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Retention of CPR skills learned in a traditional AHA Heartsaver course versus 30-min video self-training: a controlled randomized study.

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Abstract

BACKGROUND: Bystander CPR improves outcomes after out of hospital cardiac arrest. The length of current 4-h classes in cardiopulmonary resuscitation (CPR) is a barrier to more widespread dissemination of CPR training and older adults in particular are underrepresented in traditional classes. Training with a brief video self-instruction (VSI) program has shown that this type of training can produce short-term skill performance at least as good as that seen with traditional American Heart Association (AHA) Heartsaver training, although it is unclear whether there is comparable skill retention.

METHODS AND RESULTS: Two hundred and eight-five adults between the ages of 40 and 70 who had no CPR training within the past 5 years were assigned at random to a no-training control group, Heartsaver (HS) training, or one of three versions of brief VSI (i.e., self-trained-ST subjects). Post-training performance of CPR skills was assessed in a scenario format by human examiners and by sensored manikin at Time 1 (immediately post-training) and again at Time 2 (2 months post-training). Performance by controls was assessed only once. Significant (P<.001) decline was observed in the three measures recorded by examiners; assess responsiveness (from 72% to 60% for HS subjects and from 90% to 77% for ST subjects), call 911 (from 82% to 74% for HS subjects and from 71% to 53% for ST subjects), and overall performance (from 42% to 30% for HS subjects and from 60% to 44% for ST subjects). Significant (P<.001) decline was observed in two of three skills measured by a sensored manikin: ventilation volume (from 40% to 36% for HS subjects and from 61% to 41% for ST subjects, with a significant [P=.028] interaction) and correct hand placement (from 68% to 59% for HS subjects and from 80% to 64% for ST subjects). Heartsaver and self-trained subjects generally showed similar rates of decline. At Time 2, examiners rated trained subjects better than untrained controls in all skills except calling 911, where self-trained subjects did not differ from controls; manikin data revealed that trained subjects' performance was better than that of controls for ventilation volume, but had declined to the level of controls for both hand placement and compression depth.

CONCLUSIONS: Adults between 40 and 70 years of age who participated in a CPR VSI program experienced performance decline in their CPR skills after a post-training interval of 2 months.

However, this decline was no greater than that seen in subjects who took Heartsaver training. The VSI program produced retention performance at least as good as that seen with traditional training. Additional effort is needed to improve both initial performance and retention of CPR skills.

CONDENSED ABSTRACT: Retention of CPR skills was compared 2 months post-training for adults between 40 and 70 years old who had taken either a traditional Heartsaver CPR course or a 22-min video self-directed training course. Although performance declines occurred in the 2-month interval, self-trained subjects generally demonstrated CPR skill retention equivalent to that of Heartsaver-trained subjects, although for both groups skill decline on some measures reached the level of untrained controls.

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