



Use of Computer among Medical Students: A Cross Sectional Study.

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Abstract

Background: Computer is a part of our daily life. In Medical Science it has become an essential product in every hospital. Starting from open heart surgeries to X rays to various clinical tests all are carried out by the help of computer. They communicate with each other by email, live chatting and they also use to take full advantage of technology. They also use the computer and internet nearly as much for social communication as they do for their educational purposes.

Methods: This cross-sectional study was conducted from January to August 2010 at NMC, Birgunj, Nepal. The subjects of this survey were Undergraduate medical students.

Results: Most of the students were in the age group of 21- 23yrs and 19 – 20 yrs. Males were more in number (62%) compared with females. Among 1st yr students computer as a Source of information got priority but in 2nd year students Source of information Preparing notes and reading Research articles were more important. Amusement and Preparing notes and reading Research articles were important factor for 3rd & 4th Year students.

Conclusion: The use of the laptop and personal computers along with internet connectivity is increasing. This is becoming a part of medical education in different parts of the globe. In this study on medical students we observed an association between the year of study and the purpose of computer and internet use. Computer assisted teaching learning activities should be encouraged for the improvement of medical science for the new generations.

Keywords: Computer, Laptop

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Background

Computer is a part of our daily life. In Medical Science it has become an essential product in every hospital. Starting from open heart surgeries to X rays to various clinical tests all are carried out by the help of computer. Computer contributes a lot to the hospital administrative processes like, staff records, recording incoming and outgoing time of the staff, the holiday records of the staff, etc. It also helps in recording the names and contact details of the doctors and associated people. During

medical history of the patient, such as, previous treatments, tests, diagnosis, and symptoms, etc. Such information comes useful for the clinician in case of emergencies and when a new treatment is to be designed for the patients. Online transaction facilities are essential now a day. Medical professional now a day can't think their life without computer. Use of the internet also has become a part of college students' daily routine. They communicate with each other by email, live chatting and they also use to take full advantage of technology. They use the computer and internet nearly as much for social communication as they do for their educational purposes. They use internet and stay online to enhance their social lives [1]. Over the last several decades research works have shown that the use of computerized information systems by medical professionals can get better the quality of care, enhance the use of evidence-based treatment, and maintain and update knowledge.

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Additionally, it is also important that medical students should need training to learn how to use Web-based search tools and techniques to obtain high-quality information resources [2]. Self-directed learning needs to be taught to acquire life-long learning skills [3]. Education, patient care and research. The aim of this study was to estimate the current level of computer use and reasons among undergraduate medical students.

Material and Methods:

Setting and participants

This cross-sectional study was conducted from Jan. to August 2010 at NMC, Birgunj, Nepal. The subjects to be surveyed were Undergraduate medical students.

Questionnaire design

Printed questionnaire were distributed regarding the extent of computer usage to the students in their classrooms.

Questionnaire explained the following parameters:

1. Ability in basic word-processing, power point, database, spreadsheet, e-mail and Internet.
2. Technical and advanced computer knowledge
3. Type(s) of search engine used along with purpose like (news, research, and chat).

The questionnaire was simple and designed such a way which was easy to understand. It was constructed in English language, in order to make the respondents comfortable with the questions. The personnel details were left to the end, as it was felt that any weariness on the part of the respondents was unlikely to affect these answers. The respondents were given a choice of answers and were only expected to mark the answers with a tick. This method was adopted to produce a high response rate. Pilot study of 20 students was conducted and the results were discussed among the authors. In the beginning of the study, students were briefed about the purpose of the study.

Data collection

Data was collected personally from the completed questionnaires of 250 students. Students instructed to answer each question appropriately. Instruction form was also provided during the study, which was taken away after completion of the study.

Sample size calculation

By conducting a pilot study of 20 students it is estimated that for 99% confidence interval and, $\alpha = 1\%$, $P = 70\%$, $Q = 30\%$,

allowable error = 10%, sample size required for experiment was 220.

Study variables

Amusement, Source of information, Preparing notes and reading Research articles, Other reason, Outside - Cyber café, Hostel rooms, College Classrooms, Other place etc.) were used as a dependent variable. The demographic and other factors were assessed at individual level. These factors were age, gender, year of study etc.

