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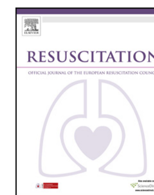

Debriefing bystanders of out-of-hospital cardiac arrest is valuable☆

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ABSTRACT

Aim of the study: To explore the concept of debriefing bystanders after participating in an out-of-hospital cardiac arrest resuscitation attempt including (1) bystanders' most commonly addressed reactions after participating in a resuscitation attempt when receiving debriefing from medical dispatchers; (2) their perception of effects of receiving debriefing and (3) bystanders' recommendations for a systematic debriefing concept.
Methods: Qualitative study based on telephone debriefing to bystanders and interviews with bystanders who received debriefing. Data was analyzed using the phenomenological approach.
Results: Six themes emerged from analysis of debriefing audio files: (1) identification of OHCA; (2) emotional and perceptual experience with OHCA; (3) collaboration with healthcare professionals; (4) patients outcome; (5) coping with the experience and (6) general reflections. When evaluating the concept, bystanders expressed positive short term effect of receiving debriefing and a retention of this effect after two months. Recommendations for a future debriefing concept were given.
Conclusion: Debriefing by emergency medical dispatchers to OHCA bystanders stimulates reflection, positively influencing the ability to cope with the emotional reactions and the cognitive perception of own performance and motivates improvement of CPR skills. Importantly, it increases confidence to provide CPR in the future. Implementation of telephone debriefing to bystanders at Emergency Medical Dispatch Centres is a low complexity and a low cost intervention though the logistic challenges have to be considered.

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1. Introduction

Survival after out of hospital cardiac arrest (OHCA) is highly associated with bystanders' active role in recognizing cardiac arrest, calling the emergency medical dispatch centre (EMD), performing cardiopulmonary resuscitation (CPR) and using an automated external defibrillator (AED).[1–4] Former studies have identified fear of harming the patient, the concern for incorrect CPR performance, fear of lawsuit if the intervention is not successful and the risk of infectious disease transmission as bystanders' hypothetical barriers to initiating CPR.[5,6] However, little is known about what bystanders thought or feared during the resuscitation attempt and how they reacted afterward. It is likely that witnessing an OHCA affects bystanders emotionally and leaves unanswered questions about own performance. This assumption is supported by a study in which bystanders' perception of their CPR was described as "to feel exposed" in sense of feeling deserted, powerless, ambivalent (what is morally and medically right or wrong in the situation), uncertain and to experience repugnance in the situation.[7] Another study highlighted bystanders' positive attitudes toward debriefing.[8] To our knowledge, no studies have explored the opportunity and concept of systematic debriefing to bystanders after participating in a resuscitation attempt and the effects debriefing might have.

The purpose of this study was to explore the concept of debriefing bystanders after participating in an OHCA resuscitation attempt including (1) bystanders' most commonly addressed reactions when receiving debriefing from medical dispatchers; (2) bystanders' perception of debriefing effects and (3) bystanders' recommendations for a systematic debriefing concept.

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2. Methods

2.1. Setting

In Denmark, there is a single phone number (112) to an emergency call centre that identifies the need for police, fire or medical assistance. In case of a medical problem, the caller is re-directed to an Emergency Medical Dispatch Centre (EMD) that answers, processes and responds to the call by activating the appropriate Emergency Medical Services (EMS). The medical dispatchers are specially trained nurses or paramedics. Their decision-making process is supported by a criteria-based, nationwide Emergency Medical Dispatch System (Danish Index for Emergency Care.[9] In case of OHCA, the medical dispatchers guide the bystanders to perform CPR and to localize and use the nearest AED, according to international guidelines. The protocol includes telephone assisted CPR according to the European Resuscitation Council 2010 Guidelines until arrival of the ambulance.[10]

The study took place in the Capital Region of Denmark with a population of 1.7 million. The EMD responds to about 110,000 emergency calls annually. The emergency medical response is two-tiered. In all cases of suspected OHCA, an ambulance with paramedics and a physician-staffed mobile emergency care unit are dispatched simultaneously.

