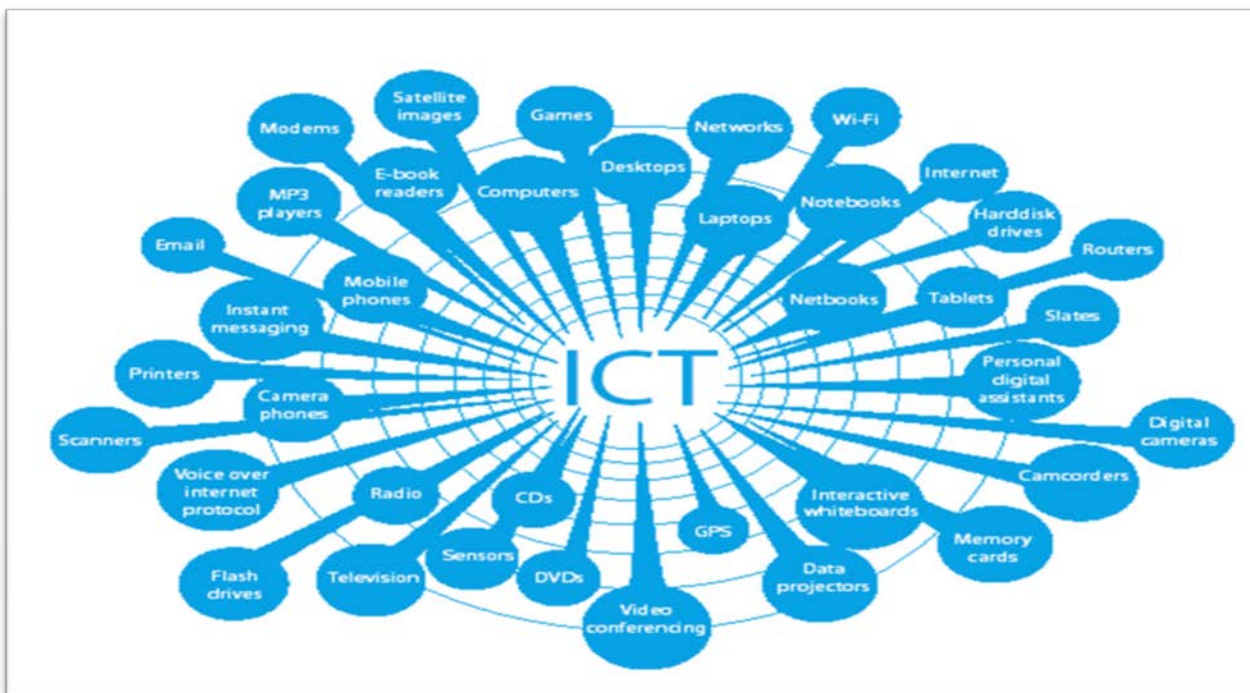# Use and Impact of the Modern ICT in Central Library of C.U. Shah Medical College & Hospital, Gujarat, India

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## ABSTRACT

The information and communication technology (ICT) has an awesome impact on human life as well as all the stroll of learning circle. The utilization of ICT has turned out to be more noteworthy and swift segment in library and information management and services. Modern advancements in ICTs have portrayed novel methods for information generation, management, and dissemination. Medical students are regularly utilizing ICT for access to the library resources and online databases to satisfy their learning needs. This paper outlines the utilization of ICT by medical students and revealed the effect of modern technology in central library of C.U. Shah Medical College, Surendranagar. Here researchers have tried to describe the need and utilization of different tools and techniques of ICT by medical students. The study was led through an organized close ended questionnaire and it was distributed 172 library users, those were utilized ICT facilities in C.U.Shah Medical College and Hospital campus. From the all, 141 (82%) questionnaires were received and data were analyzed. In this study allied different parameters like the frequency of library visit, Internet access and utilization of electronic resources, attitude of medical students towards ICT, utilization of ICT to access to library resources, impact of ICT on medical learning and research, impact of ICT on library services and level of satisfaction. The study noted that majority of respondents were agreed and believed that ICT is essential for medicinal education and research, and they were utilizing ICTs in the library for various purposes and preferred as a daily and a weekly. The most of the respondents were very positive about the effect of ICT on library uses and its services.

*Keywords: Information and Communication Technology, ICT, Electronic Resources, Library Services, Internet, Medical Students, Online Access, Healthcare Professional, Medical College Library.*

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**T**he paradigm shift from traditional to multidisciplinary librarianship through ICT has increased the quantity of information passing through the library and the health librarian's role must cope up with these transforms. Healthcare is an information demanding sector and ICT is an essential in the healthcare delivery. ICT provides chances for developing nations like Nigeria to reduce the gap of development (Ajuwon and Rhine, 2008). In the age of information technology marked that IT infrastructure in medical libraries in Gujarat at different stages, and the status of library computerization in these libraries are not encouraging (Bhatt, 2012)

In respect of ICTs, presently the society entering into the new era "global village", "information society" or "information age" and "knowledge society" are a few terms have been coined in try to recognize and realize the level of these technological changes. Now-a-days, information is contained in books and reading materials but also in non-book material such as micro-film, micro-graphs, pictures, floppies, CDs, DVD-ROM, magnetic tapes, pen drives, etc. which can act as information depositories in case of library and information system. The libraries of medical colleges are also positively affected by the challenges of ICT i.e. computer technology, communication technology, storage technology, digital technology, multimedia technology, web technology and network technology.

