The voice advisory manikin (VAM): An innovative approach to pediatric lay provider basic life support skill education.


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AIM: To determine the efficacy of immediate, standardized, corrective audio feedback training as supplied by the voice advisory manikin (VAM) compared to high quality standardized instructor feedback training for the initial acquisition of 1-rescuer lay provider pediatric BLS skills. MATERIALS AND METHODS: Lay care providers of hospitalized children 8-18 years were randomized to VAM (n=23) or standardized human instruction (SHI, n=27) training in one-rescuer pediatric BLS. After an identical video/instructor introduction to CPR and 20min of training in their respective group, quantitative CPR psychomotor skill data was recorded during 3-min CPR testing epochs. All manikins used in training and testing sessions were identical in outside appearance and feel of doing CPR. The primary outcome measure was CPR psychomotor skill success defined prospectively as 70% correct chest compressions (CC) and ventilations (V). Subjects not attaining these success goals retrained for 5min in their respective training group and were retested. Data analysis using student t-test and chi(2)-tests as appropriate. RESULTS: VAM trainees delivered more total CC/min (58.7+/−7.9 versus 47.6+/−10.5, p<0.001), correct CC/min (47.9+/−15.7 versus 31.2+/−16.0, p<0.001), total V/min (7.8+/−1.2 versus 6.4+/−1.4, p<0.001), and correct V/min (5.4+/−1.9 versus 3.1+/−1.6, p<0.001). Overall error rates per individual were lower in VAM trainees for chest compressions (18.1+/−23.2% versus 34.9+/−28.8%, p=0.03) and ventilations (32.0+/−19.7% versus 50.7+/−24.1%, p<0.005). More VAM (12/23, 52%) than SHI (1/26, 4%) trainees passed the initial skill tests (p</=0.0001). After remediation and retesting, the difference in rate of attaining success goals remained significant: VAM 15/23, 65% versus SHI 7/26, 27% (p=0.008). CONCLUSION: Immediate, standardized, corrective audio feedback training as supplied by the voice advisory manikin (VAM) can improve initial pediatric basic life support skill acquisition for lay providers even when compared to one-on-one, standardized instructor-led training.