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Abstract

The rationale of this report was to evaluate the current use of electronic resources among users of medical college libraries in Multan division. Moreover, mean variation about medical e-resources in respect of awareness, satisfaction, utilization and barriers with respondents' gender trait were also explored. This study used a questionnaire to conduct a cross-sectional survey research design. The survey questionnaire was send to the target population of medical college libraries users in Multan division of Pakistan and response rate was 88 per cent. The findings of the study shows that users of the medical libraries were slightly aware about the medical e-resources and majority of the participants were used medical e-resources for education, learning and to update knowledge purposes. In addition, Medical e-resources that are MEDLINE, PubMed, Springer Link, Science Direct, Black-Well Synergy and ProQuest Database were utilized rarely by the respondents. Users are partially satisfied with medical e-resources of libraries. Lack of training/ orientation, low speed of internet, energy crisis/load shedding, lack of printing facility, non-availability of full text access to the most of Journals, lack of awareness, information overload and inadequate IT infrastructure were the major problems faced to medical colleges library users while using e-resources. There is no statistically significant

difference in the mean scores of awareness, utilization, satisfaction and barriers about the medical e-resources with respect to male and female. The findings allow library professionals to be more effective, proactive, and successful in achieving digitize library services and resources. This study also made a significant contribution to the existing literature on medical e-resources and services. The findings could contribute in the promotion of digital library services and products, as well as virtual culture, in Pakistani medical college libraries, particularly in the Multan Division.

1. Introduction

Current trends in the electronic environment bring a dramatic change in the status of collection development. As information technology (IT) progresses, academic libraries have placed a greater emphasis on electronic resources (e-resources) collections development. Users of academic libraries can get direct access to electronic resources with uniformity and an assurance of fairness of access. In addition, students can get convinced benefits in accessing electronic resources such as, rapid browsing, comprehensive information coverage, sharing, print and downloading, retrieval speed, compound access, and more so (Pawar, 2016).

The utilize of electronic resources in libraries starts with the expansion of the machine-readable cataloguing (MARC) format and online public access catalogues (OPAC) in the mid 1960s a full 30 years before the beginning of the World Wide Web (WWW) and constant to evolved to CD-ROM databases in the late 1980s, to electronic journals, electronic books, online databases and web-based electronic resources at the end of the twentieth century (Hawthorne,

2008; Tlakula & Fombad, 2017).The use of e-resources is extensive spread in all areas of subjects like education, commerce and governance. E-resources have become increasingly important in academic settings due to their appealing features such as real-time delivery, primarily remote access, and simplicity of accessing, content, and flexibility. A large number of academic, commerce and government institutions have incorporated and adopted electronic sources in their library collection (Amankwah, 2014)

In the current scenario medical sciences students need up to date and evidence-based information related to their problem-based learning and clinical troubles. Successful information searching and access to the most embryonic and appropriate information are serious for medical professionals. These difficulties were resolved by executing the most up-to-date technologies on sources and services of medical libraries (Nemati & Babalhavaeji, 2013).Therefore, it is very significant to investigate the use of e-resources by library users of medical and dental colleges. No ambiguity, the better consideration about the usage of e-resources can help the librarians and administrators to improve the e-resources in their libraries. Hence, the reason behind conduct the study by researcher is to know the user's awareness, satisfaction, purposes of using e-resources and problem being faced by library users of medical colleges of Multan division, Pakistan. A review of the literature has further indicated that the use of these   e-resources of information has not been properly investigated at the medical and dental colleges of Multan division, Pakistan and therefore this study aims to fill that gap. This study purpose is to address to answer the following questions and hypotheses.

Research Questions
- Are the users of medical college libraries aware with available e- resources?
- What is the purpose behind the use of e-resources of medical libraries of Multan division?

- What is the user's satisfaction level towards use of e-resources of medical college libraries of Multan division?

- What barriers do faced by users regarding use of e-resources in medical libraries of Multan division?

