ISSN: 0975-833X

Available online at http://www.journalcra.com

International Journal of Current Research
Vol. 10, Issue, 07, pp.71377-71381, July, 2018

INTERNATIONAL JOURNAL OF CURRENT RESEARCH

RESEARCH ARTICLE

KNOWLEDGE, ATTITUDE AND PRACTICES TOWARDS COMPUTER USAGE AMONG STUDENTS IN DENTAL COLLEGE IN PATNA, BIHAR

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ARTICLE INFO

Article History:
Received 26th April, 2018
Received in revised form
18th May, 2018
Accepted 15th June, 2018
Published online 30th July, 2018

Key words:
Knowledge,
Attitude,
Computer usage.

ABSTRACT

With the rapid developments in modern science and technology, the information network technology has blazed a trail in our learning, work and lives. Computers are the excellent means for storage of patient-related data and computer software is used for diagnosis of diseases. Computer networking enables quicker communication. The application of computers in dentistry is related to patient education, maintenance of electronic records and databases, communication, information about new products, information to recent dental literature, continuing dental education, settling insurance claims, marketing, quality assurance, digital imaging, teledentistry and many more. A large amount of medical literature and information is now available electronically and even medical teaching is becoming electronically based in some developed countries. Aim: is to assess the specific knowledge of dental students and explore the attitudes and practices of dental students towards computer usage. Materials and methods: A simple random sample of 140 students including interns and postgraduates in the age group of 19-45 years of Buddha Institute Of Dental Sciences and Hospital, Patna constituted the study population. The data was collected using a close ended questionnaire which consisted of 3 major groups:- sociodemographic details, knowledge about the computer usage, software skills, software handling, basic operations, attitude and practices towards computer usage. A descriptive cross- sectional study was done. . Ethical clearance was obtained from Ethics committee of Buddha Institute of Dental Sciences and Hospital, Patna. Chi-square test was used to assess the significance finding at 95% confidence limit. Results: Both the undergraduates and postgraduates had good attitude towards computer usage. Among the undergraduates only 8(11.4%) and 38(54.2%) of the postgraduates used computer daily with relevance to dentistry/ patient use. Among the undergraduates 7(10%) and 51(72.8%) of the postgraduates used internet daily to check for academic information. Among the undergraduates 20(28.5%) and 65(92.5%) of the postgraduates checked e-mail daily with relevance to dentistry/patient use. Conclusion: Finding dental education information is easy on the internet and is also the most preferred place to search for information, updates and recent advances with respect to dentistry. Courses to develop students computer skills can improve this situation by influencing students attitudes and capabilities. In this era of competition, computer literacy and appropriate guidance for the sensible use of internet will keep our students from lagging behind. Institutes should play their role to facilitate and equip every student with the computing skills, along with developing an understanding and awareness regarding the appropriate and meaningful use of this technology among them.

Citation: Abhinita Kumari, Suma B.S., Garima Mangal. 2018. "Knowledge, attitude & practices towards computer usage among students in dental college in Patna, Bihar", *International Journal of Current Research*, 10, (07), 71377-71381.

INTRODUCTION

With the rapid developments in modern science and technology, the information network technology has blazed a trail in our learning, work and lives. Computers can be regarded as the greatest invention of science in the present times.

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Computers are the excellent means for storage of patient-related data and computer software is used for diagnosis of diseases. Computer networking enables quicker communication. In the field of medicine, computers allow faster communication between a patient and a doctor. Dentistry is one such area where computers have found tremendous use. The application of computers in dentistry is related to patient education, maintenance of electronic records and databases, communication, information about new products, information to recent dental literature, continuing dental education, settling

teledentistry and many more (Gupta, 2014; Pramod, 2014; Yousef Homood Aldebasi, 201). Internet based dental education has advantages of easy access, low cost, minimal paper waste, rapid publication of literature, huge pool of data availability and flexibility of use. Computer has an important role to play in the future of dentistry. A large amount of medical literature and information is now available electronically and even medical teaching is becoming electronically based in some developed countries. Communication through the internet will also help the doctors in India, especially those practicing in smaller cities, towns, and rural areas and who often feel isolated, to keep in touch with new developments (Santhosh Kumar, 2010; Dr Rajiv Arora, 2005 and Ghousia Rahman, 2011). Lack of awareness about computers and information technology tools will hamper the effectiveness of dentists. Equipment alone is useless unless people are trained to use it. Thus it becomes imperative to train the dentists of future to use the computers (Nurgul Komerik, 2005). India has around 300 dental colleges presently which are training more than 25,000 undergraduates every year. Out of the total, more than 100 dental colleges offer post graduate training in the nine branches of dentistry, training around 2,500 post graduate students every year. Thus India contributes to a great amount of dental workforce. With globalization, they have to compete with dentist from other countries. They have to keep themselves updated with the increasing pool of knowledge like new materials, new techniques and latest dental literature (Gupta, 2014). The amalgamation of principles of dentistry with technological advances in computers will definitely improve the face of dentistry through dental education and patient care. Enormous use of computers in dentistry in the present scenario, the idea of this study was conceived to explore, estimate and evaluate the knowledge and attitude towards computers among students in dental college in Patna, Bihar. So, that keeping the results of the study as a reference, developments could be recommended towards usage of computers by dental students and in dental curriculum for enhancing the quality and accessibility of oral health care to the utmost rural point of Bihar and also to raise the hours of teaching in dental curriculum.

