Evaluating a pilot e-learning activity for medical students in general practice
A randomized trial

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Abstract

Background

As part of the process of improving the quality of teaching, the UNSW Primary Care team is seeking to offer medical students additional structured learning in the management of common conditions in the general practice (GP) setting. The delivery of online e-learning activities can potentially be a pragmatic solution for our students – they are placed in GP clinics over a wide geographical area. This modality could allow students to participate in learning at a time and place of their convenience. However, comparisons between e-learning and traditional methods in the literature have been largely heterogeneous due to many contextual factors.

Aims

To evaluate the acceptability, effectiveness, costs, and practicality of a pilot general practice e-learning activity delivered using the Smart Sparrow™ platform, as compared to the traditional face-to-face small group learning environment.

YouTube video: http://tiny.cc/tam-gpet13b

Methods

A cohort of medical students undergoing their GP rotation will be randomised into two groups. The control group will receive a face-to-face interactive lecture on the management of hypertension, designed and delivered using active learning principles. The intervention group will complete an e-learning activity built on the Smart Sparrow™ platform using the same source content. Student perceptions and learning outcomes will be assessed using pre- and post-activity questionnaires, and analysed and reported using statistical methods. The processes and resources involved in the construction and delivery of both learning activities will be captured by logging the time required for their development, along with structured reflection on the challenges and difficulties encountered. This will be reported in a qualitative descriptive approach.
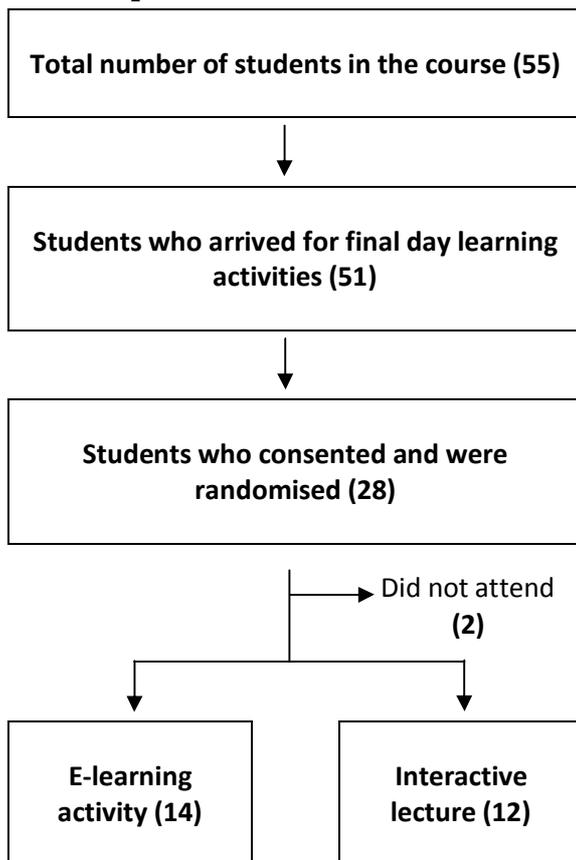
Results

The results, their analysis and interpretation will be available in September 2013 (**note: see reverse side**).

Discussion

Medical educators have been increasingly encouraged to integrate e-learning into the medical curriculum. We expect that the result of this study may help inform other medical educators contemplating building e-learning activities.

Participants


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┌─────────────────────────────────────────┐
│ Total number of students in the course (55) │
└─────────────────────────────────────────┘
                     │
                     ▼
┌─────────────────────────────────────────┐
│ Students who arrived for final day learning │
│            activities (51)               │
└─────────────────────────────────────────┘
                     │
                     ▼
┌─────────────────────────────────────────┐
│ Students who consented and were         │
│         randomised (28)                 │
└─────────────────────────────────────────┘
                     │
                     ├──────────► Did not attend
                     │                  (2)
         ┌───────────┴───────────┐
         ▼                       ▼
┌─────────────────┐     ┌─────────────────┐
│  E-learning     │     │   Interactive   │
│  activity (14)  │     │   lecture (12)  │
└─────────────────┘     └─────────────────┘
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Demographics

Year 5   42%
Year 6   58%

Male   42%
Female   54%
Unknown   4% (1 student)

Median age: 23

Interestingly, there was a significant difference in gender distribution between the year groups – more male students in year 5 participated and more female students in year 6.

In the randomised groups, there were similar proportions of male/female students, and year 5/6 students.

Preactivity questionnaire

Prefers e-learning   27%
Prefers face-to-face   50%
No preference   23%

Female students had a non-stat significant preference for face-to-face (X-test, p = 0.14)

Knowledge test

E-learning and lecture group had similar baseline knowledge (Cohen's d = 0.23)

Both groups statistically significantly improved their knowledge test scores post-activity.

There was no statistically significant difference in the improvement in knowledge test scores between the two groups (d = 0.12, p = 0.76)

Post-activity feedback

Students asked whether the LA was relevant, informative, appropriate for level of expertise, logical and easy to understand, and whether they were satisfied on 6-point Likert scale.

Both learning activities were rated well.

Feedback was generally better for the lecture. There was a stat sig difference for relevance, informative, and satisfaction.

Themes from qualitative comments

Prefer face-to-face: about the learner-teacher relationship.

Prefer e-learning: about controlling the pace of learning and convenience.

Students in e-learning group more likely to see a place for e-learning. Role: adjunct, supplement, self-study.

Development costs

E-learning activity: 76 hours
Lecture: 18 hours

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