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Knowledge, Attitude and Practice towards E – Learning Among Medical Undergraduate Students

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Background: E-learning is a method of acquiring knowledge using electronic media which is gaining popularity among students. This requires access to computers and considerable knowledge on information technology. The current study aims to assess the computer literacy and attitude towards E-learning among first year undergraduate medical students.

I. Introduction

E-learning is a method of teaching and learning using electronic media[2]. E-learning is also called Web-based learning, online learning, distributed learning, computer-assisted instruction and Internet-based learning[1]. Before the wide use of internet the other form of teaching and learning was multimedia learning where there was two or more mediums of delivery for example text with audio or video or text with images etc which would help the learners retain better[1]. The new system that is being used widely these days is blended learning where teacher teaching multimedia classes are combined with E-learning technology[1]. Earlier studies show that multimedia E-learning enhances the experience of both teaching and learning and it is the easiest method available for updating and use at ease[1].

Medical education is constantly growing at a rapid speed and to keep the upcoming doctors and established physicians in par with the competitive world E-learning has become a necessary tool and the platform most commonly used is learning management system (LMS) [1, 3].LMS simplifies the assessment, evaluation and supervision of the content delivered via E-learning[1]. Introduction of E-learning into academics had made learning more active and teachers as facilitators and mentors[2].

E-learner plays an important role and an E-learner is a person who uses the online material for learning purposes, he is fairly independent, reads in his comfortable time and space[6]. On the other hand E-teaching is instructions given via an electronic media in both virtual and face to face classrooms and E-teaching enable online interactions and online sharing of course material[4].E-learning can be used in medical education to improve the efficacy of academic deliverance and make the learning sessions more captivating and retainable[1].

Developing countries are growing in the use of computer and internet based learning compared to the usage in the last decade[13]. The biggest challenge faced by the growing countries is availability of computers and access to internet, financial support in terms of administration and faculty time and training[1]. Software skills in computer both rural and urban areas along with hesitation to accommodate newer methods in learning lay a setback in adapting E-learning[10].

Knowledge, attitude and practice (KAP) survey is conducted to investigate human behavior related to certain topic. It identifies what people know (knowledge), how they feel (attitude) and what they do (Practice) [14]. KAP is conducted in order to document the existing prevalence and willingness for newer changes as a betterment of current occurances[14]. It is also used for diagnostic purposes, implemented to increase insights in present situation and help design appropriate specific interventions and used as an evaluation tool to evaluate effectiveness of interventions[14].

The objective of this study is to assess knowledge, attitude and practice of e-learning among undergraduate students using a structured and validated questionnaire.

II. Material and Methods

This pilot study was conducted among 21 students studying I Year MBBS in Sri Ramachandra University, Porur, Chennai. The study was approved by institutional ethics committee and all students gave consent to participate in this study. Structured questionnaire was administered to students after an initial brief description and motive of the study. For easy understanding and earnest reciprocation ,the questionnaire was set in easy English, it was divided into 10 parts and researchers were present for any clarification. Likert scale was used to minimize mixed options and to score the question[1,2]. Data analysis was done using SPSS – software version 17. Questionnaire was in multiple choice questions format and students were asked to select their preferred option

Questionnaire Scoring Pattern

Part A contained General information – ex: name, age, sex, nationality, accommodation, phone number etc. Part B contained questions on Availability of computers and internet availability – ex: possession of a desktop/laptop, internet availability, frequency and speed etc.

PART	CONTENT	SCORING				
C	Purpose of using internet – ex:browsing, games ,movies , chatting , therapeutic guidelines	Always (1)	Most of the times(2)	Sometimes(3)	Occasionally(4)	Never(5)
D	Experience with use of applications –ex: microsoft tools , communication tools , educational tools	<6 months(1)	6 months – 2 years (2)	>2 years(3)		
E	Self reported confidence levels in performing specific computer related tasks –ex: paint , email , downloads, web page , analyzing data etc	Very confident (1)	Confident (2)	Somewhat confident (3)	Not confident(4)	
F	Preferred resources used for study and reference – ex:textbooks , internet , journals etc	Always (1)	Most of the times(2)	Sometimes(3)	Occasionally(4)	Never(5)
G	Opinion on incorporating certain applications into regular teaching process – ex: animations , online discussion , video and audio etc	Strongly agree (1)	Agree(2)	No comments(3)	Disagree(4)	Strongly disagree(5)
H	Reasons for preferring E-learning – ex: time saving , more interactive , available anytime etc	Strongly agree (1)	Agree(2)	No comments(3)	Disagree(4)	Strongly disagree(5)
I	Limitations of E-learning – ex: availability , absence of human element , authenticity , distractions etc	Strongly agree (1)	Agree(2)	No comments(3)	Disagree(4)	Strongly disagree(5)
J	E-learning and education – ex:definition , web based training , limited application etc	Strongly agree (1)	Agree(2)	No comments(3)	Disagree(4)	Strongly disagree(5)
K	Suggestions for improvement of questionnaire					

