗	✗	✗	✗	✗	✗	✓	✗	✗	01	11.11
Total										09	100.00

VIII. E-RESOURCES MADE AVAILABLE

A large number of E-Resources are made available for access through library system in Medical colleges deemed universities. It includes the A.D.A.M. Interactive Anatomy, Access Medicine, BMJ Best Practice, CINAHL(Ebsco), Cochrane Library (Wiley), Dyna Med, Embase (Elsevier), eMedicine – MedScape Referenc, Lexi-Comp, MD Consult, Medline Plus, Micromedex, MIMS DrugAlert, Ovid SP, ProQuest Nursing & Allied Health Source, PsycArticles (Full-text Database), Psychiatry online, PsycInfo (EBSCO), PubMed, Scopus, UpToDate, Web of Science (SCI, SSCI and AHCI and Springer.

The Table VI indicates that out of 09 medical College libraries of deemed universities considered under this survey, all of them (100%) have the e-Resources like A.D.A.M. Interactive Anatomy, BMJ Best Practice, CINAHL (Ebsco), Pro Quest Nursing & Allied Health Source, Up To Date, and Springer. 07 (77.78%) libraries have Embase (Elsevier), MD Consult, Scopus. 06 (66.67%) libraries have eMedicine-MedScape Referenc, Medline Plus, PubMed.

05(55.56%) Lexi-Comp, 04 (44.44%) Dyna Med, Psychiatry online, PsycInfo (EBSCO), Science (SCI, SSCI and AHCI, 03 (33.33%) Cochrane Library (Wiley), Micromedex02 (22.22%) Access Medicine, Ovid SP, Psyc Articles (Full-text Database) and MIMS DrugAlert is available in only 01 (11.11%) library.

TABLE VI E-RESOURCES MADE AVAILABLE

S. No.	E Resources	BLDE	KLE	JSS	MU (U)	MU (M)	SDU	SSU	YPU	NIITE	Number	Percentage
1.	A.D.A.M. Interactive Anatomy	Y	Y	Y	Y	Y	Y	Y	Y	Y	09	100.00
2.	Access Medicine	N	N	N	Y	Y	N	N	N	N	02	22.22
3.	BMJ Best Practice	Y	Y	Y	Y	Y	Y	Y	Y	Y	09	100.00
4.	CINAHL(Ebsco)	Y	Y	Y	Y	Y	Y	Y	Y	Y	09	100.00
5.	Cochrane Library (Wiley)	Y	N	N	N	N	Y	Y	N	N	03	33.33
6.	Dyna Med	Y	N	N	Y	Y	N	N	N	Y	04	44.44
7.	Embase (Elsevier)	N	Y	Y	Y	Y	Y	Y	N	N	07	77.78
8.	eMedicine--MedScapeReferenc	Y	Y	N	Y	Y	N	N	Y	N	06	66.67
9.	Lexi-Comp	Y	N	Y	Y	Y	N	N	N	Y	05	55.56
10.	MD Consult	Y	Y	Y	Y	Y	Y	N	N	Y	07	77.78
11.	Medline Plus	Y	Y	N	Y	Y	N	Y	N	N	06	66.67
12.	Micromedex	Y	Y	N	N	N	Y	N	N	N	03	33.33
13.	MIMS DrugAlert	N	N	N	N	N	Y	N	N	N	01	11.11
14.	Ovid SP	N	N	N	N	N	N	N	Y	N	02	22.22
15.	ProQuest Nursing & Allied Health Source	Y	Y	Y	Y	Y	Y	Y	Y	Y	09	100
16.	PsycArticles (Full-text Database)	N	N	N	N	Y	N	N	Y	N	02	22.22
17.	Psychiatry online	N	N	Y	Y	Y	N	N	Y	N	04	44.44
18.	PsycInfo (EBSCO)	Y	Y	Y	Y	N	N	N	N	N	04	44.44
19.	PubMed	Y	Y	Y	Y	N	N	N	Y	Y	06	66.67
20.	Scopus	Y	Y	N	Y	Y	N	N	Y	Y	07	77.78
21.	UpToDate	Y	Y	Y	Y	Y	Y	Y	Y	Y	09	100
22.	Web of Science (SCI, SSCI and AHCI)	Y	N	Y	Y	Y	N	N	N	N	04	44.44
23.	Springer	Y	Y	Y	Y	Y	Y	Y	Y	Y	09	100.00

