Net facility aiding medical students towards their education?

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ABSTRACT

Background: *Use of computer and information technology has revolutionized the current concepts of learning. The internet, one of the key developments in this field, provides instant access to latest medical information. As the scenario of medical practice is becoming evidence based, it is imperative for the current generation medical students to become updated.*

Aim: *To estimate the extent and purpose of internet usage for upgrading of knowledge among undergraduates of a medical university.*

Material and Method: *This study was conducted at J.N Medical College, Wardha. Two-hundred and six MBBS students were given a validated questionnaire survey to fill and the data was then interpreted. Descriptive statistical analysis was done using frequency and percentages.*

Results: *Eighty-three percent of students used internet facility, 52% percent used it for academic purpose. Only 2% used it for more than 2 hours in a day mostly to prepare seminars (97%) and search topics (95%) of interest as persuaded by the professors. Students (27%) felt the need to use the net for viewing clinical exams and online lectures and fourteen percent read journals to advance their knowledge. Students felt that internet is helpful for learning (82%) and it should be part of the curriculum (72%).*

Conclusion: *The medical students have still not mentally accepted internet facility to increase their academic proficiency and updating the fast changing advancement and researches in medical sciences.*

Key Words: *internet, social network, academics, percentages, medical students, journals*

Introduction

The internet is known to be a global network connecting millions of computers. It is through this discovery, which has introduced the revolution of the "21st Net generation" to rely on it for their everyday survival. It is the internet which is known to perhaps simplified the ways of living life with thousands seen to access anything from online shopping, instant messaging and social networking to adapting to website technology for traditional communications media of using music, telephone, movies and reading the news around the world.

The world of medical science too has revolted and has made its fast pace of making rapid advances. The extraordinary discoveries are contributing to the domino brick fall into the introduction of new medications, treatments, use of randomized trials to see both the benefits and adverse effects of new researches and with each success, the prevention of diseases and medical management has improved remarkably compared to the past fifty years.

Over the last several decades, studies have shown that use of internet by medical students and professionals can improve the quality of medical care, enhance the use of evidence based treatment, and maintain update knowledge. One of the major goals of medical education is to encourage students to maintain their knowledge of medical science by becoming lifelong learners. To achieve this regular updating of the changes

occurring in the field of medicine should be known, and internet is the most advanced and easily accessible tool to fulfill this goal. [1]

But with the fast advances into technology, today's generation of doctors are skeptical on their knowledge and that too when it comes to updating it constantly. The real question then becomes of how many actually use the internet for their academic purpose or use the net to find something of interest for their curious minds to enhance their knowledge in ways of educational befits to become a good doctor, provider and researcher and contribute to the medical science evolution to a greater extent.

In order to understand this, we created a survey to study and challenged this aim to observe medical students passion to use the internet for their educational benefits.

Material and methods

This study was conducted in Jawaharlal Nehru Medical College, a constituent college of Datta Meghe Institute of Medical Sciences University, which is a NAAC Graded "A" and it's inclusion in the category "A" by the HRD, Government of India.

A total of two-hundred and six medical students consisted of first to final year MBBS students from Jawaharlal Nehru medical College were targeted to participate for this study during November 2013.

A questionnaire was made simply to target the basic inquiry in how much time medical students are using internet and other social networking services for academic purpose. The questionnaire was premade and then used for collecting data on their time spent on internet usage, the academic purpose attained from using computers, weather they found internet services helpful for purposes of learning and should it be embraced into the medical curriculum. The questionnaire and results where then validated and was accepted in the form of analytical statistics.

Results

Firstly, an attempt was made to first categorize the students who were net users. We addressed this to the cluster of students whether they "spend time online?" in a group of two-hundred and six students who participated for this study. We found an amazingly high peak rate that eighty-three percentages of students were seen to spend most of their spare time online. While these one-seventy students were further questioned, we also took into perspective why the other seventeen percent of students who responded to not spending time online compensated this resources by their own loss of interest for using internet (42%), was too busy with daily activity and maintaining time management for college daily routine and found no time to go online (45%) or felt that medical studies is more easier and convenient to be spoon fed by the ready-made matter from the textbooks and lecture notes (14%) was sufficient for studies. (Table 1) From this, it was observed that although a small population of medical students preferred not to rely on net for their backbone need for studying, a huge population of students did use net for any reason.

