

In-situ medical emergency call simulation: an hospital-wide quality improvement project aiming at improving patient safety and staff confidence with cardiopulmonary resuscitation

Dott. LUCA CARENZO (1), Dott. COSTANTINI ELENA (1), Dott. PRINA VALENTINA (1), Dott. MUZIO MARISA (1), Prof. CECCONI MAURIZIO (1)

(1) IRCCS Humanitas Research Hospital, Italia.

Argomento: Trauma e arresto cardiaco

Background

In-hospital cardiac arrest (IHCA) is a common medical emergency. Literature suggests that resuscitation teams at hospitals with high IHCA survival differ from non-top-performing hospitals. Key characteristics from top performing hospital training are (1)unplanned and held on a regular basis, (2)conducted in actual patient rooms rather than simulated environments, (3)multidisciplinary, and (4)including structured postdebriefing. We designed and ran an in-situ IHCA simulation program aiming at improving the activation process and multidisciplinary interaction between ward staff and the hospital rapid response team(RRT).

Methods

Series of unannounced IHCA simulations, held in remote active hospital patient areas. Participants included all professionals involved in usual patient care (general ward medical and nursing staff and duty hospital RRT). After each scenario a multidisciplinary hot debriefing was performed. Data were collected on activation and response times, key performance indicators and a thematic analysis of the debriefing was performed.

Results

Between June,2022 and March,2023 we held eight events. No event had to be rescheduled due to clinical needs. On average External Cardiac Massage was started 01:07minutes from exercise start, crash cart obtained in 59seconds, automated external defibrillator applied in 02:13 minutes. RRT reached scene within 5 minutes from the call and the first adrenaline on average at 07:16minutes. Scenarios lasted on average 15:44minutes. Themes from the debriefing were: need for patient 360° access, earlier chest compression initiation, unfamiliarity with emergency equipment and crash cart content, handover to the arriving RRT. Overall the experience was perceived by staff as a great occasion to review and maintain proficiency

Conclusions

An in-situ IHCA simulation program held in clinical areas and during working hours is feasible and well received by the medical and nursing staff. Analysis of performance and debriefing allowed us to recognize and act upon staff educational needs.