Cardiopulmonary Resuscitation in a One-Minute or Two-Minute Cycle

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ABSTRACT

Introduction: Cardiopulmonary resuscitation (CPR) is one of the most important instructions for saving patients' lives in the hospital and pre-hospital emergencies. This instruction is carried out in two minutes based on the American Heart Association protocol. Since revival is critical, optimal performance must occur within a short timeframe. Studies have investigated the effectiveness of one-minute resuscitation. Therefore, this study aimed to review the findings of studies related to the success rate of one-minute resuscitation.

Search Strategy: This review examined all English studies published up to May 2024 that compared the quality of resuscitation and fatigue between one-minute and two-minute CPR. It was performed by searching PubMed, Scopus, Magiran, and SID databases with the keywords "rescuer rotation" and "CPR quality" in the title and abstract. The list of article sources was verified to maximize access to studies and increase sensitivity.

Results: The quality and depth of the massage in the early stages of resuscitation did not differ much between the cycles of one minute and two minutes. However, there were significant differences in regenerative fatigue even in the short term, indicating that one-minute cycles are more effective than two-minute cycle. Notably, most studies have examined the resuscitation cycle lasting under 10 minutes. In contrast, in situations where a longer duration is necessary, such as drowning and hypothermia, fatigue and a decline in the quality of chest compression become more pronounced.

Conclusion and Discussion: According to the findings of this study, reducing the resuscitator's fatigue during a one-minute cycle, followed by improving the quality of cardiac massage, suggests that resuscitators should rotate every minute. This rotation is significant in situations where only continuous chest massage is performed, as it helps to minimize fatigue and enhance the quality of the massage.

Keywords: Cardiopulmonary resuscitation, Fatigue, Massage

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