Retraining basic life support skills using video, voice feedback or both: a randomized controlled trial.

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KEYWORDS

Basic Life Support; self-learning; skill retention.
Introduction

The optimal strategy to retrain basic life support (BLS) skills on a manikin is unknown. We analysed the differential impact of a video (video group, VG), voice feedback (VFG), or a serial combination of both (combined group, CG) on BLS skills in a self-learning (SL) environment.

Methods

Two hundred and thirteen students were randomly assigned to a VG, a VFG and a CG. The VG refreshed the skills with a practice-while-watching video (abbreviated Mini Anne™ video, Laerdal, Norway) and a manikin, the VFG with a computer-guided manikin (Resusci Anne Skills Station™, Laerdal, Norway) and the CG with a serial combination of both. Each student performed 60 compressions, 12 ventilations and three complete cycles of BLS (30:2), and repeated this once. The proportions of students achieving adequate skills were analyzed using generalized estimating equations analysis, taking into account pre-test results and training strategy.

Results

Complete datasets were obtained from 192 students (60 VG, 69 VFG and 63 CG). Before and after training, ≥70% of compressions with depth ≥50 mm were achieved by 14/60 (23%) vs. 16/60 (27%) VG, 24/69 (35%) vs. 50/69 (73%) VFG and 19/63 (30%) vs. 41/63 (65%) CG (P<0.001). Compression rate 100-120/min was present in 27/60 (45%) vs. 52/60 (87%) VG, 28/69 (41%) vs. 44/69 (64%) VFG and 27/63 (43%) vs. 42/63 (67%) CG (P=0.05). Achievement of ≥70% ventilations with a volume 400-1000 ml was present in 29/60 (49%) vs. 32/60 (53%) VG, 32/69 (46%) vs. 52/69
(75%) VFG and 25/63 (40%) vs. 51/63 (81%) CG (P=0.001). There was no between-groups difference for complete release.

**Conclusions**

Voice feedback and a sequential combination of video and voice feedback are both effective strategies to refresh BLS skills in a SL station. Video training alone only improved compression rate. None of the three strategies resulted in an improvement of complete release.