ATTITUDE TOWARDS INFORMATION AND COMMUNICATIONS TECHNOLOGY AMONG UNDERGRADUATE STUDENTS IN ARMY MEDICAL COLLEGE: A SURVEY

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ABSTRACT

Objective: To assess computer awareness and attitude towards information and communications technology (ICT) of undergraduate students of Army Medical College.

Methods: During May 2006 a questionnaire containing 16 questions was distributed among students of first year and final year MBBS. Topics queried include the computer awareness, ownership, and the status of Internet related activities as well as students exposure to usage of computers.

Results: Overall 203 medical students filled the questionnaire with 98 (48%) boys and 105 (52%) girls. Computer literacy: male (90%), female (89%) and overall (89%). Knowledge of software is as follows: MS Word (63%), MS Power point (63%), emailing (82%) and surfing of Internet (77%). Eighty eight percent had computer at home. Seventy eight percent had access to Internet at home. Thirty nine percent of the students indicated that they used the Internet form home regularly and 21% indicated that they used the Internet from college regularly. Eighty percent had email address. Thirty nine percent want to ask questions to teacher by email. Ninety percent indicated that computer is beneficial to study. Ninety one percent indicated that internet is beneficial to study. Seventy six percent stated that the ICT may be incorporated into the curricula training. Seventy four percent of the students living in hostel indicated that they needed internet in the room.

Conclusion: The results of this study indicate that the computer awareness among undergraduate medical students is encouraging but still need to be improved for computer assisted medical learning.

Keywords: Medical education, computer assisted learning, Information and communication technology.

INTRODUCTION

It is universally acknowledged that the quality of education at undergraduate level can be enhanced through the use of computer assisted learning [1]. The availability of medical information on compact disk and Internet has also increased the importance of computer literacy among under graduate medical students [2].

While we are exploring the frontiers of modern medicine, we must also explore new methods of training at undergraduate level, to develop the education system that is efficient and practical [3].

The pace of ICT development has accelerated. The prices of personal computer have dropped dramatically. The knowledge required to use the basic functions of software available today is limited to few clicks of a mouse [4]. The increased use of computer in medical practice makes it important for medical college graduates to develop and enhance ICT skills for their future practice.

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Table-1: Survey Responses by students.

Query	Responses			
Gender	Male (48%)			Female (52%)
Computer literacy	Male (90%)	Female (89%)		Overall (89%)
Ability to use computer programs (overall)	MS Word (63%)	MS Power point (63%)	Emailing (82%)	Surfing the Internet (77%)
Access to computer at home	Male (85%)	Female (97%)		Overall (88%)
Access to Internet at home	Male (69%)	Female (87%)		Overall (78%)
Use of Internet from home (overall)	Never (19%)	Rarely 42%		Regularly 39%
Use of Internet from college (overall)	Never (32%)	Rarely 47%		Regularly (21%)
Email address	Male (95%)	Female (73%)		Overall 80%
Use of E mail (overall)	Never (23%)	Rarely (33%)		Regularly (44%)
To ask questions from teachers through Email	Male (40%)	Female (39%)		Overall (39%)
Computer is beneficial to study	Male (93%)	Female (88%)		Overall (183%)
Internet is beneficial to study	Male (93%)	Female (90%)		Overall (91%)
Use of internet to access health information (overall)	Never (22%)	Rarely (57%)		Regularly (21%)
Importance of internet in medical education (overall)	Very important (46%)	Important (38%)	Of some value (14%)	Little or no importance (2%)
IT incorporation in curricula training	Male (79%)	Female (74%)		Overall (76%)
Internet facility at hostels (hostalized)	At central point (21%)	In the rooms (74%)		Not required (5%)

The computer has become essential part of home appliances and offices. Providing students with computer access by placing computer stations in the library or developing a dedicated computer laboratory space have been the most common solution adopted by the medical institutions [5].

The present study has been designed to assess computer awareness and attitude towards information and communications technology (ICT) of undergraduate students of Army Medical College.

METHODS

During May 2006 a 16-point questionnaire was distributed among the students of first year and final year MBBS. The questionnaire was prepared by the first author for the assessment of computer awareness (3 questions), computer ownership (2 questions) and attitude towards ICT (10 questions) of undergraduate students of Army Medical College. The questionnaire was technically reviewed by the second author (computer expert). The draft survey then was reviewed by the senior faculty member of the college knowledgeable about computers. Simple descriptive analysis of the data was made after being entered in a spreadsheet. Results were reported in percentage of the total. Data were analyzed using Microsoft Excel.

RESULTS

A total of 203 medical students of the college filled the questionnaire. Among them 123(61%) were first year students, 80 (39%) were final year students, while 150 (74%) were living in hostel and 53 (26%) were day scholars. 98 (48%) male students and 105 (52%) female students responded. The survey responses by students are given in table-1.

The survey responses by first year and final year MBBS students are given in table-2.

DISCUSSION

Information and communications technology (ICT) can support a wide range of learning activities, which engage students in a continuous collaborative process of building and reshaping understanding. The students also need to acquire computer skill for future

Table-2: Survey responses by first year and final year MBBS students.

