



Original article

A Study of the Factors Related to Cardiopulmonary Resuscitation Physical Fatigue and the Quality of Resuscitation

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SUMMARY

Effective chest compression is an important factor playing a key role in the cardiac arrest patient survival. An understanding of the factors causing an early physical fatigue can help to improve the quality of CPR operations in hospitals. Therefore, this study aimed to assess the factors relevant to the onset time of physical fatigue and resuscitation quality during cardiopulmonary resuscitation (CPR) provision by Iranian nurses.

The present cross-sectional study was performed on 194 subjects selected based on a stratified random sampling procedure from different hospital wards. The participants were required to perform CPR operations on a manikin. As they were performing CPR, the time and the quality of compressions were measured by a chronometer and visual analogue fatigue scale, respectively. The rescuers themselves reported the onset time of physical fatigue.

Statistical analyses run on the collected data revealed that the majority of participants experienced extreme physical fatigue after a two-minute CPR operation. Moreover, about 71.2% of the participants managed to provide compressions over five centimeters deep. Finally, the physical fatigue experienced by the participants was meaningfully correlated with the body weight, sex, university degree, and work place of the participants ($p < 0.05$). Since the findings of the present study showed that various factors including the sex, weight, height, university degree, and the work place of the rescuer were significantly correlated with the onset time of physical fatigue experienced during CPR operation, it is recommended that male nurses with greater height and weight be employed in the rescue teams in ICU wards. Moreover, it seems mandatory for the nurses currently working in such teams in hospitals to improve their physical fitness through doing aerobics on a regular basis so that they may experience less fatigue during their CPR operations in future.

Key words: physical fatigue, CPR, quality, nurses, efficiency

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