Results:

Table 1: Sociodemographic details of the study population

		Number	Percentage (%)
Age (yrs)	<19	2	0.8
	19-20	105	42
	21-23	112	44.8
	>23	31	12.4
Gender	Male	155	62
	Female	95	38
Year of Study	MBBS – Ist Year	70	28
	MBBS– IInd Year	75	30
	MBBS – IIIrd & IVth year	105	42

Table – 1 depicts most of the student were in the age group of 21- 23yrs and 19 – 20 yrs. Relatively less population is above than 23 years. Males are more in number (62%) compared with females. Response from Ist and IInd years students were more when compared with MBBS – IIIrd & IVth year (42%).

Table – 2 explains that most of the students have own Laptop or personal computer. In IIIrd & IVth Year students which is more. Among Ist yr students computer as a Source of information got priority but in IInd year students Source of information Preparing notes and reading Research articles were more important. Amusement and Preparing notes and reading Research articles were important factor for IIIrd & IVth Year students. All students of Ist Year, IInd Year and IInd & IVth Year liked Hostel rooms for computer use.

Table – 2 outline of use of computer/laptop among medical students

Pattern of Computer Use		Ist Year	IInd Year	IIIrd & IVth Year
Do you have your own Laptop or personal computer?	Response - No	20 (28.57%)	15 (20%)	23 (21.9%)
	Response - Yes	50 (71.42%)	60 (80%)	82 (78.09%)
Reason for which it is used mostly?	Amusement	20 (28.57%)	27(36%)	38 (36.19%)
	Source of information	28 (40%)	23 (30.66%)	26 (24.76%)
	Preparing notes and reading Research articles	17 (24.28%)	22 (29.33)	37 (35.23%)
	Other reason	5 (7.14%)	3(4.0%)	4 (3.8%)
Place of computer use	Outside - Cyber cafe	5 (7.14%)	10 (13.3%)	17 (16.19%)
	Hostel rooms	42 (60%)	49 (65.33%)	56 (53.33%)
	College Classrooms	16 (22.85%)	13 (17.33%)	20 (19.04%)
	Other place	2 (2.85)	3 (4%)	8(7.61%)

Discussion

Most of the students in our study population have computers their own. Because it could be a reason that they could afford to purchase. In another study among college students of America (85% had computer of their own [2]). In another study in Ludhiana in the year 2003 shows that 48.9% of first year medical and dental students had computer of their own [4]. Reasons of computer use In the study, I found that 28.57% of 1st and 36% 2nd year medical students use computers for as a part of entertainment in their life. Majority of Ist yr students used it to gather different medical information for study purposes, followed by IInd yr and IIIrd & IVth Year. This research work is little different from other study in India where it was found that [5] more than half of undergraduates used computers for amusement and majority of postgraduates used it for thesis and research work. We also found in IIIrd & IVth Year students use of computer for preparing notes and reading Research articles is comparatively more (35.23%). It may be due to medical students in their final year do small research projects and they are mature enough to use computer for their well being. In this study, we found that a majority (60%) of 1st yr, 65.33% of 2nd year medical students use computers at home or hostel, comparing with 7.14% and 13.3% who use to go cyber cafes, outside of college premises. Another study conducted at

Ludhiana, India [4] shown that use of computer in hostel and outside cybercafé is almost same. 48.9% students were found to use computers at home or hostels and 48.9% used it in cyber cafes. This difference may be because of affordability of the students as the present study was done in private medical college.

Conclusion

The use of the laptop and personal computers along with internet connectivity is increasing. This is becoming a part of medical education in different parts of the globe. In this study on medical students we observed an association between the year of study and the purpose of computer and internet use. Computer assisted teaching learning activities should be encouraged for the improvement of medical science for the new generations.

Future scope of the study

Present studies Outcomes are interesting enough and I believe that it will encourage others and study will be helpful for students to use computer in a proper way.

Abbreviations

MCOMS: Manipal College of Medical Sciences, OBG: Obstetrics and Gynecology.

Competing interests

The author does not have any conflict of interest arising from the study.

Authors' contribution

SK designed the study, collected the data, drafted the manuscript, conducted the data analysis edited language and revised it.

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