Hypotheses

- Hypothesis H_1: There is significant mean variation about awareness of medical e-resources between male and female

- Hypothesis H_2: There is significant mean variation about usage of medical e-resources between male and female

- Hypothesis H_3: There is significant mean variation about satisfaction of medical e-resources between male and female

- Hypothesis H_4: There is significant mean variation about barriers faced by male and female while using medical e-resources

2. Literature Review

Electronic (E) Resources

Electronic resources (also known as e-resources) are digital materials that may be accessed via the internet. Reitz (2014) define that e-resource as material consisting of data or computer program (s) encoded for reading and manipulation by a computer using a peripheral device directly connected to the computer, e.g. CD-ROM drive, or remotely over a network, like internet.

As per Baskar (2017) an electronic resource is a resource that requires access to a computer or an electronic product that provides a collection of published data for the purpose of commercialization. E-Resources include DVD/CD-ROM database, online databases, electronic

journals, electronic books, electronic theses and dissertations, E-Reports, OPACs, Internet and other computer-based electronic networks, e-newspapers, e-newsletters, audios & videos etc (Quadri et al., 2014).

Awareness

Awareness is familiarity about somewhat that subsists or sympathetic of a situation or issue at the present time based on information or experience (Ani & Ahiauzu, 2008). The awareness of users of library e-resources has been investigated in a number of studies. Chanda (2021) conducted a study to explore the awareness level among college students and the major findings were 52.8 per cent the participants were highly aware of the e-resources. Joel (2020) concluded that PG students are "aware" about electronic information resources such as e-journals, e-books, e-mails, e-databases, e-magazines, e-serials, e-dissertation and theses, WWW, e-mails, CD-ROMs, online public access dialogue, reference databases, e-images and e-audio visual resources. A study of Prasad (2020) revealed that 59.7 per cent of Tumkur University faculties and researchers were "aware" of e-resources. Sharma and Srivastava (2019) conducted a study on "awareness and usage of online information resources in engineering college affiliated to RGPV, Bhopal". The findings revealed that 82.0 per cent of participants were "aware" about the library e-resources. Devi and Keshava (2021) observed that large number of users of 23 Ayurvedic Medical College Libraries in North Karnataka were "aware" of the use of e-resources and databases. A study of Singh and Gupta (2020) about the present status of awareness, accessibility, and use of e-resources by the MBBS students in Government Medical College (GMC) Library, Jammu and concluded that majority of students were "aware" about the e-resources especially open access. Vijayalakshmi et al. (2017) conducted a study about available e-resources in the library and information center of Trichy Chennai Medical College Hospital

and Research Center and resulted that around 90 per cent of respondents positively aware about medical e-resources.

Purpose

Various studies highlighted the purpose of using e-resources in libraries. Chanda (2021) study revealed that 91.61 per cent respondents using e-resources for the study purpose, followed by 81.70 per cent for do class work /assignments, 73.82 per cent for to update their domain, 58.07 per cent to enhancing education, 26.43 per cent for writing a term paper, 15.76 per cent for the research project and only 6.86 per cent for preparing seminar paper respectively. Singh and Gupta (2020) stated majority of students of Government Medical College, Jammu use e-resources for education and update themselves and the less number of the respondents were use e-resources for teaching purpose. In the meanwhile, Acheampong et al. (2020) concluded that major reasons behind the using of e-resources by scientist scholars were research work and less number use e-resources for academic studies and updated their field knowledge.

Santhanalakshmi and Veerachamy (2019) carried out a study on the usage of e-resources by the two colleges of Chennai namely SRM Medical College and Stanley Medical College and found that medical students use digital resources for subject related activities and to get updated their field knowledge. Girimallesh (2019) carried out a study on the usage of e-resources by medical college, researcher highlighted students use the e-resources for learning or to collect subject information purposes. Tella et al. (2018) revealed that a greater part 88.6 per cent of the participants were using electronic resources for doing research work, followed 67.4 per cent for curriculum development, in their specialization, 64.1 per cent for self educational development. While, 39.1 per cent use electronic resources to for skills development to use technology, 29.3 per cent for entertainment and a 10.3 per cent for teaching purposes as well. Siwach and Malik

(2018) uncovered the main purposes of using e-resources for update knowledge, writing research paper, reading articles, on-going research work, writing research proposal/projects, preparation for seminar/conference/workshop, general information and so on.

