Interventions and diagnostics

289 EFFECTS OF INFORMATIVE VIDEOS TO EMPOWER PARENTS IN HANDLING ACUTELY ILL CHILDREN: A RANDOMIZED CONTROLLED TRIAL

Background
Copenhagen Emergency Medical Services (CEMS), Denmark, serves the Capital Region and receives about 200,000 out-of-hours calls/year regarding children. About 40% are referred for further assessment at hospital, but less than two thirds of these children need medical treatment. We studied if parents could be empowered in handling children with mild symptoms at home by informative videos, and thereby reduce hospital admissions.

Method
A prospective randomized controlled trial was conducted from 13th October, 2020 – 2nd December, 2021. Parents who called CEMS with children aged 0.5–11.9 years were offered access to informative videos before reaching telephone triage. Parents who accepted were randomized to intervention (receiving videos only) or control (standard telephone triage). Both groups received an electronic survey including questions on self-efficacy the following day. Hospital charts were reviewed blinded to randomization for hospital referrals within 72 hours. Main outcomes were high self-efficacy score and delayed hospital admissions or deaths. Secondary outcomes were duration of hospitalization, and number of engaged users of the videos.

Results
A total of 4687 children were included. Only data from preliminary analysis of the first 400 surveys is available now. The self-efficacy-score was high in 84.7% (340/404) of the intervention group and in 82.7% (327/402) of the control group (p=0.68). There were no delayed admissions or deaths caused by the videos.

Conclusion
Preliminary results showed equally high score of self-efficacy of parents in both groups. The use of videos appeared to be safe.

Conflict of interest
None.

Funding
This project was funded by TrygFonden, Denmark, Copenhagen University Hospital—Amager and Hvidovre, Copenhagen, Denmark and the Capital Region, Denmark.

Cardiac arrest

295 CPR PERFORMANCE WITH USE OF A CPR FEEDBACK DEVICE

Background
Today, most medical dispatchers are blind to what happens at the scene and have no objective data to use in rescuer coaching.

We wanted to develop a technical solution where CPR quality data and video is streamed to the dispatcher. The CPR and video allow for targeted coaching and teamwork with the rescuer, aiming to improve CPR quality.

Method
We developed a single-use, accelerometer-based CPR feedback device with Bluetooth communication with a smartphone app. The credit card sized device is placed between the patient’s bare chest and the rescuer’s hands. It measures compression depth and rate and provides visual feedback to the rescuer. The card streams CPR data real-time to the app, which provides enhanced visual feedback on CPR performance. This app further streams the CPR data and video to a server on the internet. Real time CPR feedback and video are securely made available for the dispatcher on a web solution, to use when coaching the rescuer in CPR.

Results
Results from 160 simulation runs with volunteers showed that the technical solution provides real time feedback to the rescuer while streaming real time CPR data and video to the dispatcher. The dispatcher used this CPR data and video to coach quality of CPR.

Conclusion
The TCPR Link system can connect less experienced CPR volunteers with more experienced dispatchers to improve teamwork and CPR performance. The system is planned to be used in a clinical trial by first responders activated by the dispatch center, in a 5M city.

Conflict of interest
Birkenes, Risanger, Sorati and Myklebust are employees of Laerdal Medical. Haukland and Harbo are consultants at Laerdal Medical.

Funding
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293 TCPR LINK – STREAMING OF VIDEO AND CPR QUALITY FOR IMPROVED RESCUER-DISPATCHER TEAMWORK

Background
Cardiac arrest at home is one of the most common causes of death around the world, and accounts for about 30% of all sudden cardiac deaths. Most patients (80%) who experience out of hospital cardiac arrest are not identified as needing CPR and are not provided with the right treatment in time (60% of the cases were identified on time, but only 25% of those were resuscitated successfully).

In our study, we developed a technical solution where CPR quality data and video is streamed to the dispatcher. The CPR and video allow for targeted coaching and teamwork with the rescuer, aiming to improve CPR quality.

Method
We developed a technical solution that streams real-time CPR data and video to the dispatcher. The dispatcher used this CPR data and video to coach quality of CPR.

Results
We found that the technical solution provides real-time feedback to the rescuer while streaming real-time CPR data and video to the dispatcher. The dispatcher used this CPR data and video to coach quality of CPR.

Conflict of interest
None.

Funding
This project was funded by TrygFonden, Denmark, Copenhagen University Hospital—Amager and Hvidovre, Copenhagen, Denmark and the Capital Region, Denmark.

Cardiac arrest