*ICT Concept Map*
ICT comprise many technologies for capturing, interpreting, storing and transmitting information. (Source: UNESCO Bangkok, 2010)

### *Central Library of C.U. Shah Medical College & Hospital*

The C.U. Shah Medical College established in 2000, is the first self financed college in Saurashtra region, providing educational and training facilities for undergraduate medical students. It has excellent infrastructure facilities, expert faculties and other supporting activities. The college admits 100 undergraduate students every year. The college is recognized by MCI and affiliated to Saurashtra University. Its central library has rich collection of books on all major subjects of medical sciences. The collection includes reference books, text books, CDs etc. The library is also subscribing research journals in printed as well as electronic formats. E-journals available with various online healthcare databases such as ej-server database, online access with subscribed print journals and many other open access database can be accessed. The library has centrally air conditioned three reading hall and remain open 24/7 hours. Library provides internet service with high-speed broadband internet connectivity. The library has been computerized by user-friendly library management system. The software facilitates automated circulation of books and speedy access to available information of the books and others resources. Central library provides various services like circulation, reference service, internet service, newspapers clippings, digital information, e-library / online resources, Web OPAC search, photocopying, image scanning, printing and many others user services.

## REVIEW OF LITERATURE

*The literature of the previous studies reviewed for the research study on medical library and information services are as follow:*

Asquari JN and Haywood J (1997) appraises the approach of the medical students of Edinburgh University toward computers, that found 86 percent agreed that computer skills will be useful to them, and that 62 percent required a designed course in computer use. Moorthy AL (2001) study the impact of electronic media on library and information centres with special reference to India, to appraise the availability of infrastructure in libraries, the level of automation and degree of usage of electronic media in library and information centres. The study revealed that the level of use of electronic media is improving with the impact of digital libraries and online journals etc in the library. Gopal K (2003) provided the detailed explanation of technology oriented topics as impact of ICT in libraries, role of libraries in digital age, analysis of digital information services; digital archiving digital preservation, digital electronic libraries trends and copyright issues followed by comprehensive bibliography and indices definitely this monograph is helpful to enhance the quality of present study for cost effectiveness while participating in the network oriented world. Gui-Zhi et al. (2006) they described that, libraries of medical should take the initiative to provide services of medical information for community health emergencies in the areas where they are located. Medical libraries may improve SDI services for healthcare professionals, scientific worker, policy-makers, and the community by using of the on-line update with recent information technology. Trivedi M and Joshi A (2008) reveals the need for formal training for all levels of library personnel. Library staff may take the initiative to move

forward and boost Internet searching and use on campus. Maharana B et al. (2009), a survey determined the use of information and communication technology (ICT) by medical students of VSS Medical College, Burla, in the State of Orissa, India. The study examined the knowledge of students to use of electronic resources and access to computers. The survey revealed that the medical students were very keen to use ICTs for their studies. Majority of respondents believed that ICT must be included in the syllabus of undergraduate course. Srinivasulu P and Reddy VP (2010) reveals that significant percentage of respondents (45.06%) are not aware of web portal, Medicus Index (39.35 %), MEDLINE (14.55 %) and PubMed (33.46%). Houshyari AB et al. (2012) exposed that the impact of ICT on medical education has changed an enormous transaction as both medical discipline and computer technology have gone under deep development. At the same time as developed nations might yield their investments in information and communication technology, medical institutes and schools in developing nations are yet struggling in designing, implementing, and delivering information and communication technology. Krubu D and Osawaru K (2012) conducted survey research on the impact of Information and Communication Technology in Nigerian University Libraries. The study draws the impact of ICT on use internet resources, online resources and information and storage retrieval. The intention of the study was to determine the level of automation, the usefulness of ICT resources and the essential skills for using ICT resources. The study exposed that ICT has a massive impact based on its effectiveness. Talab SMG and Tajafari M (2012) carried out the survey to recognize and evaluate the impact of ICT on training human resources of library in two university libraries from India and Iran. The study revealed that ICT training program for library staff was inadequate. Usual training program of ICT should be initiated for library human resources to keep up with ICT rapid development.

## *Objectives of the Study*

The main objective of the study is to examine use and impact of the modern ICT in central library of C.U. Shah Medical College & Hospital, Gujarat. In addition the study also aims to attain the following objectives:

1. To examine the role of ICT in medical education and research;
2. To determine attitude of medical students' towards ICT enabled library;
3. To study the use of ICT and e-resources by medical students;
4. To find out the level of awareness of using digital information resources;
5. To find out the problems faced by library users related to ICT and staff;
6. To determine the impact of ICT;
7. To determine level of satisfaction of user for existing ICT facilities.

