International Emergency Nursing xxx (xxxx) xxx–xxx

Contents lists available at ScienceDirect

International Emergency Nursing

journal homepage: www.elsevier.com/locate/aaen

Emergency department nurses' experience of performing CPR in South Korea

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ARTICLE INFO

Keywords:
Cardiopulmonary resuscitation
Emergency nursing
Qualitative research

ABSTRACT

Background: Emergency Department (ED) nurses often confront unexpected cardiopulmonary resuscitation (CPR) with little information about the patients.
Methods: This qualitative study explored the experience of performing CPR among ED nurses. Data collection took place between May and June 2016 using an online advertisement to recruit 17 ED nurses. Each participant was interviewed for 40–90 min. Interviews were recorded and transcribed verbatim. Data analysis was conducted using a conventional content-analysis method.
Results: Four themes emerged: Pressure from the urgency of the CPR, becoming sharp tempered in addressing personnel during CPR, keeping psychological conflicts of CPR patient care to oneself, and growing as an ED nurse through CPR.
Conclusion: ED nurses had anxiety about CPR, regardless of their ability to perform CPR. They also suffered psychologically afterward. ED nurses could benefit from education that promotes their competencies for CPR and support systems to alleviate their psychological distress.

1. Introduction

Emergency Department (ED) nurses work in high-stress environments, providing care and communicating with other health professionals about patients in urgent need [1]. Among work that requires immediate action for ED nurses, cardiopulmonary resuscitation (CPR) is one of the most stressful events with a survival rate as low as 20% [2]. Speed and performance of ED staff affect survival after CPR. Thus, nurses who first detect a CPR situation have tension [3]. In South Korea, 88% of in-hospital CPR was performed in EDs [4] and in most cases ED nurses were the first to perform CPR (49.6%) among health professionals [5].

Due to its critical life-saving role, current literature on CPR and ED nurses focused on improving CPR performance for patient outcomes, assessing the relationship between knowledge and performance [6–8] and the effectiveness of education on CPR performance [9,10]. Considering the unexpected occurrence of CPR, health professionals may experience increased stress regardless of their experience [11]. However, limited information describes ED nurses' experiences during and after CPR, which influence their performance and patient outcome.

Current evidence point to the needs to further explore the difficulties of ED nurses during and after performing CPR. Nurses are known to experience anxiety and emotional pressure [12] while performing CPR. In addition, nurses are known to experience increased stress [13] and moral distress after performing CPR [14]. Failure to intervene in this negative experience may lead to negative attitudes toward CPR performance, thereby affecting CPR progress and outcomes and negatively impacting patients [15].

Although nurses reported difficulties and psychological difficulties toward CPR, contrary findings were reported. For example, nurses experienced feeling satisfaction and pride after performing CPR when the patient returned to life [16]. These conflicted findings could not be explored by quantitatively measuring and calculating the performance and stress level. Thus, we aimed to add understanding of ED nurses' experiences of CPR, furthering knowledge on ways to improve patient outcomes. The research question was, "What are ED nurses' experiences in performing CPR?"

2. Methods

2.1. Design

A naturalistic paradigm was adopted to describe a phenomenon of interest. To be specific, a conventional content-analysis method [17] aided learning about the unique experiences of performing CPR among ED nurses.

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http://dx.doi.org/10.1016/j.ienj.2017.09.008
Received 7 March 2017; Received in revised form 16 August 2017; Accepted 25 September 2017

Table 1
Process of data analysis.

