

# Use of Information and Communication Technology (ICT) among Postgraduate Students of Government Dental College, Kozhikode, Kerala District

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**Abstract:** *An attempt has been made to examine the use of information and communication technology (ICT) among the postgraduate dental students of Government Dental College in Kozhikode, Kerala. This study has been adopted with the stratified random sampling and convenience sampling technique. For data analysis, descriptive survey and questionnaire method applied. a total number of 90 well structured questionnaires were distributed who were involved in this research and out of which 72 were dully filled questionnaires returned back at the response rate of was 80%. Based on the findings, the results showed that Frequency of visit to library and gender of post graduate dental students have a significant difference with satisfaction level of postgraduate dental students regarding the usage of ICT as their significance values are lesser than the threshold value of 0.05.*

**Keywords:** *ICT, Government Dental College, Kozhikode, Kerala District, Online Resources*

## 1. INTRODUCTION

In the information world, information is considered as a vital national resource as well as it is an essential part of everyone's daily activities. Information helps in establishing past, present, and future aspects of human civilization. Today, information has become the social necessity, if we do not have information we will be in great difficulty. Information is required in every phase and every walk of life. It is used as an aid in decision making. Single information is a source for another, and one information is used for further reading, further investigation, research and development and when it is achieved, it again becomes information for further research.

In such a way information and communication technology (ICT) play a crucial role in every walk of life. They include individuals, schools, colleges, universities, organizations, corporate companies, government sectors, private sectors, etc. Moreover, ICT helps not only in individual or social media but also helps in teaching and learning process among the

academic community. Academic communities like university, or colleges are one of the main beneficiaries among the entire ICT users group. The user groups such as the students, research scholars, teachers, professors, and other academic professionals, and other administrative staff members are using ICT technologies in effective way for their academic purposes. UNESCO aims to ensure that all countries, both developed and developing have access to the best educational facilities necessary to prepare young people to play essential roles in contemporary society and to contribute to a knowledge nation.

### **ICT Tools and Library activities and services**

Information and Communication Technology (ICT) tools such as computer, internet, multimedia, digital camera, web cam, scanner, smart cards, online based resources such as e-books, e-journals, printers, Web OPAC, animation, e-mails, CD-ROM, DVD, RFID Technologies etc. ICT based library activities such as data processing, acquisition, circulation, online cataloguing, bibliography, etc. Library services through ICT includes OPAC, CD Rom searching, online networking, photocopying, online information services, newspapers clippings, online reservation, database searching, and E-query services etc.

### **Profile of Government Dental College, Kozhikode**

The Government Dental College, Kozhikode was established and the BDS Course with thirty students in the year 1982. This college is affiliated to the University of Calicut, and accredited and approved by Dental Council of India (DCI). This college was began as a small department of Dentistry at Calicut Medical College in 1969 and then shifted to the present six storied building in 1984. The postgraduate courses started in 1992 and the specialty of Oral and Maxillofacial Surgery and followed by various other specialties added subsequently. In the year 2007, to mark the excellence in its services the Govt. Dental College, Kozhikode celebrated its Silver Jubilee.

Central Library of Government Dental College of Kozhikode is well equipped and good resources and services. The Central Library has good number of books i.e. 1789 and 142 rich collections of journals of bound volumes and 23 electronic journals and 21 electronic books in pdf forms and 11 computer terminals and Internet facilities are available to cater to the needs of the users such as students, teaching and non-teaching members and other administrative members and lab assistants etc.