Note: Because of multiple choice options the percentage exceeds 100%

IX. ICT INFRASTRUCTURE IN MEDICAL COLLEGE LIBRARIES

TABLE VII ICT INFRASTRUCTURE IN MEDICAL COLLEGE LIBRARIES

ICT Infrastructure	Total (N=09)	Percentage	ICT Infrastructure	Total (N=09)	Percentage
Server Systems	09	100	LCD Projector	07	77.78
Desktop Computers	09	100	OHP	06	66.67
Laptops/Tablets	09	100	E-Display Board	05	55.56
Printers(InkJet/Laser)	09	100	Television	07	77.78
Scanners	09	100	VCD Player	08	88.89
Portable Hardisk	09	100	Telephone	09	100
Web Cams	09	100	FAX	07	77.78
UPS	09	100	Photocopier	09	100
Headset/Microphone	09	100	Laser Pointer	08	88.89

The Table VII indicates that out of the 9 Medical College libraries considered under the survey, all of them (100%) have the ICT facilities like Server, Desktops, Laptops, Scanner, Portable Hard disk Web Cams, UPS, Headset/Microphone, Telephone connection and Photocopier.7 (77.78%) libraries have LCD Projector, 6 (66.67%) libraries have Over head projector, 7 (77.78%) Television, 8 (88.89%) VCD Player, 7 (77.78%) Fax, 08

(88.89%) Laser pointer, and E-Display Boards are available in only 5 (55.56%) libraries.

X. INTERNET AND NETWORKING

The Internet has totally transformed the way the faculty of medical colleges and students look for their information and the various means by which they get their required information from the Internet [6]. The very important thing is that the Library and Information Centre of the medical colleges should have latest Internet and Networking technologies for providing information to the user community within short time. The data collected regarding Internet and Networking has been summarised in the Table VIII. The Table VIII has been divided into three parts which shows the spread of Internet network, Internet bandwidth, and transmission medium used.

TABLE VIII INTERNET AND NETWORKING

Spread of Internet Network		
Campus Wide Access	07	77.78
Off Campus Access	02	22.22
Internet Bandwidth		
05- Mbps	02	22.22
6-10- Mbps	04	44.44
11-15- Mbps	01	11.11
16-20- Mbps	01	11.11
21-25 Mbps	01	11.11
Transmission Medium		
UTF	02	22.22
OFC	03	33.33
Wireless	04	44.44

The first part of Table VIII deals with the speed of Internet. It is clear from the table that 7 Medical colleges have 'Campus Wide Access to Internet' and 02 colleges provide 'Off Campus Access to Internet'. They represent 77.78 % and 22.22 % of the total responses, respectively.

The second part of Table VIII shows the Internet Bandwidth available in Medical college libraries of deemed universities. 02 (22.22%) institutions have bandwidth of '0-5 Mbps' , followed by 04 (44.44%) colleges with bandwidth of '6-10 Mbps', 01 (11.11%) college has '11-15 Mbps' of bandwidth, 01 (11.11%) institution have '16-20 Mbps' of bandwidth and 01 (11.11%) college has bandwidth of '21-25 Mbps'.

The third part of Table VIII shows the transmission medium used for data transfer and networking. The most preferred transmission medium is Wireless Medium which amounts 04 (44.44%), followed by Optical Fibre Cable (OFC) used by 03 (33.33%) colleges and 02 (22.22%) colleges prefer UTF Cable as a medium for networking.

XI. ORIENTATION/ TRAINING PROGRAMMES

The information about orientation/ training programmes has been summarised in Table IX. The Table IX has been divided into three parts. The first part deals with if the library staff attend training programme for handling E-Resources or not, The second part deals with whether the library organise user orientation and training programme for better utilisation of e-resources and the third part shows the frequency of user orientation/ training programmes held for the library users.

TABLE IX ORIENTATION/ TRAINING PROGRAMMES

Library Staff Attend Orientation/ Training Programmes			
S. No.	Opinion	Number	Percentage
1	Yes	07	77.78
2	No	02	22.22
	Total	09	100
Library Organise User Training/ Orientation Programmes			
1	Yes	09	100.00
2	No	00	00.00
	Total	09	100
Frequency of User Orientation/ Training Programmes			
Frequency		Number	Percentage
Quarterly		01	11.11
Half Yearly		02	22.22
Yearly		06	66.67
Total		09	100

The first part of Table IX deals with whether the library staff attends orientation and training programme for handling E-Resources and services. It is clear from the Table IX that library staff of 07 institutions attends orientation and training programme for handling E-Resources and library staff of 02 institutions do not comprising to 77.78% and 22.22% of the total responses, respectively.

The second part of Table IX shows whether the library organise user orientation and training programme. All the librarians opine that they organise orientation and training programme for better utilisation of E-Resources and services constituting 100%.

The third part of Table IX deals with the frequency of user orientation and training programmes held. Majority of the libraries i.e, 06 (66.67%) organise user orientation and training program 'Once in a year', followed by 02 (22.22%) libraries organise 'Half yearly' and only 01 (11.11%) library organises user orientation and training 'Quarterly'.

XII. METHODS OF USER EDUCATION

The methods of user education have been summarized in the form of Table X. There are various methods and techniques for providing user education programs like Training programmes/workshops, Lectures/Conferences methods, Demonstrations/ Site visit, demonstration, Circulation of library handbooks, user manuals, brochures, tutorials etc, in print form and Access to library handbooks, user manuals, brochures, tutorials etc, in electronic form

TABLE X METHODS OF USER EDUCATION

S. No.	Methods of User Education	BLDE	KLE	JSS	MU (U)	MU (M)	SDU	SSU	YPU	NIITE	Total (N=09)	Percentage
1	Training programmes/workshops	Y	Y	Y	Y	Y	Y	N	Y	Y	08	88.89
2	Lectures/Conferences methods	Y	Y	Y	Y	Y	N	Y	N	N	06	66.67
3	Demonstrations/Site visit	Y	Y	Y	Y	Y	N	Y	N	Y	07	77.78
4	Circulation of library handbooks, user manuals, brochures, tutorials etc, in print form.	Y	Y	Y	Y	Y	Y	N	Y	Y	08	88.89
5	Access to library handbooks, user manuals, brochures, tutorials etc, in electronic form	Y	Y	Y	Y	N	Y	Y	Y	Y	08	88.89

The Table X shows methods adopted for user education in medical college libraries. 08 (88.89%) libraries provide user education by Training programmes/workshops, Circulation of library handbooks, user manuals, brochures, tutorials etc, in print form, Access to library handbooks, user manuals, brochures, tutorials etc, in electronic form, followed by 07(77.78%) libraries provide user education by Demonstrations/Site visit and 06(66.67%) libraries provide user education by Lectures/Conferences methods.

XIII. BARRIERS IN COLLECTION DEVELOPMENT OF EIR

The Barriers in Collection Development of E- Resources like lack of funds, lack of skills and knowledge to use e-information resources among library users, lack of support from college administration, lack of ICT infrastructure facilities, lack of trained library staff, resistance of library staff to adopt change, cost of e-resources has been summarized in the form of Table XI.

TABLE XI BARRIERS IN COLLECTION DEVELOPMENT OF E-RESOURCES

S. No.	Barriers	SA	A	MA	D	SD
1	Lack of funds	02 (22.22)	01 (11.11)	03 (33.33)	03 (33.33)	00 (00.00)
2	Lack of skill and knowledge to use e-information resources among library users	00 (00.00)	01 (11.11)	04 (44.44)	03 (33.33)	01 (11.11)
3	Lack of support from college administration	01 (11.11)	01 (11.11)	02 (22.22)	04 (44.45)	01 (11.11)
4	Lack of ICT/Electronic Infrastructure facilities	01 (11.11)	0 (00.00)	03 (33.33)	04 (44.45)	01 (11.11)
5	Lack of trained staff	01 (11.11)	01 (11.11)	04 (44.45)	02 (22.22)	02 (22.22)
7	Cost of electronic resources is high	03 (33.33)	02 (22.22)	01 (11.11)	02 (22.22)	01 (11.11)
Note: SA= Strongly Agree, A=Agree, MA= Moderately Agree, D=Disagree, SD= Strongly Disagree						

Note: Figures in Parentheses indicate percentage

The Table XI shows that in case of barrier like lack of funds to build E-Resources collection. 02 (22.22%) librarians 'Strongly Agree' with this barrier, followed by 01 (11.11%) librarian just 'Agree', 03 (33.33%) librarians 'Moderately Agree', 03 (33.33%) librarians 'Disagree'.

Lack of skills and knowledge to use E-Resources among library user community is the major barrier to build e-resources collection development. 01 (11.11%) librarian 'Agree' with this barrier, followed by 04 (44.44%)

librarians 'Moderately Agree', 03 (33.33%) librarians 'Disagree' and 01 (11.11%) librarian 'Strongly Disagree'.

The barrier like lack of support from college administration to build e-resources collection 01 (11.11%) librarian 'Strongly Agree' with this barrier, followed by 01 (11.11%) librarian 'Agree', 02 (22.22%) librarians 'Moderately Agree', 04 (44.44%) librarians 'Disagree' and 01 (11.11%) librarian 'Strongly Disagree'.

The lack of ICT infrastructure facilities is the barrier for e-resources collection building. 01(11.11%) librarian 'Strongly Agree' with this barrier, followed by 03 (33.33%) librarians 'Moderately Agree', 04 (44.44%) librarians 'Disagree' and 01 (11.11%) librarians 'Strongly Disagree'.

The lack of trained staff for e-resources maintenance is also a barrier to build e-resources collection development. 01 (11.11%) librarian 'Strongly Agree' with this barrier, followed by 01 (11.11%) librarian 'Agree', 04 (44.44%) librarians 'Moderately Agree', 02 (22.22%) librarians 'Disagree' and 02 (22.22%) librarians 'Strongly Disagree'.

The barrier to build electronic resources collection is because of library staff's resistance to adopt change. 03(33.33%) librarians 'Agree' with this barrier, followed by 02 (22.22%) librarians 'Moderately Disagree', 02 (22.22%) librarians 'Disagree' and 02 (22.22%) librarians 'Strongly Disagree'.

The Cost of electronic resources is high to build Electronic Information Resources collection in the library. 03 (33.33%) librarians 'Strongly Agree' with this barrier, followed by 02 (22.22%) librarians 'Agree', 01 (11.11%) librarian 'Moderately Agree', 02(22.22%) librarians 'Disagree' and 01 (11.11%) librarian 'Strongly Disagree'.

XIV. LIBRARY STAFF

Library staff plays an important role for the successful running of any Library and information system.[7]The details of the distribution of library staff in medical colleges of deemed universities are presented in the Table XII. Available data reveals that libraries of medical Colleges of deemed universities are strong in both quality and quantity of staff.

Analysis of the Table XII indicates that out of 256 staff working in medical college libraries of deemed universities, 92 (35.94%) are professionals and 74 (28.90%) are non-professionals. The semi-professionals who assist the professionals in carrying out various library operations accounted for 64 (25.00%) of the total staff. The other staff like clerks, binder, peon etc amount for 26 (10.16 %) of total staff.

TABLE XII LIBRARY STAFF

S. No.	Designation	Number	Percentage (N=256)
1	Professional staff	92	35.94
2	Semi professional staff	64	25.00
3	Non-Professional staff	74	28.90
4	Others (Peon, Binder, etc.)	26	10.16
	Total	256	100.00

XV. EFFICIENCY OF LIBRARY STAFF IN HANDLING E-RESOURCES AND SERVICES

Table XIII reveals the opinion of the librarians about the efficiency of library staff in handling E- Resources. It is clear from the Table XIII that 05 (55.56%) librarians opine that 'Majority of library staff are efficient' in handling E-Resources and Services, followed by 02 (22.22%) librarians opine that 'All are efficient', 01 (11.11%) librarian opine that 'Majority are not efficient' and 01 (11.11%) librarian opinion 'Majority of library staff are moderately efficient' in handling Electronic Information Resources and Services.

TABLE XIII EFFICIENCY OF LIBRARY STAFF IN HANDLING E-RESOURCES AND SERVICES

S. No.	Efficiency of Library Staff	BLDE	KLE	JSS	MU (U)	MU (M)	SDU	SSU	YPU	NIITE	Total	Percentage
1	Majority are not efficient	✗	✗	✗	✗	✓	✗	✓	✗	✗	02	22.22
2	Majority are moderately efficient	✓	✗	✗	✗	✗	✗	✗	✗	✗	01	11.11
3	Majority are efficient	✗	✓	✓	✗	✗	✓	✗	✓	✓	05	55.56
4	All are efficient	✗	✗	✗	✓	✗	✗	✗	✗	✗	02	22.22
	Total										09	100

XVI. ORGANISE IN- HOUSE TRAINING PROGRAMMES

The Table XIV shows that 02(77.78%) librarian's opine that the library organise in- house training programmes for library staff for handling of E- Resources and Services and 02(22.22%) librarian opine that they do not.

TABLE XIV ORGANISE IN- HOUSE TRAINING PROGRAMMES

S. No.	Training Programmes	Number	Percentage
1	Yes	07	77.78
2	No	02	22.22
	Total	09	100

XVII. DEDICATED LIBRARY STAFF FOR EIR MAINTENANCE

To provide better services to the user community and maintenance of E- Resources there should be dedicated library professional staff. The Table XV shows that 07 libraries have dedicated library staff for maintenance of E- Resources and Services and 02 librarians contend that they do not have dedicated library staff for maintenance of Electronic Information Resources and Services representing 77.78% and 22.22% of the total responses, respectively.

TABLE XV DEDICATED LIBRARY STAFF FOR EIR MAINTENANCE

S. No.	Dedicated Library Staff	Number	Percentage
1	Yes	07	77.78
2	No	02	22.22
Total		09	100

XVIII. CONCLUSION

ICT infrastructure in the medical college libraries of deemed universities of Karnataka are still at different stages. Suitable software and lack of high speed internet indicates that medical college libraries of deemed universities in Karnataka need to establish extensive ICT facilities required for benefit of students and faculty of medical science. Medical colleges need to subscribe to a good number of online information resources for the user community.

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