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Improving perception and confidence towards bystander cardiopulmonary resuscitation and public access automated external defibrillator program: how does training program help?

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Abstract

Background: In conjunction with an automated external defibrillator (AED) placement program at various locations within a public university in Malaysia, a series of structured training programs were conducted. The objectives of this study is to (1) evaluate the effectiveness of a structured training program in improving the perception of the importance of AED and cardiopulmonary resuscitation (CPR), (2) evaluate the confidence of the employees in using an AED and performing bystander CPR, (3) identify the fears and concerns of these employees in using AED and performing CPR, and (4) determine the perception of these employees towards the strategy of the AEDs placed at various locations within the university.

Methods: In this single-center observational study, a validated questionnaire aimed to assess the university employees' attitude and confidence in handling AED and performing CPR before (pre-test) and immediately after (post-test) the training program was conducted.

Results: A total of 184 participants participated in this study. Using the Wilcoxon signed-rank test, the training programs appeared to have improved the perception that "using AED is important for unresponsive victims" ($z = 4.32, p < 0.001$) and that "AED practice drills should be performed on a regular basis" ($z = -2.41, p = 0.02$) as well as increased the confidence to perform CPR ($z = -8.56, p < 0.001$), use AED ($z = -8.93, p < 0.001$), identify victims with no signs of life ($z = -7.88, p < 0.001$), and the willingness to perform CPR and AED without hesitancy ($z = -8.91, p < 0.001$). Fears and concerns on performing CPR and using AED also appeared to have been significantly reduced, and the perception on placement strategies of these AEDs was generally positive.

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