

THE TRENDS AND USE OF COMPUTER AND INTERNET AMONG MEDICAL STUDENTS

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ABSTRACT

BACKGROUND

Computer-based learning is becoming more and more widespread and it has been important especially in medical subjects since lifelong learning is a goal of medical professional.

The study was conducted to find out the computer literacy, computer and internet availability and the trend of use of computer, laptop and other gadget among medical students.

MATERIALS AND METHODS

A cross sectional descriptive study was conducted among the medical students of Jubilee Mission Medical College & Research Institute, Thrissur and SUT Academy of Medical Sciences, Thiruvananthapuram, Kerala. A total of 420 students participated in the study.

RESULTS

Out of the 420 students, 42.38% students had their own laptop or computer and 45.71% students were using family shared computer or laptop for their use. 80.48% students were found using mobile phones or tablets with internet facility. Most of the students, access internet for recreational facilities. Regarding e-learning 54.29% of the students participated in the study were of aware of it. Majority of medical students are of the opinion that computer and internet use should be encouraged in medical colleges.

CONCLUSION

Those who have participated in the study have necessary infrastructure and positive attitude about computer-based learning even though they are using it mainly for recreational purposes.

KEYWORDS

Computer Based Learning, Medical Students, E-learning, Internet.

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BACKGROUND

Technology is a powerful tool for effective teaching and deeper learning. After introduction of personal computers as a teaching tool or as a tool for self-study both for students and faculty members, computer knowledge and skills have been subjects of educational research.¹ Computer is a device, which presents wonderful opportunities for learning and teaching processes. Computer based learning is a unique modality compared to other learning devices since it can be used to teach, show and communicate.

Medical education has transformed with new and more modalities of teaching and learning evolving every day. The traditional instructor centered teaching is shifting to a learner centered model and this puts the learner in control of their own learning.² Maintain the knowledge in Medical

science by becoming lifelong learner is one of the major goals of Medical education system. Regular use of Original scientific sources and developing adequate skills in information gathering are the key elements in achieving this goal.^{3,4} Successful medical professionals are not confronted replacing traditional applications with newer technologies.

Computer -based learning is a method, in which computer is used in learning, strengthening students' motivation and education process. It gives opportunities to both students and teachers to learn by their speed and combine active learning with computer technology. Researchers found that using the computer increase motivation and desire to lectures and laboratory in the process of learning.⁵

Internet based self-academic activities are prevalent in many developed countries but in countries like India this has not attracted majority of the medical students. Institutions need to be aware of their student's computer literacy and their attitudes towards e-learning, in order to adjust the curriculum so that students are adequately prepared and to maximize their learning experience through usage of new technologies.⁶

Recently, a number of researchers have attempted to evaluate some computer-based courses in terms of student attitudes towards them and have reported both positive and

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negative responses. This study will be useful to know the attitude and use of Computer based learning among the medical students in this region.

M-learning or mobile learning is "learning across multiple contexts, through social and content interactions, using personal electronic devices has also become a tool in accessing and disseminating knowledge. M-learning technologies include handheld computers, notebooks, mobile phones and tablets. The advantage of M-learning is the mobility of the learner, interacting with portable technologies.

Aims and Objectives

1. To assess the computer literacy of medical students.
2. To find out the computer and internet infrastructure available to the students.
3. Purpose for which the computer and internet are used among the medical students.
4. Awareness of medical students towards e-learning.

MATERIALS AND METHODS

A cross sectional descriptive study was conducted among the medical students of Jubilee Mission Medical College & Research Institute, Thrissur, Kerala and SUT Academy of Medical Sciences, Thiruvananthapuram, Kerala. Written informed consent was obtained from the participants after educating them with the purpose of study. They were informed that the data collected through the questionnaire will be used only for research purpose. A pre-structured questionnaire designed for the study was given to the students in the class. A total of 420 students from both the institutes were participated in the study. All the data were entered in Microsoft excel sheet, analysed and expressed in percentage.

The study was conducted with the approval of Research and Ethical Committee of the Institutes.

| | Agree | | Neutral | | Disagree | |
|--|-------|-------|---------|-------|----------|-------|
| | No | % | No | % | No | % |
| Computer based learning required in medical institutions | 320 | 76.19 | 100 | 23.81 | Nil | 00.00 |
| Computer based learning has a positive impact on teaching | 311 | 74.05 | 109 | 25.95 | Nil | 00.00 |
| Should computer and internet use should be encouraged in medical colleges? (for academic purposes) | 329 | 78.33 | 91 | 21.66 | Nil | 00.00 |

Table 2. Response of Students Towards Computer Based Learning

| | Aware | | Not aware | |
|--|--------|------------|-----------|------------|
| | Number | Percentage | Number | Percentage |
| Aware of e-learning in medical education | 228 | 54.29 | 192 | 45.71 |

Table 3. Awareness of e-learning among the Medical Students

All the students who were participated in the study have learned computer before joining the Medical College. Even then majority of the students were of the opinion that computer training to be conducted in Medical Colleges.