## METHODS OF RESEARCH

The cross sectional study was conducted among the UG medical students and PG medical students who are visiting the central library frequently. The study was conducted through a

structured close ended questionnaire and distributed through simple random among the 172 (25.68%) of 670 library users who generally using ICT facilities in C.U. Shah Medical College & Hospital campus. Out of them 141 (82%) filled questionnaires were received and rest of 31 (18%) questionnaires were not received due to personal reason of respondents. The collected data was analyzed.
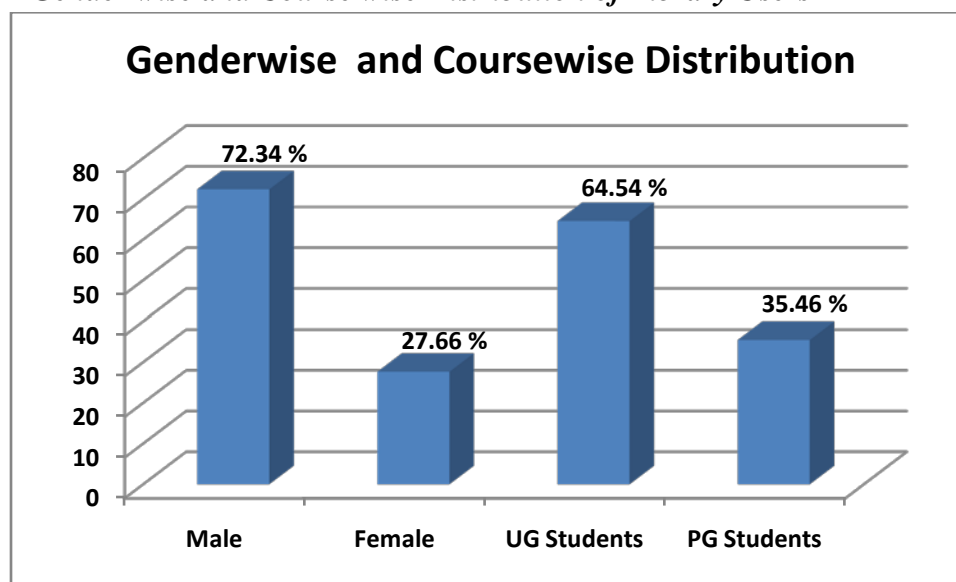
## *Data Analysis*

Analysis has been done according to questions of the questionnaire. Simple statistical calculations, tables and figures have been used in analyzing of the collected data. Analysis of the collected data is provided under the following heads.

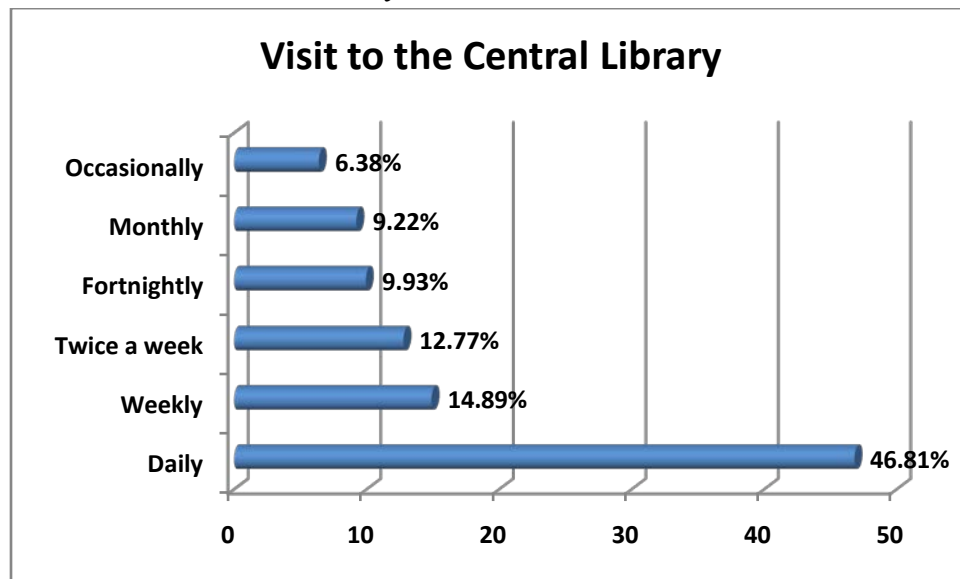*Table 7.1 – Gender wise and Course wise Distribution of Library Users*

| Gender | Male | | Female | | Total Respondents | |
|---|---|---|---|---|---|---|
| Library Users | Nos. | % | Nos. | % | Nos. | % |
| UG Students | 66 | 46.81 | 25 | 17.73 | 91 | 64.54 |
| PG Students | 36 | 25.53 | 14 | 9.93 | 50 | 35.46 |
| Total Respondents | 102 | 72.34 | 39 | 27.66 | 141 | 100 |