	First year students				Final year students			
Gender	Male 50 (41%)		Female 73 (59%)		Male 48 (60%)		Female 32 (40%)	
Computer literacy	Male 44 (88%)	Female 62 (85%)	Overall 106 (86%)		Male 44 (92%)	Female 31 (97%)	Overall 75 (94%)	
Ability to use computer programs (overall)	MS Word 83 (67%)	MS Power point 69 (56%)	Emailing 99 (80%)	Surfing internet 96 (78%)	MS Word 45 (56%)	MS Power point 59 (74%)	Emailing 68 (85%)	Surfing internet 60 (75%)
Access to computer at home	Male 38 (76%)	Female 70 (96%)	Overall 108 (88%)		Male 39 (81%)	Female 32 (100%)	Overall 71 (89%)	
Access to Internet at home	Male 33 (66%)	Female 63 (86%)	Overall 96 (78%)		Male 35 (73%)	Female 28 (88%)	Overall 63 (79%)	
Use of Internet from home (overall)	Never 21 (17%)	Rarely 52 (42%)	Regularly 50 (41%)		Never 18 (23%)	Rarely 33 (41%)	Regularly 29 (36%)	
Use of Internet from college (overall)	Never 46 (37%)	Rarely 50 (41%)	Regularly 27 (22%)		Never 20 (25%)	Rarely 45 (56%)	Regularly 15 (19%)	
Email address	Male 43 (86%)	Female 54 (74%)	Overall 97 (79%)		Male 42 (88%)	Female 23 (72%)	Overall 65 (81%)	
Use of E mail (overall)	Never 32 (26%)	Rarely 38 (31%)	Regularly 53 (43%)		Never 14 (18%)	Rarely 29 (36%)	Regularly 37 (46%)	
Wish to ask questions from teachers through Email	Male 21 (42%)	Female 35 (48%)	Overall 56 (46%)		Male 18 (38%)	Female 6 (19%)	Overall 24 (30%)	
Computer is beneficial to study	Male 49 (98%)	Female 66 (90%)	Overall 115 (93%)		Male 42 (88%)	Female 26 (81%)	Overall 68 (85%)	
Internet is beneficial to study	Male 50 (100%)	Female 67 (92%)	Overall 117 (95%)		Male 41 (85%)	Female 27 (84%)	Overall 68 (85%)	
Use of internet to access health information (overall)	Never 23 (19%)	Rarely 77 (63%)	Regularly 23 (19%)		Never 21 (26%)	Rarely 39 (49%)	Regularly 20 (25%)	
Importance of internet in medical education (overall)	V. Important 62 (50%)	Important 45 (37%)	Of some value 15 (12%)	Little or no importance 1 (1%)	V. Important 31 (39%)	Important 33 (41%)	Of some value 14 (18%)	Little or no importance 2 (3%)
IT incorporation in curricula training	Male 45 (90%)	Female 56 (77%)	Overall 101 (82%)		Male 32 (67%)	Female 22 (69%)	Overall 54 (68%)	
Internet facility at hostels (overall)	At central point 17 (19%)	In the rooms 72 (79%)	Not required 2 (2%)		At central point 15 (25%)	In the rooms 40 (67%)	Not required 5 (8%)	

medical practice. The use of E-mail can provide new and efficient avenues through which faculty member, administration, staff and students can communicate with each other.

A 2000 survey of final year medical students at Allama Iqbal Medical College Lahore revealed that about 19% students said they were computer literate [2]. Another survey of medical students at King Abdul Aziz University Hospital, Jeddah, Saudi Arabia documented increase in exposures to computer [6].

A lot of surveys have been published in literature from west. The most comprehensive study of IT literacy conducted in European universities is "The survey of European Universities Skill in ICT of students and staff (SEUSISS) project" funded under the EU-Socrates Minevra Programme. The consortium, which includes seven universities from UK, Finland, Norway, The Netherlands, Italy, France, and Spain, gathered data in 2001 and 2002 in a continuation of a 10-year University of Edinburgh data collection project [7]. Although the present study was limited to undergraduate medical students, many of the questions related to computer literacy can be expected to apply to the

students of all fields. A 2004 survey of first year medical students in Denmark revealed that more male than females had access to a computer at home, and males had more positive attitudes towards the use of computers in their medical studies [8]. These studies highlighted the role of computers in education.

In the present study 97% females and 79% males indicated that they had access to a computer at home. Ninety four percent final year students and 86% first year students indicated that they were computer literate, however no direct measures of computer literacy were identified and no attempt was made to test the students in this respect. Overall 76% of students indicated that IT be incorporated into the curricula training [9,10].

CONCLUSIONS

The result of this study indicate that the computer awareness among undergraduate medical students is encouraging but still need to be improved, as 89% of students responded that they are computer literate and 78% of students indicated that information and communications technology (ICT) be incorporated in to the curricula training.

Computer assisted medical education will help the students to become independent learners, information seekers, information managers, and proficient user of computer technology in their future practice as well as in their ever-continuing education.

RECOMMENDATIONS

Based on the literature reviewed and data analyzed in this survey, the following measures are suggested to improve the quality of medical education at undergraduate level.

- To ensure that all students have access to the communications and information tools, sufficient number of computers (at least equal to the strength on one class) along with Internet, printing, CD writer, scanning facility should be made available in the college computer laboratory.
- To ensure the uninterrupted access to ICT, Internet facility may be extended to rooms of students living in hostels, as 74% of the students living in hostels indicated that the Internet facility should be extended to their rooms. The students living in hostel may not be deprived of this facility, as 78% of the students have indicated that they had access to computer at home.
- The ICT should be incorporated into the curricula training, which may include online literature search, MS Power point, MS Word, lab results retrieval, E-mailing and use of medical databases [11-15]. The faculty members particularly can play a central role in student ICT development by giving assignments to the students.

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