It was perceived that almost sixty-nine percent of students mostly spent their time on the internet for social networking while they might also in between their spare time use the net either for surfing (52%) or academic purpose (52%) (Graph 1). This demonstrates that mostly medical

students main intension of being online is not for academic purpose or utilizing the best benefits from the resources available on internet for academics.

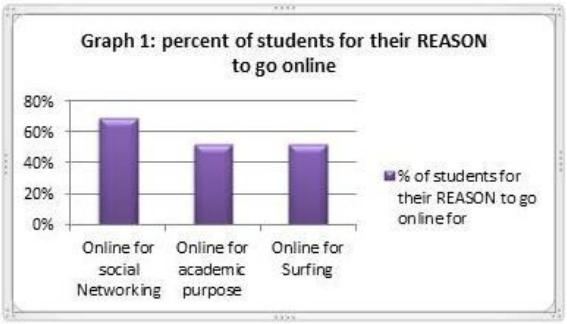


Table 1: Internet time usage by medical students

Total number of responses from survey: 206 students				
Questions asked to participates/students:	Sub-questions:	Total number of responses for each question	Total number of responses/ Total number of Students	Total percentage
1) Do you spend time online?	**Yes**	170	170 /206 Total students	83%
	NO	36	36/206 Total students	17%
If NO, then	**Not interested**	15	15/36 Students who said no	42%
	No time	16	16/36 Students who said no	45%
	We get the subject matter from textbooks and lecture notes	5	5/36 students who said no	14%
2) If Yes: Why do you go online? [Multiple choices selected]	**Social networking**	117	117/170 total "yes" students	69%
	Academic purpose	89	89/170 total "yes" students	52%
	Surfing	88	88/170 total "yes" students	52%

It was further observed that student's mostly went online as per their time of ease (46%) and suggests perhaps they don't sit regularly online for their medical education. This is in contrast to the low number of students who spend less than half an hour (27%) to a maximum of two hours online (23%). More disappointing is the low portion of students keen to be online for more than two hours (2%) on a day. (Table 2, Graph 2)

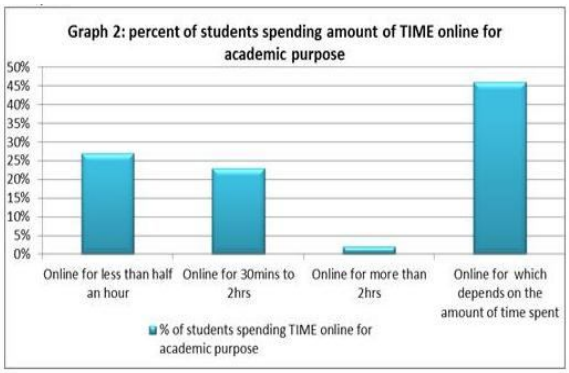
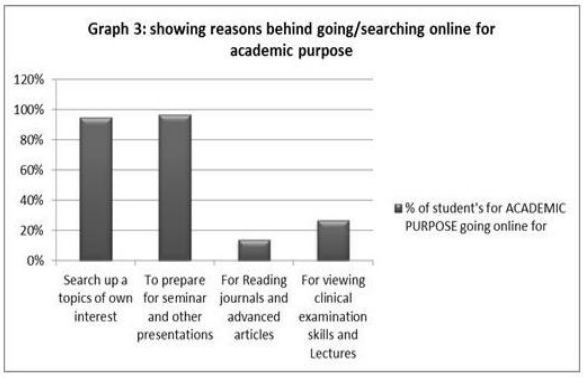


Table 2: Utilization of internet for academics among students

A) Duration spent on medical related studies online in a day:	**Less than half hour**	**24**	**24/89 students who go online for academic**	**27%**
	30mins to 2hours	22	22/89 students who go online for academic	23%
	More than 2hours	2	2/89 students who go online for academic	2%
	It depends	41	41/89 students who go online for academic	46%
B) Purpose of searching? [Multiple choices selected]	**Search up a topic of interest**	85	85/89 total students goes online	95%
	To prepare for seminar and other presentations	86	86/89 total students goes online	97%
	Reading journals and advanced articles	13	13/89 total students goes online	14%
	For viewing clinical examination skills and lectures	24	24/89 total students goes online	27%

This significantly highlights that medical students are quiet indolent and apathetic towards their need to enhance their knowledge by the vast diversity internet can offer a student towards their leaning opportunity and only are skeptical towards becoming the perfect doctor in saving lives. However, it's premature to conclude the answer of "time dependence" means that they sit less time on internet because of the burden of the medical curriculum and the timetable of the college hours. This suggests that this usage of internet should be incorporated within the curriculum, therefore bringing more encouragement to utilize the internet and spark interest.