*Figure 7.1 - Gender wise and Course wise Distribution of Library Users*
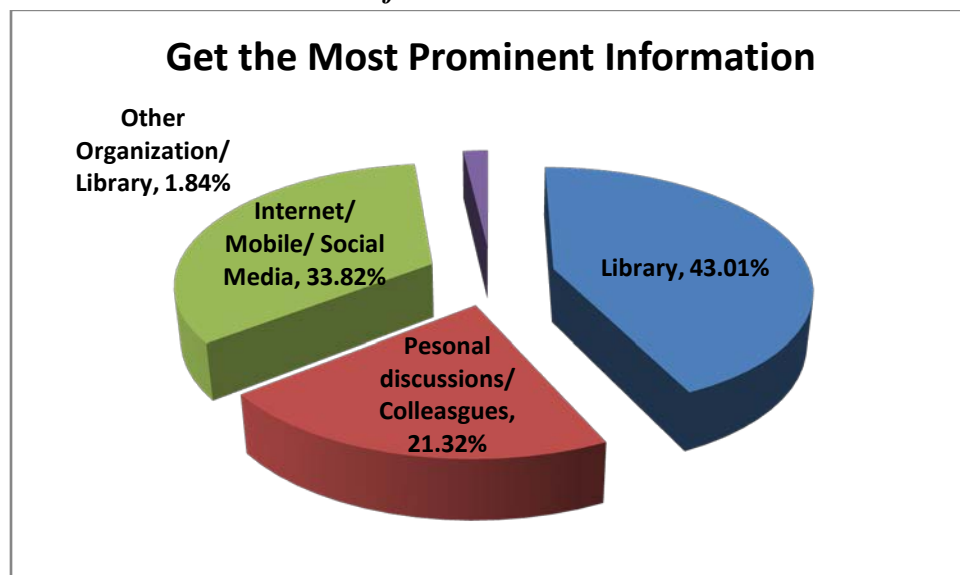


The Table 7.1 and Figure 7.1 showed the responses of UG students and PG students of C.U. Shah Medical College as well as gender wise distribution. Among the total number of 141 respondents, 72.34% were male and 27.66% were female. As well as out of 141 respondents, 64.54% were UG students and 35.46% were PG students.

*Figure 7.2 - Visits to the Central Library*

**Visit to the Central Library**

| Category | Value |
|---|---|
| Occasionally | 6.38% |
| Monthly | 9.22% |
| Fortnightly | 9.93% |
| Twice a week | 12.77% |
| Weekly | 14.89% |
| Daily | 46.81% |

The Figure 7.2 reveals that frequency of visit of users to the central library is varied. Nearly half of 46.81% users visited to central library every day, followed by 14.89% users visited weekly, 12.77% users visited twice in a week, 9.93% users visited fortnightly, 9.22% users visited monthly and 6.38% users visited occasionally.

*Figure 7.3 - Get the Most Prominent Information From*

**Get the Most Prominent Information**

Other Organization/ Library, 1.84%
Internet/ Mobile/ Social Media, 33.82%
Library, 43.01%
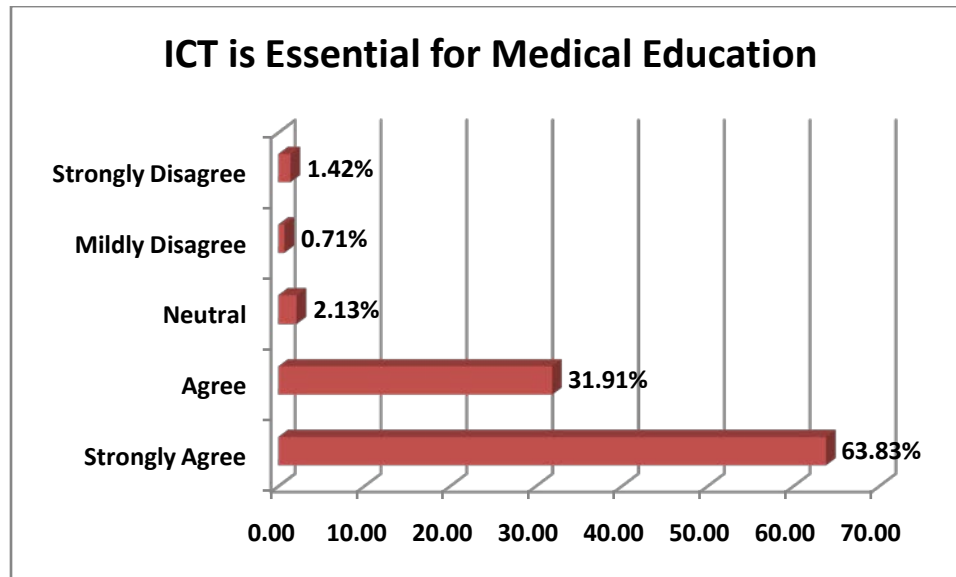Pesonal discussions/ Colleasgues, 21.32%