## **2. LITERATURE REVIEW**

A numerous research has been carried out in the field of information and communication technology (ICT) by different subjects' areas and by the eminent scholars and scientists. Here, researchers have chosen only few of the previous recent research in the field of information and communication technology (ICT) for the present study. Ceo, et al. (2018) conducted to find out the usage of information and communication technology (ICT) in health care service in the form of case study of the Federal Medical Centre (FMC) Yenagoa

in Bayelsa State, Nigeria. In this study a descriptive survey was applied. A total number of 238 health department workers involved in this research including doctors, nurses, pharmacists, pharmacy technicians, health record officers, laboratory assistants, and other health workers. This study adopted stratified random sampling and convenience sampling techniques. The findings showed that more than 60% of the users were female and below 40% of the m were male. Most of the users (42.41%) strongly agreed and 42.9% of them agreed that computers were essential in our day-to-day life and in health sectors. It was found that 47.5% of the users were used ICT for their patients. But, 14.3% of them reported that they were not using and no computers in their offices.

A study has done by Linsha and Bavakutty (2018) to examine the utilization of information and communication technology (ICT) by way of postgraduate (PG) medical students of Government Medical College at Kozhikode, Kerala. For data analysis and interpretation, questionnaire method which is very popular method had been used to collect the required information. The results viewed that the major portion of 94.44% of the medical students used always mobile phones. Moreover, CD/DVD had (46.66%), Video technology with 35.55%, LCD projector with 24.44%, scanner (28.88%), and computer /Laptop with 24.44 percentages. Dery et al. (2016) carried out a study to investigate the knowledge and use of information and communication technology by health science students of the University of Ghana. Based on the study, the results revealed that computer knowledge and usage and ownership were too high among the respondents in the College of Health Sciences.

Sampath kumar and Manjunatha (2013) conducted a study on computer literacy among the students and faculty members of Dental Sciences. The main purpose of this research was to know about the place and purpose of the use of computers among the students and faculty members. Further, frequency of computer use, and its various applications, experience in use of computers and so on. To achieve the objectives of the study, questionnaire method was used. In which, a total number of 200 good designed questionnaires were distributed physically among the faculty members and students. Out of which 153 filled questionnaires were received back at the response rate was 76.5%. the results showed that most of the respondents (47.36%) were female and majority of respondents (69.23%) were students. 73.2% of the respondents used computers at College, 66% were at home, 34.64% of the respondents were used computers daily and 28.75% of them used for teaching purpose and followed by 20.91% of them for doing research.

Rahman (2011) did the survey on use of computers and technology among students of dental college in Saudi Arabia. A total number of 276 postgraduate dental students were participated and distributed questionnaires to each one and filled questionnaires randomly i.e. 226 were received back at the rate of 81.8%. The questionnaire included that computer use, computer skills, and training, computer activities, and Internet usage etc. Out of 226 respondents, 50.4% of the respondents were male and the remaining (49.5%) were female. It is found that the huge number of 85% of the students preferred to take lectures in the college websites, and only small i.e. 11% of the students had not used the computers regularly during the research period.

Kavitha and Vijayakumar (2011) conducted a study of User's Attitude about ICT in Library with Special Reference to the Colleges Affiliated to Bharathiar University, Tamil Nadu. In the present investigation a sample of 600 users were selected randomly from these colleges to measure adjudication of the performance. The researcher framed some objectives and hypothesis. As per obtained result 25% of the respondents are faculty and 75% of them students. Result shows that there is a significant difference in the attitude of users about ICT in library.

Flosres-Mir et al (2006) have done the research on the use of computer and technology through the Canadian dentists. The study measured by way of questionnaire method using statistical tools and techniques. The results showed that the majority of 60% of the Canadian dentists expressed that computer technology was very useful to improve their work practice. It is seen that almost computers and Internet were using for their patients satisfaction. Nearly 55% of the respondents felt digital photography and digital radiography were useful or very useful. It is also seen that more than 70% of the dentists strongly agreed or agreed with using computers and its advantages for dental specialists during the research.

