Exploring the Functionality of Technology-driven CPR Training Methodologies Among Healthcare Practitioners: A Randomized Control Pilot Study

ABSTRACT

Introduction: Cardiopulmonary resuscitation training in Malaysia has evolved from traditional to modern approaches, embracing technology for better outcomes. Smartphone-based training apps offer interactive learning with simulations and real-time feedback, improving cardiopulmonary resuscitation skills anytime, anywhere. This study evaluates the effectiveness of the smart-cardiopulmonary resuscitation application for healthcare practitioners. Methods: This randomized controlled pilot study was conducted with 30 healthcare practitioners at the University of Malaysia Sabah. Participants underwent a Cardiopulmonary Resuscitation Practical formal educational training program, and data were collected using a Basic Life Support questionnaire and skills assessment checklist sourced from the American Heart Association (2020). Data analysis was conducted utilizing repeated analysis of variance and the Cochran 'Q' test supported by Statistical Package for the Social Sciences statistical software. Result: The control and intervention groups showed improved knowledge and skills from pre-to post-cardiopulmonary resuscitation courses; a significant increase was observed in the intervention group compared to the control group. The Ftest indicated a significant time-group effect (F-stat (df) ¼ 16.14 (2), p ¼ 0.01). Cochran's 'Q' test also revealed significant changes in the proportion of healthcare practitioners passing their skills assessments over time (2 ¼ 14.90, control 01). Conclusion: The smart-cardiopulmonary resuscitation application is convenient for refreshing cardiopulmonary resuscitation skills and maintaining proficiency. While it doesn't replace formal cardiopulmonary resuscitation courses, it saves healthcare practitioners and the community time and money. Both groups showed improved cardiopulmonary resuscitation knowledge and skills, with the intervention group using the smart-cardiopulmonary resuscitation application showing higher success rates after two months. Adopting smartphone-based cardiopulmonary resuscitation training with comprehensive content is recommended.