Next, it was further inquired what motivated the students to search online for academic purpose. It is observed that the escalating numbers of students were mainly going online just to find the information required to make their seminar presentation (97%) and to search up a topic of interest (95%) which may be inquired during lectures or bedside teaching when a professor may ask students particular medical terminologies or diseases (Table 2, Graph 3).



This highlights that perhaps medical students are only online for academics due to forceful gaining of attaining the essential medical knowledge and that students are not particularly interested in having curious minds of their own to learn based on their own interest. This is supported by the low number of responses in which less than fifty percentages of students felt the need to go on the internet to view clinical examination for bedside teachings and clarifying topics by online lectures (27%) and read journals and advanced articles (14%) (Table 2, Graph 3). This may pinpoint conceivably why medical students aiming to become doctors haven't embraced research and feasibly why India is lagging on the number of research inventions on medical treatment and outbreaks compared to the western and developed countries in which medical students must be actively part of in research skills development before becoming a doctor.

Lastly we asked the students the benefits of using net for learning and if it should be intergraded into the curriculum. Eighty-two percentage of students felt applying internet for learning is purposeful. Although they may spend this time also social networking. While rest of the students (18%) felt traditional methods of education still be embraced and continued (Table 3). On the basis of online medical education to be incorporated into the curriculum, there was a positive response of seventy-two percentage of students who wanted net intergraded into their studies. On the contrary, less than fifty percentages of students (28%) felt that online education shouldn't be part of the education system (Table 3). This portrays that although students who sensed internet was helpful for medical academics also felt that it wasn't required to be part of their curriculum. This may reflect whether medical students have fully used the free range thinking and possibility of the benefits to what online learning can do for

them to their enhancement in their medical knowledge.

Furthermore, students were asked to give their opinion for using net for learning and if it should be intergraded into their curriculum which shall be discussed later on.

Discussion

The methodology of evaluation in medical education has shifted from its traditional chalk board and standard pen and paper knowledge testing into a more strategic and analytical method. It now consists of doctors to become more proficient and compassionate yet cognitive in the physical examination and have diagnostic abilities with required communication skills to practice. This may suggest that the 21st generation medical students are required to be pulled by the strings as puppeteers and be trained to become proficient clinicians in a holistic way.

Awareness has increased tremendously and patients now want to know why they are treated, how they are treated and the rationality of such treatments. Evidences are being generated from time to time in medical research, and the whole treatment protocols in medical science has made a paradigm shift from expert's opinion to evidence based medicine algorithm. Therefore now it is crucial, that doctors have the ability to accumulate the best of knowledge for diagnosis, and have interpersonal skills to make a patient's need and satisfaction their prime responsibility. Such things cannot be embraced by traditional teaching and require the use of resources to show examples and techniques in how to be updated with recent advances.

Furthermore, the idea of introducing e-learning into the medical curriculum can be seen as a vast shift in the ways doctors are required to graduate into the workforce with a need for a constant networking touch. It should be remembered that the medical science evolution is taking a fireball speed and changing from second to second and it's a prime requirement to have all this update at the finger tips. With e-learning being introduced into the curriculum, perhaps it can be beneficial as it will offer a more gratified experience by providing doctors their own pace of time for learning and hence trail their experience through personal learning objectives to target their weakness. Additionally, it will help doctors in research and provide a more adaptive as well as collative learning worldwide.

Whether Indian medical students are ready to accept medical e-learning and adapt themselves to it and accept it in their current medical curriculum is now a question. A study conducted for the same purpose concluded that the undergraduates are still reluctant to use e- learning. [1] By the study from our trail, we asked the students to elaborate their thoughts if they found internet purposeful for studying. Those eighteen percent of students who felt it wasn't helpful found the traditional method more approachable as they found it more suitable to acquire the knowledge from the textbooks and more expedient than spending time surfing to trace the required information to make it complete. In fact these students felt that studying from textbooks gave them the freedom to underline, write additional thoughts of their own and made it easier to carry it anywhere they go. This feeling of not having high preference for using computers for studies is supported by another study, where 3 to 7% of students did not prefer to study from internet. [2]

This is in contrast to studying from e-books in which students are required to print and then study from the matter, something most of these students find inconvenient and time-consuming. On another thought put forward was the inaccuracy of values/numerical of certain sites, does not share reliable information and the values can be inaccurate and may not be used internationally compared to standard textbooks which are studied worldwide.