Utilization

Vijayalakshmi et al. (2017) study addressed that the usage of Electronic information resources among students and faculty at Chennai Medical College at Trichy. This study revealed that digital resources have become an important part of the information and are used by CMCH and RC students and faculty members. Snow et al., (2017) concluded that majority of medical students uses electronic resources on a variety of devices for psychiatry clerkship study and they prefer electronic resources to print resources. Zawawi and Majid (2001) reported that despite the availability of internet information sources, the researchers relied on print journals and peer interaction to meet their information demands. Similarly, electronic resources are frequently utilized by medical trainees of Internet School of medicine (Egle et al., 2015).

Satisfaction

User satisfaction is an important measure of service quality in libraries, and libraries provide important information to evaluate and improve their product or services for users (Kumar, 2012). A study of Alabdulwahhab et al. (2021) concluded that majority of undergraduate medical students at College of Medicine, Majmaah University were satisfied with the medical e-resources during the COVID-19 pandemic. Maheswari and Aravind (2021) observed users of Madurai Kamaraj university library were satisfied with e-resources (e-journals, e-books, e-databases, e-thesis and e-reference). A study of Singh & Gupta (2020) indicated that 43.63 per cent medical students with the e-resources were least satisfied, while 40 percent were partially satisfied and 16.36 per cent were fully satisfied . Murithi et al. (2020) study result that postgraduate students at Daystar and Multimedia Universities in Kenya satisfaction with e-

resources were fairly good. Lawal and Kannan (2020) survey revealed that students satisfaction were high on utilization of information resources, services and facilities of Federal University Agriculture Abeokuta. Moreover, Anbarasu and Muruganandham (2019) resulted that UG students of MMCHRI Medical College, MAHER University, Enathur, Tamil Nadu were partially satisfied 42.8 per cent, followed by 28.6 per cent were completely satisfied, 17.5 per cent were less satisfied and 11.1 per cent were "not satisfied" with e-medical resources respectively. Vijayalakshmi et al. (2017) conducted at Trichy Chennai Medical College Hospital and Research Centre and concluded that that large numbers of participants were satisfied and partially satisfied, while minor numbers of participants responded not satisfied with library e-resources. Kumar (2016) study resulted that the Medical Students of MM University, Ambala have a low level of satisfaction with medical e-resources.

Barriers

Challenges are the cause of dissatisfaction among the users (Murithi et al., 2020). The published literature indicates various problems being faced by the users' while they are using e-resources.

Chanda (2021) study concluded that slow speed of internet, lack of electric supply backup, unfriendly users interface, lack of computer skills and overload of information were the major problems in using of e-resources. Bahader et al., (2021) concluded that IT infrastructure is very poor is university libraries of Pakistan which is alarming situation for university libraries in Pakistan. Murithi et al. (2020) study noted that lack of sufficient networked computers, poor internet connection, power failure, unavailability of required information materials, difficulty in identifying relevant databases to meet their information needs, lack of access to the relevant information materials, large mass of irrelevant materials, and challenge of filtering the results from the search were the major barriers while using e- resources. Lawal and Kannan (2020) claimed that slow internet speed, problems finding relevant information, abundance of

information resources on the internet, time inefficiency in viewing/downloading pages, limited computer system, power outage, lack of ICT skills, insufficient database in business education, insufficient user skills in manipulating e-resources, expensive internet subscriptions, limited access to e-resources or poor network system were the problems of using e-resources. Siwach and Malik (2018) show up some hindrances which affected the users such as do not have access from home, limited access to back issues, only a limited number of titles available, retrieval of irrelevant/junk information, discomfort in online reading, difficulty in finding relevant information, slow download speed, information overload and Instability of electronic resources. Adeleke and Nwalo (2017) study resulted that an interrupted power supply and a lack of search and IT skills as obstacles to the use of e-resources.

