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Computer Assisted Learning is an Effective Way of Teaching and Learning in Medical Education

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Abstract

The aim of the study is to define computer assisted learning as the teaching and learning tool and environments facilitated through computers and to assess the effectiveness of teaching and learning by using computer assisted learning programme in medical education and computer assisted learning provides teachers with various teaching information when teaching medical students. Evaluation of CAL as an intervention is difficult, involving impact assessment studies of a variety of combined initiatives which seek to influence large and diverse populations. This is particularly true when evaluating attitude change and professional practice with a fast moving field like information technology. Computer assisted learning is an effective way of increasing knowledge in teaching medical students in medical education. In the future we will see more sophisticated software with virtual medical education who can communicate and interact with the medical students in a very realistic way.

Keywords:

computer assisted learning; medical education; information technology; multimedia; computer; training

Introduction

The aims of the study are to define computer assisted learning as the teaching and learning tool and environments facilitated through computers and to assess the effectiveness of teaching and learning by using computer assisted learning programme in medical education and computer assisted learning provides teachers with various teaching information when teaching medical students.

Design and methods

The design used for this study was a systematic review of published materials obtained from four large online databases, namely EMBASE, Blackwell Synergy, MEDLINE, and the *Cochrane Library* database. This review is largely a personal reflection on recent changes in computer assisted learning in medical education and demonstrates that the use of computer assisted learning programme is effective and easy to use. Research has been supplemented by email discussions with colleagues based in the United Kingdom.

Results

Computers have been available in medical education since the 1960s.[1] Computer assisted instruction enhances learning, allowing the student to decide content, time, place and pace of instruction. Evaluation of CAL as an intervention is difficult, involving impact assessment studies of a variety of combined initiatives which seek to influence large and diverse populations. This is particularly true when evaluating attitude change and professional practice with a fast moving field like information technology.[1, 2] It was shown that CAL provided the medical students with a popular and effective way of learning. Computer assisted learning systems' development in medical education in future years will be concentrated on the following areas:

- **Increasing systems' performances:** This includes higher speed of processing capacity and stronger computer software. This is a normal continuance to current computer assisted learning systems and their development's policy. [2, 3]
- **More distributed systems:** Nowadays modern world wide networks and high speed digital and mobile communications create a strong context for design and implementation of more distributed computer assisted learning systems. In the near future teleconferencing and non-centralised classrooms will be usual.[2]
- **Simulation and virtual reality:** New technology allows us to create 3 dimensional near-toreal environments for simulator systems. In practice, current applications of such systems are only on flight or sailing training systems. However, in the near future they will have a more important role, especially for blind and nearly blind people's education.[3]

Discussion

The quantity of applied research design and production of computer assisted learning application in medical field is growing rapidly and the quality is improving. There is good evidence supporting the use of computer assisted learning in medical education lowering all costs related to production and use. Development of guidelines and consensus statements issued by conventional medical organisations have recommended computer assisted learn-

ing application in medical education.[1] Computer assisted learning is increasingly practised in comparison of conventional teaching settings. There is a more open attitude to computer assisted learning application in medical education among conventional health professionals; this is partly explained by the rise of problem-based learning environment. Furthermore, the computer assisted learning should be seen as complementary to other traditional contact teaching, which may be more suited to clinical skills and attitudes.

Conclusion

Computer assisted learning is an effective way of increasing knowledge in teaching medical students in medical education. The potential of computer assisted learning is vast and its principles, application and practices need to be explored in detail. In the future we will see more sophisticated software with virtual medical education who can communicate and interact with the medical students in a very realistic way. However, at present computer assisted learning should not replace traditional medical education, but rather be used more as a supplement and for self-directed studies.

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