

Cardiac arrest

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CARDIO-PULMONARY-RESUSCITATION QUALITY IN OUT-OF-HOSPITAL CARDIAC ARREST – EFFECT OF REAL-TIME FEEDBACK

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Background Out-of-Hospital Cardiac Arrest (OHCA) is a major health problem with low survival. Cardio-Pulmonary-Resuscitation (CPR) quality is associated with survival, and includes chest compression depth (CCD), rate (CCR), and fraction (CCF) within international guideline recommendations¹. In 2020 overall survival in Denmark reached 16% placing Denmark as one of the leading countries for OHCA survival. The aim of this study was to examine the effect on CPR quality with the introduction of real-time CPR feedback in a high OHCA survival area, as well as the effect of adding post-event clinical debriefings.

Method This cohort study collected non-traumatic OHCA data from ambulances within the Capital Region of Denmark using ZOLL X-series defibrillator. Three variables; CCD, CCR and CCF were collected on three consecutive phases: Phase one (no feedback) from October 2018 to May 2019; Phase two (real-time feedback) from May 2019 to February 2020 and phase three (real-time + post-event debriefings) from February 2020 to December 2020. Data were compared against guidelines at each phase.

Results We included 1545 patients. Preliminary results revealed guideline compliant CCD in 21.8% of the compressions (no feedback) compared to 30.9% (real-time feedback) and 33.0% (real-time + post-event feedback). For CCR the results were 60.2%/ 74.6%/ 75.1% respectively. Combination of guideline compliant CCD and CCR simultaneously was 13.6%/ 23.3%/ 25.8% respectively. CCF was 76.8%/ 80.9%/ 81.3% respectively.

Conclusion Real-time feedback and post-event clinical debriefings have the potential to improve EMS CPR quality in a high survival OHCA area.

REFERENCE

1. Perkins GD, et al. (2021) 'European Resuscitation Council Guidelines 2021: Executive summary', *Resuscitation*, 161, pp. 1–60. doi:10.1016/j.resuscitation.2021.02.003.

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