Aim and Objectives of the Study

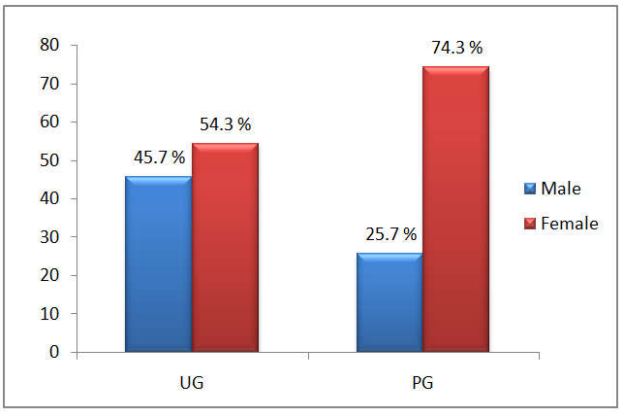
To Assess the specific knowledge of dental students regarding computer usage and Explore the attitudes of dental students towards computer usage.

MATERIALS AND METHODS

This present research work is a descriptive cross sectional study to assess the Knowledge, attitude & practices towards computer usage among students in dental college in Patna, Bihar India. Prior to scheduling the survey, official permission was obtained from of Buddha Institute of Dental Sciences and Hospital, Patna. The study was scheduled in May 2017. Ethical clearance was obtained from Ethics committee of Buddha Institute of Dental Sciences and Hospital, Patna. A simple random sample of 140 students including interns and postgraduates in the age group of 19-45 years of Buddha Institute Of Dental Sciences and Hospital, Patna constituted the study population. Informed consent was obtained from every student in the study. Students not willing to participate in the study were excluded. All the students were pre informed about the survey. The data was collected using a close ended graphic details, knowledge about the computer usage, software skills, software handling, basic operations, attitude and practices towards computer usage. On an average 10-12 subjects were interviewed on any given day during the survey period. The data obtained were compiled, tabulated and analyzed by using Graph pad Prism Software, version-5. Chi-square test was used to assess the significance finding at 95% confidence limit. Graphs were prepared using Microsoft Excel Sheet. Version 97-2003.

RESULTS

A total of 140 students, 70 interns (UG) and 70 postgraduates in the age group of 20-45 years participated in the study, of which 50 (36%) were males and 90 (64%) were females as shown in graph 1.



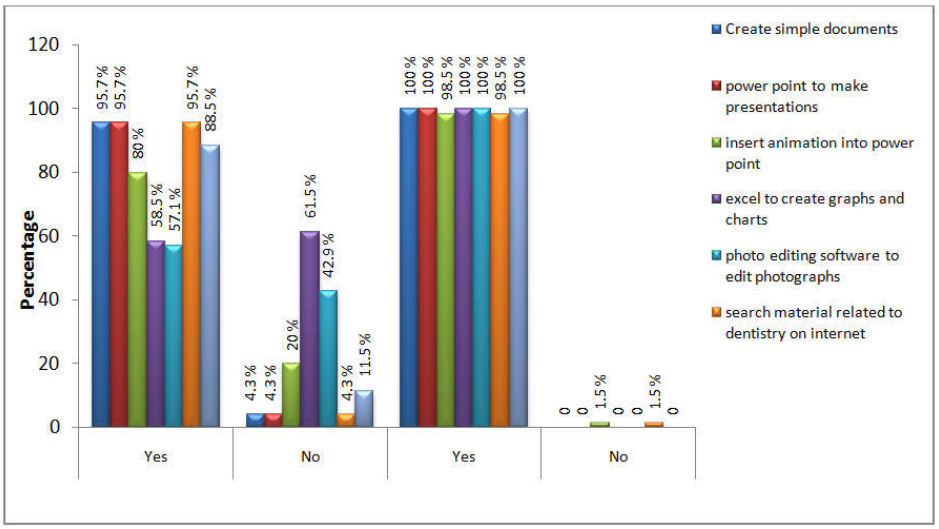
Graph 1. shows the distribution of subjects according to Gender

