

Lifeguard knowledge and understanding of CPR

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Background

Survival from out-of-hospital cardiac arrest, such as a consequence of drowning, is primarily dependent on the rapid initiation of bystander cardiopulmonary resuscitation (CPR). In the context of drowning incidents, victims are more likely to survive as a consequence of the immediate and effective application of CPR (1). At the beginning of each season, volunteer surf lifeguards in New Zealand are trained/re-trained in CPR procedures, yet little is known about lifeguard skills and understanding of CPR, how effective is their training, or how lifeguards perceive the value of CPR training and skills. The purpose of this study is to ascertain real and perceived competency of CPR technique among volunteer surf lifeguards at the start of a surf lifeguard season and to make recommendations about future training of this aspect of lifeguard work.

Method

The subjects of the study were 252 surf lifeguards in the Auckland region, who voluntarily took part in the study during early season patrols on 10 weekends between November 2010 and January 2011. Only lifeguards who had completed CPR re-training at the commencement of the season (October) were eligible to take part. Lifeguards with a health-professional background were excluded from the study. Participating lifeguards were initially asked to complete a written survey that focussed on their knowledge of CPR protocols and their perceptions of their ability to perform CPR. Immediately after completing the questionnaire, participants undertook a simulated practice of CPR on a Laerdal Resusci Anne SkillReporter manikin. Students were read a standard scenario briefing card, and informed that gloves (optional) and faceshields (compulsory) were available for them to use. The New Zealand Resuscitation Council Level 2/3 adult collapse algorithm was used to assess the correct sequence of actions (2). Adequacy of compressions/ventilations, compression to ventilation ratio and compression rate were assessed using the manikin over a 2-minute period of CPR, commencing from the delivery of the first chest compression. 'Correct compressions' were defined by the manikin as 4–5cm in depth (+/- 15%) with no incomplete release, and 'correct ventilations' as 400–600mL in volume (+/- 15%), with each ventilation delivered over a minimum of one second (3). A printout of the results was obtained from the manikin at the conclusion of the scenario.

Results

It is anticipated that the results will provide a comprehensive analysis of volunteer lifeguard understanding of the theory and practice of CPR, especially as it pertains to current protocols and techniques. It is further anticipated that the results will indicate a strong relationship between real and perceived CPR ability for many volunteer lifeguards. The study will also provide some indication of how important lifeguards view CPR training in comparison with the other requisite lifeguard skills (such as swimming ability and rescue skills) that are required as would-be rescuers. It is also expected that CPR competency will vary according to recency of training, lifeguard age, years of lifeguard experience, and possibly gender.

Discussion

Discussion will focus on the accuracy of recall of CPR protocols among lifeguards, the effectiveness of their simulated practice, the relationship between real and perceived competency, and lifeguard perception of how effective their training was and how important is the acquisition of CPR skills. The role and nature of current re-training methods will be discussed in light of the findings. Limitations of the study will be discussed and future research directions will be suggested.

Conclusions

The study will conclude with recommendations for future CPR training of volunteer surf lifeguards and suggest ways to address any barriers to effective learning of CPR skills that are evident from the results of the questionnaire and simulated testing.

References

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