Educational Apps: Are they effective?

Created within the School of Medicine

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Background

Since the 1970's on-screen simulations of clinical scenarios have been created and subsequently used in education.

However, it is only in recent years that virtual patients have begun to form an integral part of mainstream healthcare education due to the advancement in technology resulting in lower cost and ease of construction.

Conclusion

In conclusion, the development and implementation by students of a medical application using virtual patients is a useful learning resource.

This study makes a valuable contribution to the limited literature which is available to provide evidence in support of the use of this technology.

A total of 60 students tested and evaluated the application.

Analysis of the results showed that students found that the application:

• Was an effective and enjoyable way to learn

• Had increased their confidence and knowledge

• Would use it again and would recommend it to a friend

Staff evaluation of the medical application resulted in similar positive findings with suggestions to add further multimedia and interactive functions to the application.

Method

We developed and evaluated a medical application for use on iPhones and tablet devices as a part of a 5-week student selected component.

The topic of microbiology/infectious disease was chosen since this is an area that students find challenging and perform poorly in exams.
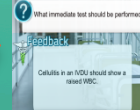
We based our virtual patients on the antibiotic prescribing guidelines for Greater Glasgow and Clyde seen here. A guide which is commonly used by junior doctors on the wards and within the community.

Following a literature review, 9 cases were written which, following input from topic experts, including a microbiology consultant, were transferred into a virtual patient medical application.

Medical students from years 3, 4 and 5 were then invited to test the application. Pre and post-questionnaire data was collected.

The Application