

Editorials :

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Editorials :MEDICAL EDUCATION AND COMPUTERS

Computer are used in medical education in such tremendous form that it is difficult to imagine medical education without computer .In fact computers are also equally used in other streams of technical and non technical education .Even computer are already in use in preprimary ,primary and secondary school education. Though the computer are used in medical diagnostic tool since decades ,the article is focused to discuss in medical educational perspectives.

In medical admission procedures majority of medical educational institutes are insist on online downloading and submission of admission forms including pre admission tests and results .But this is just beginning .It give a very precise and fast outcomes and reduce the cost of stationary and transportation of documents and errors of human beings .But still today that there are areas in our country where such facilities are lacking and have relies on old time tested methods of admission procedures and creates a lots of anxieties and insecurities .

Coming to the medical education, though computer Provide information and facts precisely and effectively and teach the strategies for applying practical knowledge appropriately in medical situations still we have consider the availability of instruments ,experts and availability of electricity in 24 hour a day .

Today majority of medical education institutes teaching i.e. imparting lectures and demonstrations is by power point presentation .Students can learn better about anatomy by seeing 2D, sometime 3D model , virtual Human body /body parts .similarly physiological processes and mechanism are better taught and learned better with animated 2D and 3D diagrams. Medical students can understand the concept of relationship between clinical features of diseases and illnesses and underlying patho-physiological processes better by this way. Medical students can be shown various clinical features of diseases by computer imaging .And some disorders are so rare that are hardly seen in general hospital can be shown by computers .Sometimes it is not feasible to show a single patient to all the students simultaneously but is possible with CCTV ad computers similarly surgical procedures are shown to many students simultaneously . Otherwise it will be equally embarrassing a single patient and to large number i.e. 150 to 750 student . Even medical procedures are better taught with commuter animation and student imagery can be enhanced to perform such procedure independently later on. There varied types of conclusive/inconclusive studies documenting usefulness of computer in such scenarios. Considering level of learning among medical students, the author believe to include computer education in medical education including basic sciences education. The most important thing it is time effective and rapid transfer of knowledge in-depth. Rather than reliance on memorization the matter and words person can visualize .As rule of thumb, we see we remember and create curiosity to know more

about the topics and subjects concerned. It is more active learning in experience hand rather just and student hearing in a lecture [the passive learning].

In this context, so many terms are used with equal meanings i.e. Computer assisted learning, Computer based education, Computer assisted instructional education. Advantages of computers in medical education are many without bias to old time tested black board chalk stick methods which we all have gone through in our days at least me. Advantages of Computer assisted learning are many i.e. rapid accesses to of information, Data, Images including 3D images, animations, immersive interfaces, simulated clinical situations. Interactive learning, active solving, visualization, immediate student specific feedbacks and self evaluation and assessment. Computer assisted learning method never can place and be superior to hospital /real-live patient based education. But Computer assisted education can be a great supplementary education.

In medical education ,computer can be useful in evaluation. computer helps in the form of Objective testing, permits standardized testing, self-evaluation. One can learn with simulated e animals and e patients without harming a human being .It is possible to generate the experience of disease scenarios which one otherwise wouldn't see in rare cases.

Text Books are soon going to available in the form of smart book on smart phones with all computer version to get additional advantages of computer with feature of animation, visualization ,memorization .The student can evaluate his/her knowledge and testing cost-effectively with safety i.e. Constructed choice, True/False type questioning, multiple choice type questioning, matching or ranking questions ,Immediate response evaluation and also give Positive feedback. One can perform practice of USMLE test and other entrance tests with confidently.

Historically in 1970, ,Barnett of University of Illinois did experiments on Computer aided simulation of the patient. Computer act as a patient and come with some complain i.e. with complain of chest pain and medical students have to evaluation the complain .The computer will reply all answer the standard questions put forward by medical students.

Illinois University also introduced as concept of Programmed logic for automated teaching (PLATO) with Plasma display (required specialized equipment) used Combination of text, graphics and photos .University of Wisconsin ,used simulated case scenarios and estimated the efficiency of the medical student in arriving at a diagnosis logic of management strategies and evaluated for cost-effectiveness .This concepts are useful in remote located medical schools where chances of exploring rare cases among students are rare. In such situations ,Graphics and Video, images Skin lesions, X-rays ,Sounds (cardiology, breath sounds) etc as part of a multimedia stream stored .other examples are Visible human ,Eye simulator ,Other simulators such 3D are also stored in multimedia and presented as and when required in form of CD ROM or other memory devises.

Future of computer in medical education is unlimited .The sky is the limit .Medical educationists have to define the limit. In certain situations impediments, Cost, lack of technical experts and instruments are the barriers to sharing and reshaping .Other problems related computer assisted education are copyrights, lack of standard approach and peer reviewed , authoring software, integrating into standards curriculum, access to PC's and LAN ,availability

enough number of computers in relation to number of medical students. These are practical issues to be solved legitimately .Time will witness the solutions in future.