EFFICACY OF A FULLY COMPUTERISED SELF-LEARNING STATION FOR INITIAL ACQUISITION OF BASIC LIFE SUPPORT SKILLS: A RANDOMISED NON-INFERIORITY TRIAL.

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Introduction

Current computerised self-learning (SL) stations for Basic Life Support (BLS) are an alternative to instructor-led (IL) refresher training but are not intended for initial skill acquisition. We developed a SL station for initial skill acquisition and evaluated its efficacy.

Methods

In a non-inferiority trial 120 pharmacy students were randomised into IL training (max six students) or training in a SL station. In the IL group, instructors demonstrated the skills and provided feedback. The SL group combined the use of an abbreviated Mini Anne™ video to acquire the skills and the Resusci Anne Skills Station™ software (both Laerdal, Norway) with voice feedback for further refinement. Differences in mean compression depth and rate, ventilation volume and proportion successful students (depth 40-50 mm, ventilation volume 400-1000 ml) were calculated and adjusted for gender, length, weight and previous BLS course using general linear and

logistic regression models. Non-inferiority margins were five mm for depth, 200 ml for volume, 20/minute for rate and a 10% difference for proportions.

Results

One hundred and seventeen participants were tested seven weeks after initial training (three drop-outs). Mean depth was 44 mm (IL) and 45 mm (SL) (P=0.8; mean diff. 90% CI -2.9 to 2.1), mean rate was 100/min (IL) and 98/min (SL) (P=0.23; mean diff. 90% CI -1 to 7), demonstrating non-inferiority. Mean ventilation volume was 486 ml (IL) and 729 ml (SL) (P=0.001). Proportion of successful students was 28/56 (IL) and 33/61 (SL) for depth, and 29/56 (IL) and 36/61 (SL) for ventilation, but non-inferiority tests for differences between these proportions were inconclusive.

Conclusions

Based on the differences between mean compression depth, rate and ventilation volume, skills acquired using a SL station with video-based BLS introduction were not inferior to IL training. Further studies powered for differences between proportions are needed.