3. Methods and Procedures

This study used quantitative research approach and cross sectional survey research design to investigate use of e-resources among users in medical college libraries. Review of the related literature shows that various previous studies conducted by Bahader et al., (2022), Bahader et al., (2020), Ullah, & Ameen, (2019) and Bahader et al., (2018) successfully used survey method and quantitative research approach to achieve the objectives. A structured questionnaire was developed in the light of literature review. It was sent to the research supervisor at several times and revised in the light of comments received from the supervisor and then the first draft of the instrument was developed. The draft questionnaire was sent to the experts to gain their valuable feedback on the questionnaire for content validity. Experts were selected based on their relevant experience, professional repute and involvement in library projects in public & private medical colleges and universities. To ensure the reliability of data collection instrument in restricted set up, it was circulated among five percent of medical and dental colleges' library users. The worth

of Cronbach's alpha was 0.96, which was excellent. The final questionnaire consist two parts, part first obtained demographic information related to gender, types of users, , year of study (for students), qualification and academic rank (for faculty members) and name of institution /college of the respondents. Part two comprised 13 facets of awareness, 10 facets of purpose of usage, 13 facets of utilization, 13 facets of satisfaction, and 11 facets of barriers regarding medical e-resources respectively. In the majority of the variables, a five-point likert scale was employed.

Population and Sample Size

Populations of the study are six (06) medical and dental colleges i.e. Nishtar Medical College, Nishtar Institute of Dentistry, Bakhtawar Amin Medical & Dental College, CMH Multan Institute of Medical Sciences, Multan Medical & Dental College, Shahida Islam Medical College in Multan division included. Library users having faculty members and students of all medical and dental colleges in Multan division were the targeted population of the study. There were 4000 MBBS and 841 dental students whose were currently enrolled, while 459 medical and 173 dental faculty members of the target population. The sample of this research was calculated by using Taro Yamane (Yamane, 1967) formula with 95% confidence level and sample size is 373.

Data Collection and Analysis

This study used non-probability convenience sampling techniques due to the scattered target population and the questionnaire was distributed among students and faculty members. To enhance the response rate of the questionnaire the researcher approached the participants through personal visits, e- mail, whatsapp and other social media channels. As a result, 88 per cent filled questionnaires were received, which was considered a good response rate for data analysis. For

data analysis and interpretation Statistical Package for Social Sciences (SPSS) software version 20 were used to determine the descriptive and inferential statistics for the study results.

4. Results

Respondents' Profile

Out of total 329 participants, 139 (42.2 %) were male and 190 (57.8%) were female and 89 (27.1 %) were faculty members and 240 (72.9%) were students. Qualification of majority faculty members were MBBS 163(49.5 %) followed by BDS 117(35.6%), M.Phil 26 (7.9%), and FCPS 23 (7.0%) respectively. As for as students year of study is concerned majority of students 58 (17.6%) were studying in 4th year, followed by 51 (15.5%) 3rd year, 49(14.9%) 5th years, 47(14.3 %) 1st year, 35 (10.6%) participated from 2nd year respectively. Majority of the faculty members 52 (15.8%) were demonstrators, 25 (7.6%) assistant professors, 10 (3.0%) associate professors and 2(6 %) were professors.

Awareness

A list of 13 e-resources was provided and was asked to level awareness on five-point scale. The results indicate that the users were "Slightly Aware" about MEDLINE with (Mean 2.28), followed by the Springer Link and PubMed with Mean scores 2.27 and 2.16 respectively. Science Direct, Black-Well Synergy and Global Health were ranked as fourth, fifth and sixth (Mean 1.78, Mean 1.70 and 1.54). The finding also revealed that the mean values of other e-resources are less than 1.49, means that users were "Not Aware" about BIOSIS Previews, ProQuest Database, Clinical Evidence, BioMed Central, DOAJ Database, and EBSCO host respectively. The overall mean score of respondents awareness about medical e- resources is (Mean=1.60) shows that the participants were "Slightly Aware" about medical e- resources (Table1).

Table 1

Descriptive Statistics of Respondents Awareness about Medical E- Resources (n=329)

Medical E- Resources	Rank	Mean	SD
MEDLINE	1	2.28	1.033
Springer Link	2	2.27	1.135
PubMed	3	2.16	1.066
Science Direct	4	1.78	.977
Black-Well Synergy	5	1.70	1.114
Global Health	6	1.54	1.053
BIOSIS Previews	7	1.42	.900
ProQuest Database	8	1.40	.895
Clinical Evidence	9	1.34	.741
BioMed Central	10	1.31	.762
DOAJ Database	11	1.22	.696
EBSCO host	12	1.20	.661
HINARI	13	1.19	.696
Overall, Awareness		**1.60**	**.90**

Scale: 1= Not Aware; 2= Slightly Aware; 3= Moderately Aware; 4= Aware; 5= Extremely Aware

Purpose

Participants of the survey were asked to point out their purpose for using medical e- resources. It was found that 67.2 per cent of users used medical e- resources for education, 62.0 per cent for learning and 52.9 per cent for to update knowledge purposes respectively. Results also reflects that less number of users were used the medical e-resources for research, writing an articles, research supervision, entertainment, preparing lectures, social networking and writing a books purposes (Table 2).

