Supplemental Material 3

Detailed Methods

Sampling and Recruitment

Sampling of volunteer responders

Volunteer responders were eligible for inclusion if they had been involved in an OHCA in a private home with the presence of one or more relatives of the cardiac arrest patient. To ensure diversity among volunteer responders, recruitment took place in two ways: first, volunteer responders were purposefully selected through the volunteer responder survey. We sought participants who had stated that relatives were present during resuscitation in the survey. Further, we aimed for a variation in professional backgrounds, age, and sex. Secondly, we made a public announcement on the official Danish volunteer responder social media profile for volunteer responders who had been dispatched to a cardiac arrest where relatives were present. We specifically tried to recruit participants who had been actively involved with relatives to the OHCA patient to enhance information power and obtain an adequate sample size with focus on the richness of data rather than quantity(1).

Sampling of relatives of OHCA patients

Close relatives to OHCA patients who had been present during the resuscitation attempt in a private home with a volunteer responder present were eligible for inclusion. Close relatives were defined as either spouse, partner, adult child, sibling, or parent to the cardiac arrest patient. Contact with relatives was established through contact to the caller to the dispatch center, who was often a family member or close relative. When volunteer responders had been involved in an OHCA, the principal investigator attempted to reach the person who called the emergency medical dispatch center by phone. The principal investigator would ask the caller if he or she was satisfied with the dispatcher’s instructions and information during the event. Subsequently, the caller was asked whether he or she was a close relative to the cardiac arrest patient and, if so, invited to participate in the study. Further, relatives were invited to participate through the official Danish volunteer responder social media platform. As the relative of the cardiac arrest patient was expected to be in a highly sensitive emotional stage, relatives were given time to decide whether to participate. The principal investigator discussed with the relatives what consequences it might have for them to speak about the experience in detail in an interview, while also acknowledging the emotionally sensitive experience it can be to witness a cardiac arrest. Participants were invited some 10-12 weeks after
the event. This timing was considered appropriate to ensure data was collected as soon as possible after the experience, but not during the immediate crisis period.

**Elaboration of the interview setting**

Interviews were held individually. Volunteer responders who had been involved in the same alert were given the opportunity to participate in an individual or joint interview, which led to two combined interviews. The joint interviews provided space for interactive reflection on the participants’ roles and actions during the cardiac arrest situation. The interviewer allowed both participants equal time to speak. Interviews ranged from 35 minutes to 68 minutes, with a mean duration of 48 minutes. Due to the coronavirus pandemic, participants were asked whether they wished to conduct the interview online through a video interview or in a live setting. All in-person interviews took place at the emergency medical dispatch center in Copenhagen and were held by the primary investigator (ARK) between July 2020 and March 2022. Video interviews were performed in a calm and undisturbed environment with good quality camera and microphone. Video interviews have been proven valid and trustworthy alternatives to face-to-face interviews(2).

**Elaboration of the data generation**

In-depth semi-structured interviews(3) were performed in accordance with two interview guides aimed to facilitate a loose and flexible overall structure. One guide was specifically developed for relatives and one for volunteer responders. The semi-structured guides allowed for participants to raise and explore topics not pre-determined in the guides. The development of interview guides was a five-step process inspired by Kallio et al. and was pilot tested as explained below(4). The interview guides were developed by three researchers (ARK, TTT, CMH) in collaboration with a chief psychologist with expertise in crisis handling (AKC). The guides comprised three sections: 1) the meeting between volunteer responders and relatives, 2) the interaction between volunteer responders and relatives, 3) thoughts after of the event. The first interview served as a pilot test where the participant was asked to give feedback regarding the interview process. By testing the interview guide on both volunteer responders and relatives, it was possible to make adjustments to the interview questions and improve the quality of data collection(5). Subsequently, in-depth interviews were conducted to explore meanings and experiences through the participants’ narratives of their experiences during resuscitation. Participants’ narrative of their
experiences was initiated by the first question “Could you start by telling me what happened when your spouse collapsed?” or “Could you start by telling me what happened when you received the alarm as volunteer responder?”. Then participants were asked if they remembered who else was present and to describe the situation in detail. Participants were encouraged to elaborate on their experiences: “Could you tell me more about that?”, “Do you remember what went through your mind in that situation?”. All interviews were recorded and transcribed immediately after the interview by the primary investigator who also translated interviews from Danish to English.

**Ethical considerations**

We explored a highly sensitive and complex area by interviewing relatives of OHCA patients, which entailed substantial ethical responsibility during data collection. It was a cause for concern that relatives to patients who were not successfully resuscitated were affected by grief and therefore emotionally vulnerable. As researchers, we were responsible for weighing the risks and benefits of research participation(7). The interviews brought up painful thoughts and emotions for some of the participants, and the interviewed relatives were often in tears or emotionally affected during the interview. Yet, participants often expressed relief when given the opportunity to speak about their experiences. This is in line with previous studies reporting therapeutic effects from undertaking an interview; participants are often grateful for the opportunity to tell their story and may find increased self-awareness, emotional relief, and a sense of healing(8) (9). However, as interviews may stir up emotions and actualize a need for professional support, all participants were offered a follow-up conversation with principal investigator one week after the interview to ascertain their wellbeing.
References:


