

Background:

Sudden cardiac arrest is a leading cause of death. Outcome after SCA is dependent on critical interventions ; particularly effective chest compression, early defibrillation, and advance life support. Training schoolchildren to perform cardiopulmonary resuscitation is possible method of increasing bystander CPR rates . The American Heart Association(AHA) recommended that cardiopulmonary resuscitation (CPR) training for schoolchildren to be mandatory.

Objective:

To evaluate a video base training and a new, 1-hour, a condensed training program to teach cardiopulmonary resuscitation (CPR) and automated external defibrillator (AED) skills to a cohort of school students.



Methods :

Study design- prospective, Interventional trial;
Study population- students from primary 5th and 6th grade;
Study setting- private school (English program)
Study protocol- approved by the school. Students' attitudes, prior experience and baseline knowledge were sampled using an initial questionnaire and CPR video training and a modified American Heart Association (AHA) CPR/AED pre-test. Students received training in continuous chest compression CPR and AED. A modified American Heart Association (AHA) CPR/AED test was immediately tested. One month and one year later, were retaken. Examination score differences were analyzed using matched paired t-tests. All tests were two tailed with alpha set at 0.05. Confidence Intervals (CI) 95% were calculated as appropriate.

Results & discussion :

Forty three subjects completed the program (P5=25, P6=18); mean age 11.5 years old; 67.4% female. Following initial video base training, the mean score= 5.45/7 (77.86%) demonstrated proficiency in CPR and AED knowledge. Subjects also shown by scores on a modified AHA based written exam (60.9% versus 77.3%;p= 0.00). At one month and one year demonstrated knowledge retention in similar test.

	Class	N	Mean	Std. Deviation	Std. error Mean	p-value
Pretest	6	18	6.18	.951	.231	.004
	5	25	4.96	1.428	.286	.002
	sum	43	5.45	1.383	.213	
Test	6	18	6.59	.618	.150	.082
	5	25	6.00	1.258	.252	.052
	sum	43	6.24	1.078	.166	
Post 1 Mo	6	18	6.24	.970	.235	.429
	5	25	5.92	1.412	.282	.396
	sum	43	6.05	1.248	.193	
Post 1 Year	6	18	6.35	.86177	.20901	.002
	5	25	5.32	1.10755	.22151	.002
	sum	43	5.74	1.248	.17397	

Conclusion & perspectives :

All training interventions are successful within a short time scale in increasing knowledge of the children when tested. Training should start at and an early age and be repeated at regular intervals over the school career. Thai students have the potential to train CPR and AED use very well.