Utilization

The users were asked how frequently they use the medical e-resources. The results show that the MEDLINE were "Rarely" used with (Mean 2.34), followed by the PubMed and Springer Link Mean scores 2.28 and 2.06 respectively. Science Direct, Black-Well Synergy and ProQuest Database were ranked as fourth, fifth and sixth (Mean 1.86, Mean 1.70 and 1.51). The results also indicated that the mean scores of other e-resources are less than 1.49, it means that users

were "Never" use Global Health, Clinical Evidence, BioMed Central, DOAJ Database, EBSCO host and HINARI respectively. The overall mean score of respondents usage about medical e-resources is (Mean=1.65) shows that the participants were "Rarely" used medical e-resources (Table 3).

Table *2*

Descriptive statistics of Respondents for Purposes of Using Medical E- Resources (n=329)

Rank	Purposes	YES		NO	
		f	*%*	*f*	*%*
1	Education	221	67.2	108	32.8
2	Learning	204	62.0	125	38.0
3	To update knowledge	174	52.9	155	47.1
4	Research	140	42.6	189	57.4
5	Writing an Article	70	21.3	259	78.7
6	Research Supervision	51	15.5	278	84.5
7	Entertainment	39	11.9	290	88.1
8	Preparing Lectures	30	9.1	299	90.9
9	Social Networking	15	4.6	314	95.4
10	Writing a Book	10	3.0	319	97.0

Scale: 1=Yes; 2= No

Table 3
Descriptive Statistics of Respondents about Usage of Medical E- Resources (n=329)

Medical E- Resources	Rank	Mean	SD
MEDLINE	1	2.34	.997
PubMed	2	2.28	1.016
Springer Link	3	2.06	1.130
Science Direct	4	1.86	1.034
Black-Well Synergy	5	1.70	1.131
ProQuest Database	6	1.51	.941
Global Health	7	1.49	.870
Clinical Evidence	8	1.43	.881
BioMed Central	9	1.43	.860
BIOSIS Previews	10	1.39	.837
DOAJ Database	11	1.36	.840
EBSCO host	12	1.31	.729
HINARI	13	1.30	.846
Overall, Usage		**1.65**	**.932**

Scale: 1=Never; 2 = Rarely; 3= Sometimes; 4 = Often; 5 = Always

Satisfaction

The participants were asked how they are satisfied with the medical e-resources. The results show that the users were "Partially Satisfied" with Springer Link with (Mean 3.45), followed by PubMed, Science Direct, BioMed Central (Mean scores of 3.43, 3.42 and 3.40) respectively. In addition, MEDLINE, Black-Well Synergy, BIOSIS Previews, Global Health, ProQuest Database etc were ranked as fifth, sixth, seventh, eighth, ninth (Mean 3.29, Mean 3.26, 3.23, 3.22, 3.12). The overall mean score of respondents satisfaction about medical e- resources is (Mean=3.21) shows that the participants were "Partially Satisfied" with medical e- resources (Table 4).

Table 4
Descriptive Statistics of Respondents Satisfaction with Medical E- *Resources (n=329)*

Medical E- Resources	Rank	Mean	SD
Springer Link	1	3.45	1.278
PubMed	2	3.43	1.141
Science Direct	3	3.42	1.250
BioMed Central	4	3.40	1.607
MEDLINE	5	3.29	1.245
Black-Well Synergy	6	3.26	1.354
BIOSIS Previews	7	3.23	1.263
Global Health	8	3.22	1.287
ProQuest Database	9	3.12	1.205
HINARI	10	3.12	1.180
EBSCO host	11	3.09	1.264
DOAJ Database	12	2.97	1.289
Clinical Evidence	13	2.79	1.261
Overall, Satisfaction		**3.21**	**1.279**