Rajab, et al (2005) studied the use and current knowledge of information and communication technology (ICT) among dental students at the University of Jordan for period between 2002 and 2003. For data analysis, the questionnaire method used and the questionnaire response rate was 81.0 percentages. The analysis showed that more than 70% of the dental students access and used the computer at their home. Even though, more than 40% of the respondents had not used the computer on regular basis. Compare with female respondents, male students were more regular and longer users of computer technology and Internet usage. More than 94 percentages of the respondents felt comfortable using internet and 90% of them used emails, and 83% of them preferred to placing lectures on the web. It is noted that majority of students use the internet for their personal and not their study purposes. Moreover, Kumar S, et al. (2009) did a survey in the field of Information Technology practices amongst dental postgraduate students at a private Dental Institution in India. Another study conducted by Dorup J (2004) to know about the experience and attitudes towards information technology among first-year medical students in Denmark. Further, Mattheos N et al (2008) made an attempt to find out the potential of information technology in dental education. Perryer G et al (2007) have done a case study in dental education. Uribe S (2006) studied about the Internet and IT use by dental students in Chile. Walmsley AD et al (2003) identified the use of the Internet within a dental school.

## **Objectives**

The purpose of this study is to observe the use of information and communication technology (ICT) among the postgraduate students in Government of Dental College at Kozhikode in Kerala and the other objectives are:

- To examine the gender and age wise distribution of respondents
- To know about the frequency of library visit by the respondents

- To trace the purpose of visiting the library by the respondents
- To investigate the problems while using the ICT infrastructure and
- To know about level of satisfaction among the respondents about overall ICT resources
- To study the association between profile of respondents and their satisfaction level towards ICT usage

### **Hypotheses**

1. There is no relationship between age of the postgraduate dental students and their satisfaction level towards usage of ICT.
2. There is no relationship between gender of the postgraduate dental students and their satisfaction level towards usage of ICT.
3. There is no relationship between frequency of visit to library of the postgraduate dental students and their satisfaction level towards usage of ICT.

### **3. RESEARCH METHODOLOGY**

After reviewing the previous related literature, a well structured questionnaire was designed to distribute the respondents to achieve the above objectives of the study. The questionnaire covers gender and age wise contributions, years of experience, purpose and frequency of the use of ICT, and many more features were focused. The questionnaires were distributed among the postgraduate students of Government Dental College in Kozhikode. Moreover, to get back the filled questionnaires instantaneously, repeated visits were made by the respondents. For data analysis, a total number of 90 questionnaires were delivered physically and out of which 72 dully filled questionnaire were get back at the rate of 80%. For data analysis and interpretation, a variety of statistical tools were used using SPSS version 20.

### **Limitations**

The following are the limitations of the present study

- The data was received from postgraduate students of Government Dental College who comes from rural as well as urban areas of Kozhikode, Kerala only.
- Data was not gathered from out of other government dental colleges and other private colleges of Kerala distract.

#### 4. RESULTS

Table 1  
 Socio-economic profile of the postgraduate dental students

		N	%
Age	Below 25 years	48	60
	Above 25 years	32	40
		N	%
Gender	Female	43	53.75
	Male	37	46.25
		N	%
Place of birth	Urban area	69	86.25
	Rural area	11	13.75
		N	%
Frequency of visit to library	Daily	17	21.25
	On alternative days	63	78.75
		N	%
Average time spent in library	Less than 15 minutes	68	85
	16 - 30 minutes	12	15

As regards to the socio-economic profile of the postgraduate dental students 60 per cent are in the age group of below 25 years and 40 per cent are in the age group of above 25 years. Regarding gender 53.75 per cent of the postgraduate dental students are female and the rest 46.25 per cent are male. 86.25 per cent of the postgraduate dental students are from urban areas and the rest 13.75 per cent are from rural areas. 21.25 per cent of the postgraduate dental students visit their college library on a daily basis and the rest 78.75 visit on alternative days. Regarding average time spent in library per visit 85 per cent spend less than 15 minutes and the rest 15 per cent spend 16 to 30 minutes per visit.