The Figure 7.3 illustrated that users preferred to get most prominent information from library. Nearby 43% respondents chosen library; 33.82% respondents get information from internet/mobile/social media, 21.32% respondents preferred to get information through personal
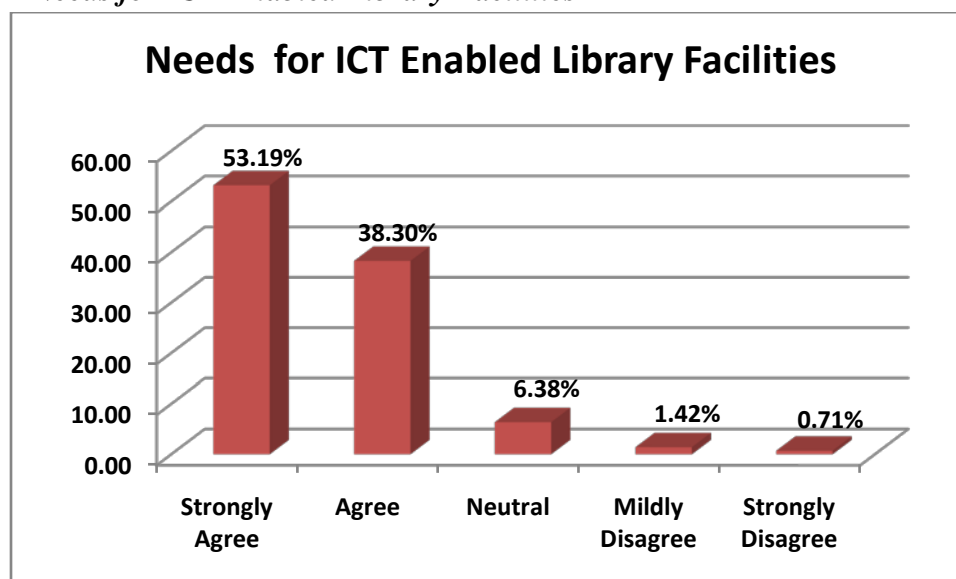
discussion with colleagues and very little 1.84 % respondents get information from other organization or other library.

*Figure 7.4 - ICT is Essential for Medical Education and Research*



**ICT is Essential for Medical Education**

| | |
|---|---|
| Strongly Disagree | 1.42% |
| Mildly Disagree | 0.71% |
| Neutral | 2.13% |
| Agree | 31.91% |
| Strongly Agree | 63.83% |

The Figure 7.4 discloses that all most respondents were believed that ICT is essential for medical education and research. Out of 141 respondents, 63.83% respondents were strongly agreed and 31.91% respondents were agreed that the ICT is essential for medical education and research, whereas few respondents were neutral, mildly disagreed and strongly disagreed as 2.13%, 0.17% and 1.42% respectively.
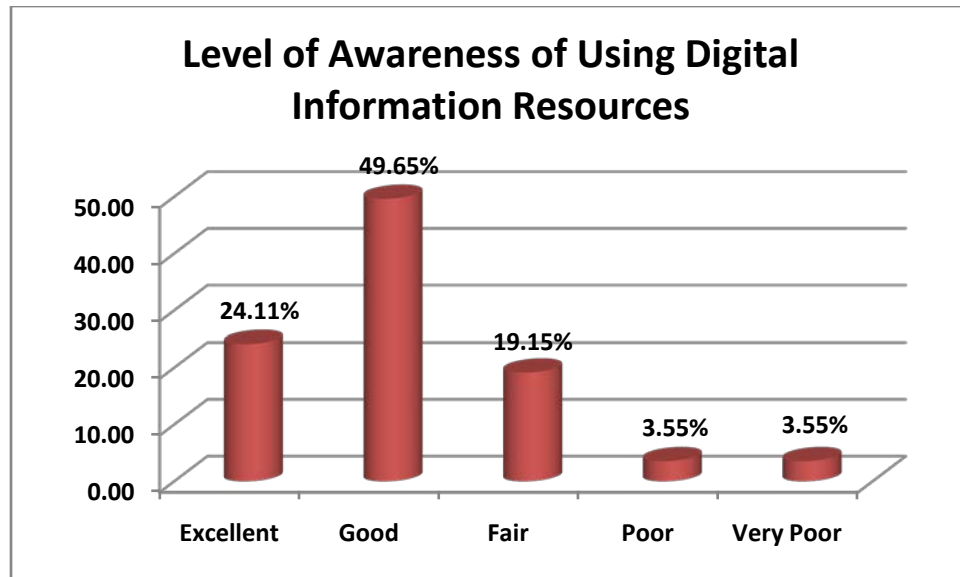
*Figure 7.5 - Needs for ICT Enabled Library Facilities*



**Needs for ICT Enabled Library Facilities**

| Strongly Agree | Agree | Neutral | Mildly Disagree | Strongly Disagree |
|---|---|---|---|---|
| 53.19% | 38.30% | 6.38% | 1.42% | 0.71% |