Scale: 1= Highly Dissatisfied; 2= Dissatisfied; 3= Neutral; 4= Satisfied; 5= Highly Satisfied

Barriers

The users were asked to point out the barriers faced by them while using medical e-resources. They pointed that as lack of training/ orientation to access and use of medical e-resources with (Mean 3.71), followed by low speed of internet, energy crisis/load shedding, lack of printing

facility, non-availability of full text access to the most of journals, lack of awareness of medical e- resources (Mean values of 3.54, 3.44, 3.37, 3. 23 and 3.21) respectively. Moreover, information overload, inadequate IT infrastructure of Institute/College, Unavailability of latest computers in Lib/Comp. Lab, lack of access to internet facility and shortage of computer terminals in the Lib/Comp Lab were ranked as seventh, eighth, ninth, ten, and eleven with (Mean scores of 3.08, 3.07, 2.95, 2.93, 2.72). The overall mean score of barriers faced to users while using medical e- resources is (Mean=3.20) shows that the respondents have faced "Barriers Partially" while using medical e- resources (Table 5).

Table 5
Descriptive Statistics of Respondents Barriers with Medical E- *Resources (n=329)*

Barriers	Rank	Mean	SD
Lack of training/ orientation to access and use of E- resources	1	3.71	1.098
Low speed of internet	2	3.54	1.131
Energy Crisis/Load shedding	3	3.44	1.193
Lack of Printing facility	4	3.37	1.185
Non-availability of full text access to the most of journals	5	3.23	1.310
Lack of awareness of E- resources	6	3.21	1.252
Information overload	7	3.08	.688
Inadequate IT infrastructure of Institute/College	8	3.07	1.215
Unavailability of latest computers in Lib/Comp. Lab.	9	2.95	1.225
Lack of Access to Internet facility	10	2.93	1.244
Shortage of computer terminals in the Lib/Comp Lab.	11	2.72	1.190
Overall, Barriers		**3.20**	**1.157**

Scale: *1*= Strongly Disagree; *2*= Disagree; *3*= Neutral; *4*= Agree; *5*= Strongly Agree

Hypotheses

Hypothesis H₁: Results revealed that there is no statistically significant difference in the mean scores of awareness about the medical e-resources with respect to male and female, where significant value is greater than p-value (P=.280>.05). Thus alternative hypothesis H$_1$ rejected and there is no significant mean variation about awareness of medical e-resources between genders (Table 6).

Hypothesis H₂: Output of the study indicated that there is no statistically significant variation in the mean scores of usage with medical e-resources based on male and female, where significant value is greater than p-value (P=.803>.05). Thus alternative hypothesis H₂ rejected and there is no significant mean variation of medical e-resources utilization between genders (Table 6).

Hypothesis H₃: Results showed that there is no statistically significant mean variation in the satisfaction with medical e-resources based on male and female, where significant value is greater than p-value (P=.662>.05). Thus alternative hypothesis H₃ rejected and there is no significant mean variation of satisfaction with medical e-resources between genders (Table 6).

Hypothesis H₄: Findings revealed that there is no statistically significant mean difference in the values of barriers about the medical e-resources faced to male and female, where significant value is greater than p-value (P=.714>.05). Thus alternative hypothesis H₄ is rejected and there is no significant mean variation of barriers between genders while using medical e-resources by medical library users (Table 6).

Table 6
Mean Differences in Medical E-Resources Awareness, Usage, Satisfaction and Barriers based on Gender (n=329)

Medical E-Resources	Gender				*t*-stats (df=327)	P-value
	Male 139(42.2%)		Female 190 (57.8%)			
	Mean	SD	Mean	SD		
Awareness	1.6502	.72736	1.5644	.69833	1.083	.280
Usage	1.6630	.76259	1.6409	.81208	.250	.803
Satisfaction	3.2380	.86301	3.1976	.80059	.437	.662
Barriers	3.2184	.57659	3.1952	.56047	.367	.714

*P< 0.05

5. Discussion

Results of this study disclose that users of the medical libraries were "slightly aware" about MEDLINE, Springer Link, PubMed. Science Direct, Black-Well Synergy and Global Health.