In the present study, 50(71.4%) undergraduate students agreed that they can install simple software. Among the postgraduate students majority of them agreed that they can install simple software 64(91.5%). Only 7(10%) undergraduates and 27(38.5%) postgraduate students agreed that they can maintain their hardware and is statistically significant. (P-value <0.05) as shown in Table 1. In the present study, the graph 1 shows the association between knowledge regarding software handling and their educational qualification, majority of them had good knowledge. Only 6(8.5%) of the undergraduates used spread sheet like excel to create graphs and charts and among postgraduates 70(100%). Among the postgraduates, 100% used photo editing software to edit photographs. While, only 40(57.1%) undergraduate students used. Thus, it is statistically significant in knowledge regarding software handling and their educational qualification. (P = 0.001) The table 2 gives the association between attitudes towards usage of computers and educational qualification. Majority of the students had good attitude regarding usage of computers of which maximum number of students belonged to postgraduates. There is significant difference in attitude between students. For questions like should basic computer training be a part of dental education. 58(82.8%) undergraduates responded yes, which was 69(98.5%) among postgraduates. For question, is typing on computer easy than writing on paper 30(42.8%) undergraduates and 70(100%) postgraduates responded yes. So, it is statistically significant. In the present study, the graph 3 shows association between practices towards usage of computers and educational qualification.

Table 1. Shows the association between knowledge regarding their software skills in basic operations and their educational qualification

	UG N (%)			PG N (%)		
	Yes	No	Total	Yes	No	Total
start and shut down a computer	70 (100%)	0	70 (100%)	70 (100%)	0	70 (100%)
create folders/ sub folders and organise	66 (94.3)	4 (5.7%)	70 (100%)	70 (100%)	0	70 (100%)
locate files in computer	68 (97.1%)	2 (2.9%)	70 (100%)	70 (100%)	0	70 (100%)
install simple software	50 (71.4%)	20 (22.6)	70 (100%)	64 91.5%)	6 (8.5%)	70 (100%)
maintain my hardware	7 (10%)	63 (90%)	70 (100%)	27 (38.5%)	43 (61.5%)	70 (100%)

Chi Square-12.14, Df – 4, P=0.0163

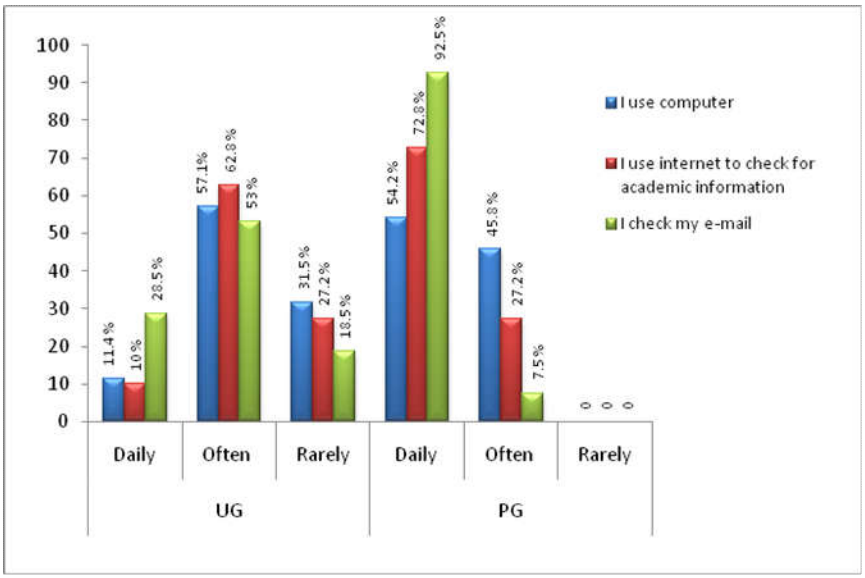


Graph 2. Shows the association between knowledge regarding software handling and their educational qualification

Table 2. shows the association between attitudes towards usage of computers and educational qualification

	UG			PG		
	Y	N		Y	N	
Use of computers/Internet useful for Patient Education	70 (100%)	0	70 (100%)	70 (100%)	0	70 (100%)
Does the Maintenance of electronic records and data bases of patient gets easy by use of computers/internet	64 (91.4%)	6 (8.6%)	70 (100%)	70 (100%)	0	70 (100%)
dental literature increases with the use of computer/ internet	66 (94.3%)	4(5.7%)	70 (100%)	70 (100%)	0	70 (100%)
Should basic computer training be a part of dental education	58 (82.8%)	12(7.2%)	70 (100%)	69 (98.5%)	1(1.5%)	70 (100%)
Typing on computer is easy than writing on paper	30 (42.8%)	40 (57.2%)	70 (100%)	42 (60%)	28 (40%)	70 (100%)

Chi Square-3.207, Df – 4, P=0.0283



Graph 3. Shows the association between practices towards usage of computers and educational qualification

Among the undergraduates only 8(11.4%) used computer daily with relevance to dentistry/patient use and among postgraduates 38(54.2%) used computer daily which was higher. Among the postgraduates, 51 (72.8%) used internet to check for academic information as compared to the undergraduates which used only 7(10%). 20(28.5%) and 65(92.5%) of the undergraduates and postgraduates checked e-mail daily. and the values were significant. (P=0.01).

