

Professional rescuers vs. rescue volunteers – Comparison of real and perceived skills of CPR

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Introduction

Cardiovascular diseases remain a leading cause of death worldwide. On the other hand, recent WHO studies show that drowning is one of the leading causes of accidental death. As a result, the European Resuscitation Guidelines 2010, made special emphasis on the need for performing quality cardiopulmonary resuscitation (CPR). Considering the above, the purpose of this study is to thoroughly analyse the competences, real and perceived, of professional rescuers and volunteers in CPR and compare both groups as first responders in emergencies.

Methods

The sample of our research consisted of a group of 40 persons belonging to non-medical emergency health bodies (19 professional rescuers and 21 rescue volunteers). Inclusion criteria for both groups were: professional rescuers – lifeguards hired as main professional occupation by beach services and with obligation to act as first responders; and rescue volunteers – emergency services non-medical personnel, collaborating with professional responders but not hired for this purpose: police, fire and civil protection staff, with no obligation to act as first responders. Two tests were performed: at first a questionnaire on demographics, theoretic knowledge and perceptions of CPR protocols, adapted from Moran and Webber (2012), was applied; and secondly, performance testing during a simulated practical CPR case of intervention using the mannequin with evaluator - ResusciAnne Laerdal®. The dependent variables were compared for each group of participants – professional rescuers vs. rescue volunteers.

Results

The results show that the majority of participants (66,7%) has done some training during the three months preceding the study. 82,5% believe that their ability to perform CPR is acceptable, effective or very effective. 27,5% showed hesitation to perform CPR on a real intervention. Most participants (67, 5%) consider the frequency of successful CPR in out-of-hospital cardiac arrest to be over 25%. 50% of participants considered CPR as the most important skill when performing an aquatic intervention. In terms of theoretic knowledge, errors were found in different steps of the protocols in answers of up to 50% of the participants. As for practical compliance with protocols, only 17, 5% succeeded to perform the complete sequence of action. As to the practical skills of CPR, only the 21, 86% of compressions were performed successfully regarding depth and expansion.

In the 2 minutes of the practical assessment, only 8,4% of the ventilations were performed correctly, with an average of 5,7 of the ventilations being considered excessive (> 600ml). Significant differences between professional rescuers and volunteers regarding compressions, ventilations, quality of CPR, the action protocol and theoretical knowledge of CPR protocols were found. No correlation between perceived and actual quality of CPR.

Conclusions

Rescuers who participated in this study had a good knowledge of CPR protocols regarding compression and ventilation but were less accurate in terms of protocols and primary survey. There is an overestimation of the success rate of out-of-hospital CPR. Professional rescuers have a better quality of CPR and knowledge and performance of CPR protocols than rescue volunteers, although differences are rather low and overestimated. It seems necessary to provide training for non-emergency health services, both professional and non-professional for proper and prompt response to emergencies as first responders.