Table 2  
 Purpose of using ICT by the postgraduate dental students

S. No	Purpose of visit to library	Number of dental students
1.	To study, information gathering, and searching	51
2.	To watch educational videos	24
3.	For reading newspapers	7
4.	Preparing for assignments	56
5.	To buy products online	1

(Total more than sample size because of multiple responses)

We can infer from the table that 51 post graduate dental students visit their college library to study, information gathering, and searching, 56 of them visit for preparing assignment, 24 of them visit to watch educational videos, 7 of them visit to read newspapers and only 1 of them visit to buy products online.

Table 3  
Proficiency in using the following ICT by postgraduate dental students

Sl. No	Proficiency in ICT	Expert	Intermediate	Beginner
1	Word processing	80 (100)	0 (0)	0 (0)
2	Spreadsheets	80 (100)	0 (0)	0 (0)
3	Presentations	71 (88.75)	9 (11.25)	0 (0)
4	Cameras and scanning	69 (86.25)	8 (10)	3 (3.75)
5	Using online course material	43 (53.75)	26 (32.50)	11 (13.75)
6	Multimedia applications	39 (48.75)	27 (33.75)	14 (17.5)

We can infer from the above table that all the proficiency level of all the postgraduate dental students regarding word processing and spreadsheets is expert. 88.75 per cent of the postgraduate dental student has expert level proficiency in presentation tools, 53.75 per cent of the postgraduate dental students have expert level proficiency in using online course material and 48.75 per cent of the postgraduate dental students have expert level proficiency in multimedia applications.

Table 4  
Problems in usage of ICT tools by postgraduate dental students

S. No	Problems in usage of ICT tool	Always
1.	Exam pressure	72
2.	Non-availability of sufficient quantity of ICT tools	24
3.	Poor maintenance of ICT tools	13
4.	Insufficient training on the application of ICT	12

(Total more than sample size because of multiple responses)

Regarding problems in usage of ICT tools exam pressure, non-availability of sufficient quantity of ICT tools in college, poor upkeep and maintenance of ICT tools and Insufficient training on the application of ICT are the major reasons listed by the respondents

Table 5  
 Satisfaction Level of postgraduate dental students regarding usage of ICT

S. No	Satisfaction Level	Number of respondents	Percentage of total
1	Highly Satisfied	20	25.0
2	Satisfied	31	38.8
3	No opinion	14	17.5
4	Dissatisfied	7	8.8
5	Highly dissatisfied	8	10.0
	Total	80	100

25 per cent of postgraduate dental students are highly satisfied with usage of ICT tools, 38.8 per cent are satisfied, 17.5 per cent have no opinion, 8.8 per cent are dissatisfied and the rest 10 per cent are highly dissatisfied.

Table 6  
 Association between the profile of the postgraduate dental students and satisfaction level with usage of ICT

S. No	Profile	Chi-square value	Degree of freedom	Asymp. Sig. (2-sided)
1.	Age	10.019	4	.251
2.	Gender	9.312	4	.000*
3.	Frequency of visit to library	6.543	4	.000*

\* Significant at 5%

From the above it can be inferred that, frequency of visit to library and gender of post graduate dental students have a significant difference with satisfaction level of postgraduate dental students regarding the usage of ICT as their significance values are lesser than the threshold value of 0.05. Age of postgraduate students do not have a significant difference with satisfaction level of postgraduate dental students regarding the usage of ICT as the significance value is greater than the threshold value of 0.05.

## 5. CONCLUSION

Regarding problems in usage of ICT tools exam pressure, non-availability of sufficient quantity of ICT tools in college, poor upkeep and maintenance of ICT tools and Insufficient training on the application of ICT are the major reasons listed by the respondents. 25 per cent of postgraduate dental students are highly satisfied with usage of ICT tools, 38.8 per cent are

satisfied, 17.5 per cent have no opinion, 8.8 per cent are dissatisfied and the rest 10 per cent are highly dissatisfied. Frequency of visit to library and gender of post graduate dental students have a significant difference with satisfaction level of postgraduate dental students regarding the usage of ICT as their significance values are lesser than the threshold value of 0.05.

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