The Figure 7.5 shows that majority of respondents were believed that medical students needs ICT enabled library facilities for medical education and research. Out of 141 respondents, 53.19% respondents were strongly agreed and 38.30% respondents were agreed for needs of ICT enabled library facilities, whereas small number of respondents were neutral, mildly disagreed and strongly disagreed as 6.38%, 1.42% and 0.71% in that order.
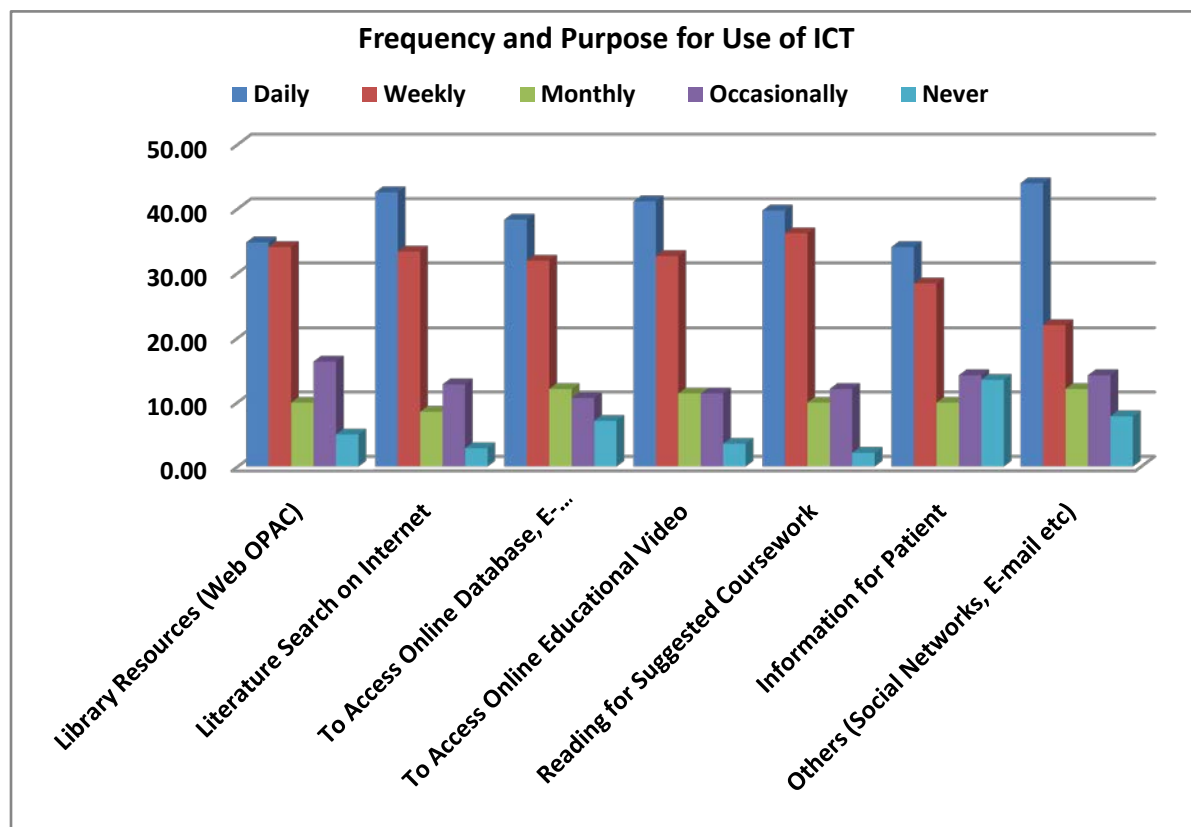
*Figure 7.6 - Awareness to Use of Digital Information Resources*



