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Viewing a brief chest-compression-only CPR video improves bystander CPR performance and responsiveness in high school students: A cluster randomized trial.

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Abstract

BACKGROUND: CPR training in schools is a public health initiative to improve out of hospital cardiac arrest (OHCA) survival. It is unclear whether brief video training in students improves CPR quality and responsiveness and skills retention.

OBJECTIVES: Determine if a brief video is as effective as classroom instruction for chest compression-only (CCO) CPR training in high school students.

METHODS: This was a prospective cluster-randomized controlled trial with three study arms: control (sham video), brief video (BV), and CCO-CPR class. Students were randomized and clustered based on their classrooms and evaluated using a standardized OHCA scenario measuring CPR quality (compression rate, depth, hands-off time) and responsiveness (calling 911, time to calling 911, starting compressions within 2min). Data was collected at baseline, post-intervention and 2 months. Generalized linear mixed models were used to analyze outcome data, accounting for repeated measures for each individual and clustering by class.

RESULTS: 179 students (14-18 years) were consented in 7 classrooms (clusters). At post-intervention and 2 months, BV and CCO class students called 911 more frequently and sooner, started chest compressions earlier, and had improved chest compression rates and hands-off time compared to baseline. Chest compression depth improved significantly from baseline in the CCO class, but not in the BV group post-intervention and at 2 months.

CONCLUSIONS: Brief CPR video training resulted in improved CPR quality and responsiveness in high school students. Compression depth only improved with traditional class training. This suggests brief educational interventions are beneficial to improve CPR responsiveness but psychomotor training is important for CPR quality.

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KEYWORDS: Brief video; Bystander CPR; CPR performance; CPR responsiveness; Cardiac arrest; High-school

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