2.2. Study design

To provide a more in-depth understanding of bystanders' experience with OHCA and perception of telephone debriefing, the study was designed as an explorative interview study based on individual telephone interviews.[11] The study was conducted in two steps; (1) telephone debriefing to bystanders after OHCA and (2) bystanders' evaluation of the telephone debriefing. Both were conducted using predefined guides. All audio files were transcribed ad verbatim. The total study period was from March to July 2013 including telephone debriefing and evaluation interviews. The length of the study period was determined by the practical and organizational frame of the project.

2.3. Providing debriefing

Debriefing was provided according to principles of adult learning based on the hypothesis that debriefing can create reflections of own resuscitation skills. A guide for the medical dispatchers' debriefing to bystanders was adapted from methods within the field of medical simulation where reflections on own practice is a crucial step in the experiential learning process and debriefing helps learners develop and integrate insights from direct experience into later action.[12,13] We applied a feedback element to the debriefing guide in terms of offering "ad hoc" feedback on the performance, but only if the bystander expressed a need for it. The feedback was concrete information about bystander action, making it possible for the bystander to modify the next resuscitation attempt. The medical dispatchers were also informed of possible warning signs for lack of coping strategy and were instructed to assess these during the debriefing interview. Prior to the study period, the debriefing guide was pilot tested on three healthcare professionals and one bystander and consequently developed. The dispatchers were introduced to the project at a meeting where the debriefing guide was introduced and guidelines for using it were discussed. During the study period the project manager had frequent correspondence with the dispatchers and the debriefing guide was adjusted when inappropriateness was identified. Changes were communicated to the dispatchers in a weekly project newsletter and any uncertainties resolved through emails. See Fig. 1 for debriefing guide.

Twelve medical dispatchers were recruited from the EMD to provide debriefing during the study period. Bystanders were recruited at the end of each call with suspected OHCA after the ambulance had arrived at the OHCA scene. The medical dispatcher offered the caller telephone debriefing within 2–4 days after the resuscitation attempt. The caller was asked to extend this offer to all bystanders at the OHCA scene. When bystanders agreed to be contacted for debriefing, the name and telephone number were registered in the study protocol. All medical dispatchers participating in the study were then responsible for contacting bystanders for debriefing within 2–4 days, regardless of whether the medical dispatcher had the primary OHCA call. The telephone debriefing followed the debriefing guide and was initiated by letting the bystander describe their experience with the OHCA scenario from their own perspective. Coping strategies and issues that seemed to have a deeper impact on the individual bystander were then explored. If the medical dispatcher had the impression that a bystander lacked strategies to cope with the experience, they advised the bystander to contact his or her general practitioner. Bystanders were offered a dedicated phone number to the EMD in the end of the debriefing, in case of further questions or need of additional help

To ensure inclusion of the most representative sample of bystanders, everyone participating in or witnessing the resuscitation attempt was invited to participate in the study, regardless of their role. The cardiac arrest victims' relatives were excluded due to the hypothesis that relatives struggle with sorrow and more severe shock, and therefore may be in need of another type of help than the emergency medical dispatchers could offer.

2.4. Evaluation of telephone debriefing through semi-structured interviews

A purposive sample of 15 bystanders who received telephone debriefing during the study period was invited to participate in a research interview about their perception of receiving debriefing and evaluation of the concept. Two of the researchers (TPM, CMH) conducted semi-structured telephone interviews 1–2 months after the debriefing, using an interview guide (Fig. 2) developed by internal discussion in the research group and using topics related to our research question. The guide was pilot tested on the first interviewee and adjusted accordingly.

2.5. Analysis

A phenomenological approach were used for data analysis, as described by Giorgi, modified by Malterud.[14] This philosophy is widely used and suited for development of descriptions and notions related to human experience. Qualitative research uses analytical categories to describe and explain social phenomena.[15] To extract those categories, we used systematic text condensing.[16] Fig. 3 illustrates the analytical steps.

2.6. Ethical approval

Ethical approval was not needed for this study, Biomedical Research Committee in the Capital Region of Denmark, nr. **H-3-2013-FSP 14**. All participants gave verbal informed consent.

3. Results

3.1. Telephone debriefing

All bystanders ($n = 33$) who were offered debriefing agreed to participate in the study and received telephone-debriefing from 9 medical dispatchers. The median number of debriefing interviews

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