Similarly, respondents were "not aware" about BIOSIS Previews, ProQuest Database, Clinical Evidence, BioMed Central, DOAJ Database, and EBSCO host respectively (Table1). This results are inconsistent with the studies of (Chanda, 2021; Joel, 2020; Prasad, 2020; Devi & Keshava, 2021; Singh & Gupta 2020; Vijayalakshmi et al. 2017). These studies resulted that majority of the respondents were "aware" about the library e-resources. Majority of the participants were used medical e-resources for education, learning and to update knowledge purposes respectively. These results are coherent with the studies of (Chand, 202; Singh & Gupta, 2020; Santhanalakshmi &Veerachamy, 2019) and not similar with the studies of Acheampong et al. (2020) respectively. In addition, less number of users were used the medical e-resources for, writing an articles, research supervision, entertainment, preparing lectures, social networking and writing a books purposes. These findings are not similar with studies of (Chand, 2021; Singh & Gupta, 2020; Santhanalakshmi & Veerachamy, 2019; Girimallesh, 2019; Siwach & Malik; 2018) respectively (Table 2). Findings about the Utilization of medical e- resources showed that that the MEDLINE, PubMed, Springer Link, Science Direct, Black-Well Synergy and ProQuest Database were used "rarely". The results also indicated that Global Health, Clinical Evidence, BioMed Central, DOAJ Database, EBSCO host and HINARI were "Never" use by respondents respectively. Majority respondents were "rarely" used medical e- resources (Table 3). These output are opposite of the studies of (Vijayalakshmi et al., 2017; Snow et al., 2017; Egle et al., 2015) and similar to study of Zawawi and Majid (2001) and so on. Results shows that users are "partially satisfied" with medical e- a resource that is Springer Link PubMed, Science Direct, BioMed Central, MEDLINE, Black-Well Synergy, BIOSIS Previews, Global Health, ProQuest Database. These results are coherent with the studies of (Singh & Gupta, 2020; Anbarasu and Muruganandham,2019; Kumar, 2016) and different with (Alabdulwahhab et al., 2021;

Maheswari & Aravind, 2021) respectively (Table 4). Respondents pointed that lack of training/ orientation, low speed of internet, energy crisis/load shedding, lack of printing facility, non-availability of full text access to the most of journals, lack of awareness information overload and inadequate IT infrastructure were the major problems faced to medical college libraries user while using e-resources (Table 5). These findings were parallel to studies of (Bahader et al., 2021; Chanda, 2021; Lawal & Kannan, 2020; Adeleke & Nwalo, 2017) and disagree with study of (Murithi et al., 2020) correspondingly. Findings of the study exposed that there is no statistically significant difference in the mean scores of awareness, utilization, satisfaction and barriers about the medical e-resources with respect to male and female, where all significant values are greater than p-value (P>.05). Thus all alternative hypotheses H_1, H_2, H_3 and H_4 are rejected (Table 6).

6. Conclusions

Electronic information resources and services appear to be quite significant for medical college libraries in today's world. Medical e-resources and services in libraries are critical to the smooth operation of any medical institution as well as national structures. The usability of a medical libraries e-resources and services in relation to the community it serves is crucial to its existence. Ample modern resources, novel library services, and the requirement for proper information literacy, awareness, utilization, and aptness in using existing e-resources have all become urgent needs. Findings of this study verify that users of the medical libraries were "Slightly Aware" about the medical e- resources and majority of the participants were used medical e-resources for education, learning and to update knowledge purposes. In addition, Medical e- resources that are MEDLINE, PubMed, Springer Link, Science Direct, Black-Well Synergy and ProQuest Database were utilized rarely by the respondents. Users of medical college in Multan division are

partially satisfied with medical e- resources of libraries. Lack of training/ orientation, low speed of internet, energy crisis/load shedding, lack of printing facility, non-availability of full text access to the most of Journals, lack of awareness information overload and inadequate IT infrastructure were the major problems faced to medical college libraries user while using e-resources. There is no statistically significant difference in the mean scores of awareness, utilization, satisfaction and barriers about the medical e-resources with respect to male and female. The findings allow library professionals to be more effective, proactive, and successful in achieving digitize library services and resources. This study also made a significant contribution to the existing literature on medical e-resources and services. The findings could help libraries to promote online services, digital library services and products and virtual culture in medical college libraries of Pakistan especially in Multan Division.

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