DISCUSSION

In this study, under the knowledge regarding software handling almost all postgraduates and undergraduates used power pointto make presentations. This result is similar to the study conducted by Ankola AV, (2013) where 97.1% used power point to make presentations. The study conducted by Chand et al (Taher, 2014) also reported that students had adequate knowledge. This result is in huge contrast to another study conducted by Rajiv Arora (Ghousia Rahman, 2011) which reported that only 34.5% used power point to make presentation as the students are not much exposed to online testing and training. Some students have little experience with computer literature searching. In the present study the attitude of the students were moderate and increased gradually as they progressed in their academic year with postgraduates showing the most positive attitude followed by the intern students. Reasons can be high usage of computer and its various applications in instruction, being assigned homework and various tasks requiring computer usage among postgraduates.

The present study revealed that the attitude of the postgraduate students was good towards the usage of computers. 98.5% agreed that basic computer training should be a part of dental education. Another studies conducted by Gupta P et al[1] and Neiruka Ameh et al. (Anitha, 2013), concluded that 94.3% and 81% of the students agreed that basic computer training should be a part of dental education respectively. Similarly, study conducted by Charu Mohan et al (Lamis, 2005) also concluded that 92% of the subjects agreed with the same fact. The present study concluded that among the postgraduates, 54.2% used computer daily, 45.8% used computer often which was in accordance with studies conducted by Gupta P et al [1]and Bagle Tushar et al (Kimon Divaris, 2011), where 48.5% and 54% used computer daily. Similarly, high use of computer has also been reported by Inmdar SC et al (Uribe, 2006). This result is in contrast to another study conducted by Ghousia Rahman (Nurgul Komerik, 2005), where 66% utilized computer everyday for studies as half of the students reported that they were good in their computer skills and majority were satisfied with their access to the internet and most students in the past had already undergone any online examination. In the present study, 72.8% of the postgraduates used internet daily to check for academic information, 27.2% used internet often. The same result has been observed on other study conducted by Gupta P et al (Gupta, 2014) where 72.2% used internet daily and 21% of tenly. Similarly, the same result has been observed in study by Dr Srikanth et al (Dr. Nabeel Abedalaziz, 2013), where 71.9% used internet daily. In this study, 28.5% of the subjects checked email daily. other studies conducted by Rajiv Arora (Ghousia Rahman, 2011),Gupta P et al and Lamish D Rajab et al (Bagle Tushar, 2016), reported that there was difference in the result. Only 15.7%, 19.1% and 15.7% checked email daily due to lack of time and availability of computer were the most important obstacles.

Conclusion

Recent studies have shown that the use of computerized information systems by medical professionals can improve the quality of care, enhance the use of evidence-based treatments and update the clinical knowledge.[5] Few hours of computer training during dental education may save a lot of trouble caused due to inadequate handling of computer during life time of dental practice.[1] Courses to develop students computer skills can improve this situation by influencing students attitudes and capabilities. Our conclusions with respect to such introductory courses are twofold. Students certainly need some kind of formal introduction to the new ICT for learning purposes. Such a course should either be split into several tracks according to student's different level of computer literacy, or it should be held only for students with little or no computer experience.[19] Studies have shown that online resources are not only as effective as paper based resources in answering clinical queries but are also time efficient. The use of online handouts and lecture notes can be used to support lectures and enable more face-to-face contact with the lecturer through methods such as small group teaching (Dr. Priyadarshini, 2013). Since it is easily accessible when compared to text books, most of the dental students are willing to have computer based learning program in the curriculum and this study proves that dental students had enough computer and internet knowledge, which can be used to provide comprehensive dental care by upgrading recent research activity (Charu Mohan Marya, 2013). In the study students had good knowledge on computer and internet application but they used internet for general purpose and mailing more compared to dental purpose. Hence students should be encouraged to use internet for updating dental and medical knowledge. It is useful to implement computer based learning program in the dental curriculum which will helps to improve the quality of patient care, teaching and learning in future (Yousef Homood Aldebasi, 2013).

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