The Figure 7.6 displayed that majority of respondents mentioned their level of awareness of using digital information resources positive. Out of 141 respondents, 49.65% respondents mentioned good, 24.11% respondents mentioned excellent and 19.15% respondents mentioned fair, whereas 3.55% mentioned as same percentage of respondents mentioned very poor.
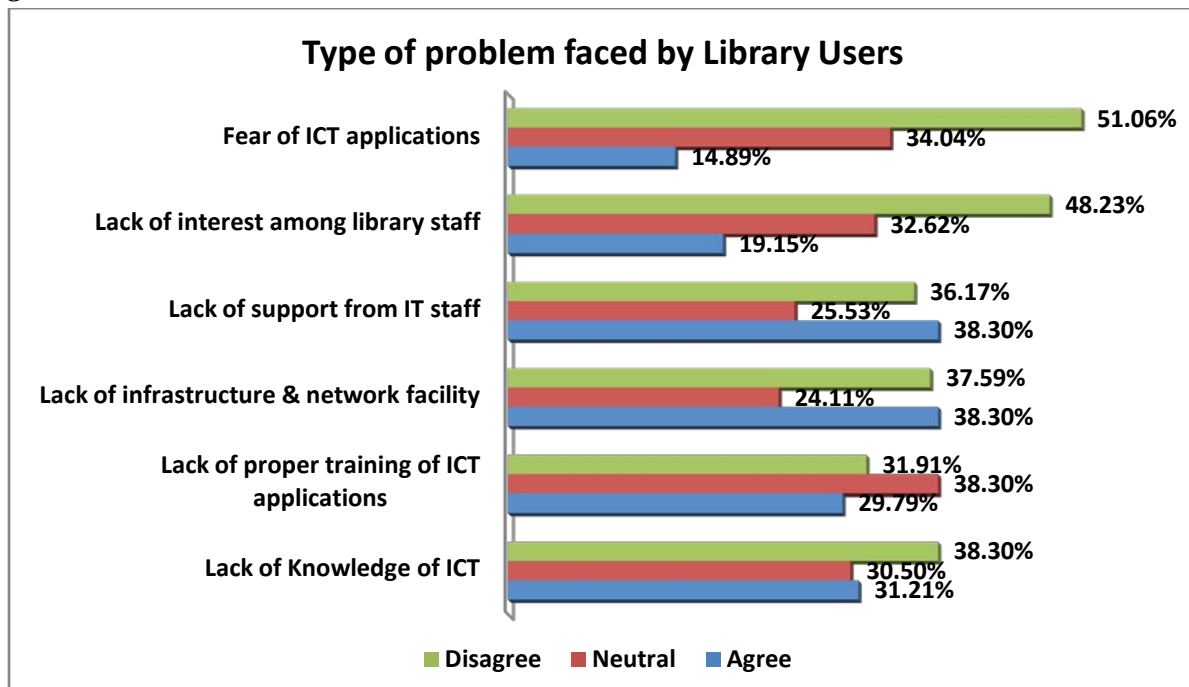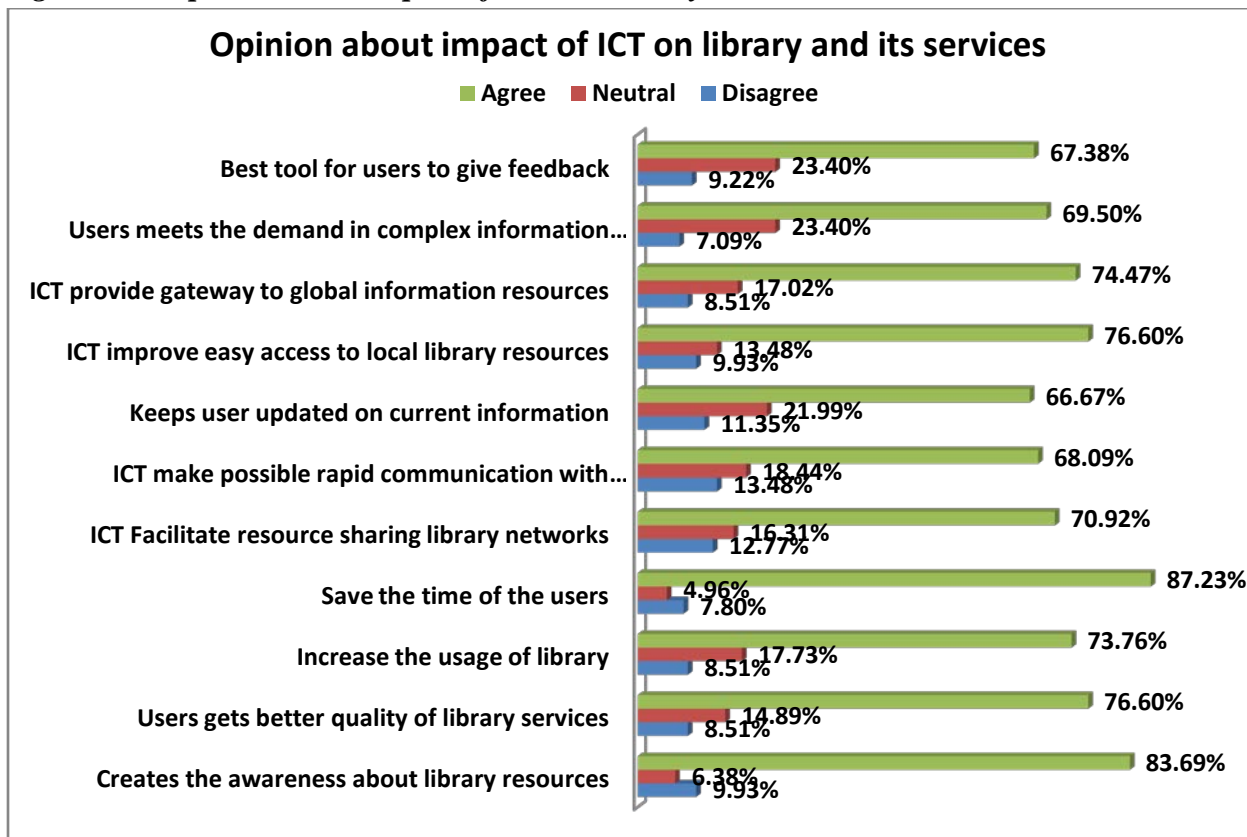
*Figure 7.7 – Frequency and Purpose of ICT Use*



The Figure 7.7 shows that usage of ICT for various purposes preferred frequency was daily and followed by weekly. The Figure illustrated that average daily 39%, weekly 31%, monthly 11% and occasionally 13% respondents are using ICT for purpose to access resources, literature search on internet, to access online database and e-resources, to access online educational video, reading for suggested coursework, get information for patient and others access like social network and e-mail etc. there are average 6% respondents never used ICT tools to access library resources.