DISCUSSION

All the students participated in the study were found use computers or laptops or mobile gadgets with internet facility. The present study showed that 178 (42.38) students had

RESULTS

A total of 420 students were participated in the study. Out of the 420 students 238 (56.67%) were females and 182 (43.33%) were males. From the study it was observed that 178 (42.38%) students had their own laptop or computer and 192 (45.71%) students were using family shared computer or laptop for their use. It was also observed that 50 (11.91%) students were using computer facilities in the central library in the college and public computer facilities. In addition to laptop and computers 338 (80.48%) students were found using mobile phones or tablets with internet facility.

The purpose for which the computer, laptop, mobile or tablets were used is shown in the table-1.

1. Purpose of use of computer/gadgets among medical students-

| Purpose | Number | % |
|-----------------------------|--------|-------|
| For writing text | 338 | 80.48 |
| Web searching-academic | 82 | 19.52 |
| Web searching- Non academic | 287 | 68.33 |
| Academic forum discussion | Nil | 00.00 |
| Chatting | 389 | 92.62 |
| Social medias | 346 | 82.38 |
| E-mails | 258 | 61.43 |
| Games | 68 | 16.19 |

Table 1. Purpose of use of Computer/Gadgets among Medical Students

The response of students towards computer-based learning is shown in Table-2 and the awareness of e-learning among the medical students was also studied and the result is show in Table-3. Most of the students agreed that web-based training should be made available to supplement face to face teaching.

their own laptop or computer and 192 (45.71%) students were using family shared computer or laptop for their use. This is in contrast to another study.³ which showed 79% students had their own computer. The reason for this was for accessing internet facilities now day's mobile gadgets are used by most of the students. It was also observed that 50 (11.91%) students were using computer facilities in the central library in the college and public computer facilities. A study conducted in Ludhiana during the year 2003.⁷ showed

that 48.9% students were found to use computers and internet at cyber cafes. Reason is now a day's computer with internet facility is available at every home.

In one study in Vienna. the researchers identified gender differences for all computer-related variables. In sum, men make more frequent use of computers and have access to better computer infrastructure and faster Internet connections. In our study we have not undertaken such a gender differentiating criteria regarding the use of computer and internet.

Present Study showed that medical students have access to internet facilities but use of internet for learning purpose was low. Most of the students use internet facility for chatting and for other social Medias while only 19.52% students used internet for academic purposes. This is 9.5 % is a study conducted.³ during the year 2008 in India and in another study.⁹ during 2014 it was 14.45%. An important point is that students who are familiar with the use of social Medias have no problem in using virtual academic forums because they are already learned the use of discussions, uploading files, downloading etc. But most of our students are rather passive Internet users and miss out numerous possibilities of learning medical skills and information.

In this study Majority of the students were of the opinion that computer and internet use should be encouraged in medical colleges which is comparable with similar studies in India.^{3,8} The computer assisted teaching learning is gaining in importance since the medical educators are of the opinion that self-directed learning is need of the hour. For a lifelong learner self-directed learning is a must and one of the important medium for this is internet access.

About 54.29% of the students participated in the study were of aware of the e-learning modalities in medical education. Even though they are aware of such modalities they are not exposed to such activities. But due to routine use and experience with computer and internet it may not be a difficult task to introduce e learning modules in their teaching learning activities. In our country curriculum-wide implementation of computer-based learning (CBL) among undergraduate and post graduate medical education still remains elusive.

Present study showed that in addition to laptop and computers 80.48% students were found using mobile phones or tablets with internet facility. Using mobile tools for creating learning aids and materials becomes an important part of informal learning in all the field of education. Medical education is not an exception.

CONCLUSION

Computer and internet facilities provide immediate access to information and rapid dissemination of knowledge. Thus,

use of computer technology has become an important component of education, particularly in medical education. In our study all the students have necessary infra-structure for computer-based learning, but the uses of such technologies were limited to recreational facilities rather than academic purposes. They may shift from this trend only when self-directed learning modules are introduced. Study on awareness and attitude of faculty to computer-based learning should also be undertaken because it is difficult to implement such activities without the help of faculty members. Findings of this study should help in planning and organizing computer-based learning and also special e-learning courses in medical Institutes.

Limitation of the Study- The study was limited to only two institutes, and so the results cannot be generalised to all medical students. The learning style is also an important factor in the students' attitude towards computer-based learning and this should be considered in planning computer-based learning programs. Hence studies related to the learning preference shall also be conducted.

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