Comparison of Efficacy in Improving Cardiopulmonary Resuscitation Performance between Video Training and the Standard Method

Cardiopulmonary resuscitation (CPR) consists of a series of emergency procedures performed to save patients with urgent problems from death.\(^1\)\(^2\) Given the rise in the prevalence of cardiovascular disease, it is vital that sufficient attention be paid to this group of patients.\(^3\)

In the current study, initially, a CPR standard checklist containing 20 questions was scored on a 5-point Likert scale (from “completely comply with”=5 points to “not completely comply with”=1 point).\(^3\)\(^4\) The total score of the CPR standard check list was 100 points, classified into 3 categories: weak (25–50 points), moderate (51–75 points), and good (76–100 points). The sample size was calculated as 20 individuals in each group of case and control, comprised of nurses and doctors. The case and control groups were selected by identifying the number of the individuals and then matching them in terms of sex, work experience, and age. Consequently, 10 men and 10 women were assigned to each group.

First, in a single-blind experiment, the researcher at the time of CPR supervised the performance of the study nurses and doctors and assigned scores to their performance based on the checklist. After CPR, training classes were held (only for the case group). In the classes, all the necessary measures considered useful during CPR such as massage administration, medication, intubation, and electroshock device application were introduced. Moreover, the case group received practical training face-to-face on how to set up and use the electroshock devices. The training videos were prepared on the basis of the participants’ response to the checklist. A copy of the checklist was given to the participants. After the class, the researcher re-evaluated the CPR performance of the case group based on the checklist.

After data collection, for ethical considerations, the control group was also provided with the training CD.

With regard to pre-training CPR performance, the findings showed that in the control group, 35% of the participants were weak (25–50 points), 65% were moderate (51–75 points), and 10% were good (76–100 points). And the rate of CPR performance in the case group before training included the following categories: 15% were weak (25–50 points), 75% were moderate (51–75 points), and 10% were good (76–100 points). Thus, the majority of the study participants in the case and control groups had a moderate level of performance before training. There was no statistically significant difference between the performances of the control group before and after training, and the 2 groups (case and control) were homogeneous in terms of performance (\(P=0.128\)).

With respect to post-training CPR performance, the results indicated that in the control group, 25% of the participants were weak (25–50 points), 65% were moderate (51–75 points), and 10% were good (76–100 points). And the rate of CPR performance in the case group after training was 64.9 (SD=9.1). Therefore, the level of CPR performance is negatively impacted by lack of relevant knowledge and it can be improved through appropriate training. In the present study, the rate of improvement in the intervention group, who received training via videos, was statistically significant; nonetheless, face-to-face training had higher efficacy and its impact was more remarkable.

Thus, it can be concluded that raising awareness about CPR performance among nurses and doctors with the aid of videos can augment the performance score.

References

for Simulation-Based Pediatric Innovation, Research, & Education (INSPIRE) CPR Investigators. Improving cardiopulmonary resuscitation with a CPR feedback device and refresher simulations (CPR CARES Study): a randomized clinical trial. JAMA Pediatr 2015;169:137-144.


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