III. Results

In this study, total number N = 21; No. of Males = 10 and No. of females = 11. There were 12 hostellers and 9 day scholars. 9 of them had formal computer training and 12 did not. All of them had access to computer and internet round the clock. All of them possessed a laptop, desktop, palmtop or mobile internet. Most of them have more than one technological gadget. 12 out of 21 were highly satisfied with the internet connectivity they use. All of them use internet and computer on a daily basis. In accordance to experience in using certain applications 57 % had less than 6 months experience in Microsoft tools, 43 % in communicating tools and 48 % in educating tools.

TABLE 1:KNOWLEDGE About Computers

Knowledge	Confident %	Not confident %
Using microsoft word	52	5
Creating ppt	57	5
Using excel sheet	33	14
Drawing using 'paint'	67	4
Sending email attachments	71	0
Creating a blog/web page	33	33
Writing a computer program	14	62
Analyzing data with statistical package	19	52
Accessing information on CD ROM	47	29
Performing an online search	71	10
Downloading health information from internet	72	0
Creating computerized patient record	48	29

TABLE 2 : Practice of Using Internet		
	Always %	Never %
Search for online information	38	5
General browsing	14	5
Email communication	10	0
Games	29	10
Movies and music	24	0
Social networking	33	0
Chatting	48	0
Online transaction	5	14
Therapeutic guidelines	19	33
Recent advances	14	10

TABLE 3 : Percentage of Students Agreeing and Disagreeing on E-Learning And Education - ATTITUDE		
	Strongly agree %	Strongly disagree %
E learning is a method of teaching and learning using electronic media	76	0
It is restricted to distribution of notes over internet	38	5
Limited application in medical/dental education	48	24
Crucial for acquiring more competency	29	0
All lectures should be replaced by e learning	29	24
It should be used as supplementary tool	71	0
Should be encouraged in teaching institutions	81	0

TABLE 4 : Limitations of E - Learning		
	Strongly agree %	Strongly disagree %
Requires computer skills	48	5
Availability of computers	57	10
Availability of internet	76	10
Absence of human element	14	10
Requires self motivation	29	5
Time consuming	49	5
Excess of unwanted information	29	5
Distractions	33	10
Focusing screen for long	38	19
Authenticity of information	19	10
Not regular curriculum	24	10

IV. Discussion

Out of all the students 71 % were confident in online searching and downloading along with using microsoft word processor.61% still prefer studying with text books as it is always available and it is widely in use. 76 % strongly agree that E- learning is method of learning and teaching method using electronic media and 71 % think that it should be used as a supplementary tool in teaching curriculum. Internet is widely used for online searching, browsing, entertainment and chatting whereas only 5% use it for online transaction, 19% for therapeutic guidelines and 14% for recent advances. Internet in the form of e-learning should be more used for academic purposes. 77% and 68% prefer E – learning for interactive sessions and scope for self assessment respectively. 78% feels that inclusion of animations, images and videos will make E – learning more beneficial and understandable and can retain better. Availability of internet is considered a major limitation for E- learning by 76% of students as in India the accessibility and the speed of internet is still under the developing arena. More number of female students preferred studying with text books. More number of boys use internet to send emails compared to girls. Otherwise, all the other parameters and their attitude towards e - learning were more or less equal between both the genders.

V. Limitations

This is a pilot study with a sample size of 21 students belonging to the same course and college which in turn implies that they belong to the same cultural background and same socio economic group leading to a biased result. Knowledge, attitude and practice towards E- learning among faculty and postgraduate students could not be assessed.

VI. Conclusion

The study has emphasized that E-Learning can be a useful tool in enhancing the learning experience and students are more open towards the upcoming change in teaching methods. The lack of knowledge in computer skills along with poor technological infra structure and resource can be a challenge for implementation of E – learning.

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