Even if medicine continues to be taught traditionally, it can be seen that it's impossible to cater all the changes that's occurring very fast. Traditional textbooks are updated usually in every 2-3 years by the time new evidence based treatments with diagnostic approaches have already been practiced. Eighty-two percent of students who positively responded to finding net services helpful felt what takes time to search in books, can be spent faster online on the same topic and also with vast details and contexts and that too with extra advantages of getting various pictures, diagrams, slide shows and videos which clears out any doubtful concept.

The need for medical students to use net for easy available material to save time and incorporate internet into the current medical curriculum is also found to be true in a study conducted in West Bengal. But in the same study the author found that undergraduates are not utilizing e-learning aptly for their updating of knowledge. [3]

This shows that the internet provides a wider range than the academic syllabus from a broader aspect and most students felt that online studying can be more interesting and entertaining than long stretched out lectures. Another perspective to consider is reading articles and new publications which get updated stating the latest findings. Various online medical club discussions are elaborative and student friendly and help to clear tough doubts. Therefore, students should be introduced and encouraged to sign up authentic medical websites.

In the assessment of this study, it was seen that medical student's pure intention of using the internet for studies are forceful only when they are put on the spotlight to work on seminars and assessments which are part of the internal assessment within the curriculum. While many may seem to use the internet to search for topics of their own interest after being challenged by teachers, it can be clearly seen that students are not willing to understand and explore the benefits of the internet usage for studies themselves and hence may inspire them to make wiser use of net for studies as too supported by a study conducted among Iranian medical students. They discovered that thirty-two percent medical students mentioned the internet as a resource for searching for medical articles. Among these, nearly forty percent visited medical sites while they were surfing the web. [4]

This is in juxtaposition to the idea that perhaps medical students are too busy within their daily timetable in which hours are constantly spent being in lectures, practical's and bedside teachings that they don't have the spare time and energy to explore the resources from the internet for their knowledge. This is supported by a study conducted in North India in which they found medical students (54.4%) lacked time for studies. [5] Therefore this can be a further suggestion that the changes within the medical curriculum should also seek to give the attention a medical students needs and should make a vital step forward to incorporate e-learning into the curriculum

so students gain the opportunity to get the most from the internet. This approach for further informatics training with an integration of internet based teaching for medical students is also agreeable by a study conducted in University of Alberta and Southern India. [6, 7]

Hence, net teaching should be compulsory put into curriculum so that all medical students should be encouraged to access internet to learn or know about recent advances, researches and new things that are happening. This also reflects the positive covenant of medical students in Saudi Arabia (51.5%) and Nigeria (23%) who put forward the step towards using net for advancing medical education and research. [8, 9] After all, the curriculum should not be purely bookish knowledge. We should develop in every aspect as an individual and skill ourselves in intellect, speech and general knowledge. No better way than the internet to achieve this.

The study presently withholds certain limitations and strengths. This study was conducted within the medical students of only one medical university and a comparative data was not performed amongst the other medical universities within the district. Furthermore, the study could have been more elaborative in the context of using a higher number of medical students from both private and public medical institutions. The future directed research could be aimed towards creating a larger scale study which can captivate a more in depth result. Therefore more studies are required.

This study gave an important bird's eye view towards the current medical graduate's education and their curriculum. It targets the weakness within the crux of new doctors and hence the data can be attributive towards strategizing the curriculum to fit into the current 21st generation medical evolution, discoveries and technology. Thus, it is recommended that e-learning should be included in the current medical curriculum.

To summarize, even if updated knowledge is available and easily accessible to medical students through e-learning for their academic enhancement, there are very few who are availing this opportunity. Causes can be many starting from overburdened daily schedule to disinterest. But inner awareness is necessary so that students get motivated to use this fantastic opportunity towards becoming the ideal doctor.

Medical students should now be ready to accept that e-learning along with the traditional teaching methods is essential to keep pace with the rapid advances occurring in medical science.

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