*Figure 7.8 - Problem Faced in ICT Use*



**Type of problem faced by Library Users**

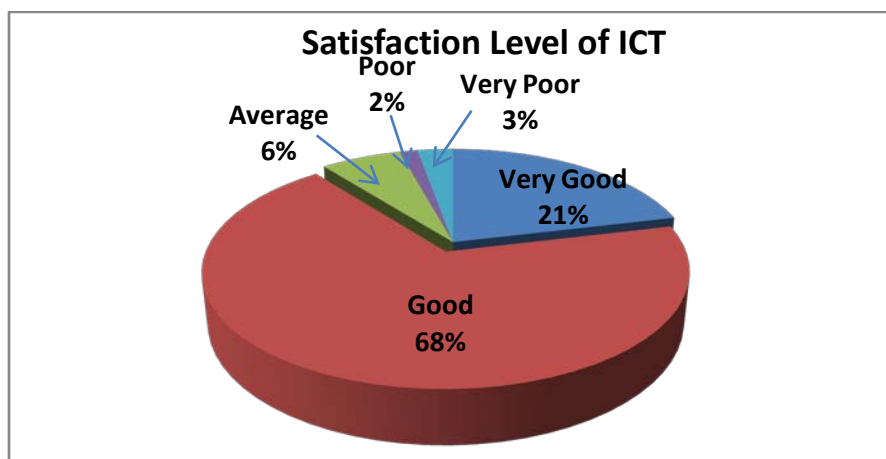| | Disagree | Neutral | Agree |
|---|---|---|---|
| Fear of ICT applications | 51.06% | 34.04% | 14.89% |
| Lack of interest among library staff | 48.23% | 32.62% | 19.15% |
| Lack of support from IT staff | 36.17% | 25.53% | 38.30% |
| Lack of infrastructure & network facility | 37.59% | 24.11% | 38.30% |
| Lack of proper training of ICT applications | 31.91% | 38.30% | 29.79% |
| Lack of Knowledge of ICT | 38.30% | 30.50% | 31.21% |

The Figure 7.8 shows that 31.21% respondents were faced the problem of lack of knowledge of ICT, 29.79% respondents were suffered from lack of proper training of ICT applications and 38.30% respondents were faced lack of infrastructure and network facility, whereas few 19.15% respondents were faced problem related to lack of interest among library staff as well as 14.89% respondents were faced problem about fear of ICT applications.

*Figure 7.9 - Opinion about Impact of ICT on Library and its Services*



The Figure 7.9 shows that the majority of respondents recommended and agreed the impact of ICT on library and it services. Highest respondents are agreed that impact of ICT in save the time of user.

*Figure 7.10 - Satisfaction Level of Users for Existing ICT Facilities*

Figure 7.10 reveals that the satisfaction level of use of ICT that 68% respondents were good, 21% respondents were very good, 6% respondents were average, 2% of them poor satisfied, and 3% respondents were very poor satisfied about the level of satisfaction using existing ICT facilities.

## *Findings and Discussion*

After a careful analysis and interpretation of the data, the following major findings were noted:

1. Nearly half of users were visited to the central library premises daily. It shows users attachment to the central library for using various library services like circulation, reference, internet and reading facility etc.
2. The students preferred library as a main and first choice source to get most prominent information.
3. More than 95% of respondents were agreed and believed that ICT is essential for medical education and research. The students recognized that ICT tools and techniques should be a part of medical education and research. It shows positive attitude of medical students towards the ICT.
4. Above the 90% of respondents were agreed that ICT enabled library facilities are required. This is encouraging for sensitivity of medical students regarding need for ICT enabled library facilities. Although the students considered the ICT enabled library is an integral part of medical education.
5. Nearly 75% users have excellent to good level of awareness to use digital information resources. This shows that adaptability of medical students to modern ICT.
6. Study noted that majority of respondents were using ICTs in the library for various purposes and preferred as a daily and a weekly.
7. The highest numbers of users were using ICT daily for the main purpose of access social network and email as well as literature search on internet.
8. The study showed that nearly one third of users faced problems in use of ICT. The type of problems faced by library users are limited knowledge of ICT, lack of proper training of ICT applications, lack of infrastructure and network facility, lack of support from IT and library staff.
9. Needs to established proper internet connection in central library to reduce problem of internet connectivity. Extend Wi-Fi facility in campus to access internet and local area network to decrease problem about accessibility.
10. The majority of respondents agreed positively about the impact of ICT on library uses and its services. Highest numbers of respondents were agreed about ICT's impact on save the time of users.
11. Most of users are satisfied with use of ICT and existing ICT facilities.

## CONCLUSION

ICT is a great boon for Libraries, LIS professionals should be ready to continuously learn new technological skills and effectively utilize modern technologies. ICT provide gateway to access global resources, hence library have to deliver need based innovative user services to improve user satisfaction and to gain user appreciation along with employer recognition. ICT help to enhance the value of library, status and library job satisfaction.

All through, the study made an attempt to examine the usage of ICT services by medical students at central library of C.U. Shah Medical College & Hospital, Surendranagar, Gujarat. ICT is necessary to make available adequate learning resource to students for strengthen the healthcare education and research. ICT has facilitated users to avail many library services without minumum human intervention and provide services round the clock in very cost effective manner. The study found that ICT will play major role in medical education and research to provide information to the users. The study also found that most users were privileged to access the huge medical literature available in electronic format. Therefore, the role of librarians and library professionals are shifting from an intermediary to a facilitator.

*Acknowledgments*
The author appreciates all those who participated in the study and helped to facilitate the research process.

*Conflict of Interests:* The author declared no conflict of interests.

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