Meaningful statements	Process of abstraction	Themes
I expect such a crisis would come to patients in the Intensive Care Unit [ICU] since they are already those who need ICU care; however, in the ED, such a situation may occur while the patient is waiting for treatment, and when I do not know what past medical history the patient has. (Participant 1)	Tenseness from the urgency of the CPR call	Pressure from the urgency of CPR
When I am busy and hear that a CPR patient is coming in, I think I am doomed. If I become the CPR-performing member, I cannot do my routine work; if another nurse goes in, her work becomes my work. (Participant 2)	Worry about falling behind in routine care	
Everyone becomes nervous while performing CPR and says words that hurt others' feelings. It is not necessary to be red in the face with anger with each other, but everyone says very offensive words. I avoid contact with such a person even afterward. I become reluctant to perform CPR together with that person as a team. (Participant 4)	Felt flushed as a result of the outspoken pressure from other members of the CPR team	Becoming sharp tempered in addressing personnel during CPR
If juniors who entered CPR for the first time and didn't know anything performed with me, I feel somewhat anxious and worried that my patient might go wrong. (Participant 6)	Anxious about having an inexperienced member	
If the family member, all of a sudden, touches an aseptic area that should be strictly controlled, it might lead to patient infection. These would all greatly disturb CPR. (Participant 16)	Reluctant to have family present during CPR	
I have to save the patient. By priority, I do my best to save the patient's life. But, then a question rises up in my mind. … Does CPR have a meaning to those who live their lives without any meaning, even if they survive? (Participant 10)	Faced with ethical dilemmas about life and death	Keeping the psychological conflict of CPR patient care to oneself
Although the patient passed away and only the body exists, he has to be treated with the highest respect. However, I feel as if terminal care is considered something that has to be done speedily. (Participant 17)	Regret perfunctory terminal care	
When the patient is dead and CPR is over, I do not have anything on my mind at the moment. I speed up terminal care. It comes back to me after a while. I drink a lot and cry. (Participant 6)	Personally address emotional difficulties	
What I do is worthwhile. It is amazing. It is marvelous that patients come back to life and live. (Participant 13)	CPR is a valuable task for ED nurses	Growing as an ED nurse through CPR
When the procedure goes as I expected, I think that I have become the nurse who can carry out my role. (Participant 10)	CPR completes the job of ED nurses	

2.2. Participants and recruitment

A university hospital near the capital city of South Korea was selected as the recruiting site [18]. Patients make 80,000 visits to the ED in a year. The ED of this hospital included five zones: pediatric (8 beds), adult (25 beds), trauma care (7 beds), critical care (8 beds), and CPR (2 beds). The workforce consisted of two board-certified emergency physicians, three emergency-medicine residents, four interns, three emergency medical technicians (EMTs), and 14 ED nurses per duty. Among this workforce, CPR teams usually consist of a board-certified emergency physician, an emergency-medicine resident, an intern, two EMTs, and three ED nurses.

Participants in this study were ED nurses who had worked in the ED for at least a year and had performed CPR at least once during the past 3 months at the time of participation. To recruit participants, we sent email announcements to all ED nurses. Interested ED nurses contacted one of the researchers to be interviewed. After 13 interviews, we noted participants were ED nurses who had mainly 2–3 years of experience and were having difficulties during and after CPR. We sent a second email announcement to ED nurses who had working experience of more than 3 years and who were charge nurses to learn about whether experienced ED nurses were also having difficulties due to CPR. We interviewed four more ED nurses to find out that they had similar experience with the previous interviewees. Finally, a total of 20 ED nurses contacted the researchers to participate in the study. Two refused to participate because they did not want their interviews to be recorded and one was excluded because she had not performed CPR during the past 3 months at the time of contact. Finally, after the analysis of 17 participants, we decided the data had reached saturation and concluded recruitment.

Participants were 17 ED nurses ($F = 16$, $M = 1$). All participants started their career in the ED and has been working in the ED. The average age of participants was 28.76 ± 2.68 years (min = 25, max = 35) with working experience 42.29 ± 24.78 months (min = 18, max = 92). The participant workforce consisted of 14 staff nurses and three charge nurses. Participants performed 5.76 ± 4.10 CPRs during the 3 months prior to their interviews.

2.3. Date collection

Data accrued between May and June 2016. One female researcher who was also an ED nurse conducted the interview after getting training in the qualitative study through workshops and seminars. The other researcher worked in collaboration to form the interview questions and review interviews to discuss the interview contents. During the face-to-face interviews, open-ended questions were asked: "Please, tell me about your CPR experience," "What is CPR to you?" "When you hear CPR announcements in the ED, what comes to mind?" "What difficulties did you experience during CPR?" "What are the benefits of performing CPR?" and "How did you feel after CPR?" Interviews took place based on participants' selection of time and place such as a counselling room or quiet café. Interviews lasted 40 to 90 min and were recorded and transcribed verbatim by the researcher. After the transcript, each participant were asked to verify the contents of their transcript; for six participants, we conducted additional interviews by email, to further explore their viewpoints: An example question was, "You told me about not being able to talk about your difficulties after CPR; can you explain more about when this happened?"

2.4. Data analysis

We analyzed transcribed interview data using the guidelines for conventional content analysis suggested by Hsieh and Shannon [17]. This method have emphasis on researchers' immersion in the data and flow of codes from the text data. First, conventional content analysis starts by having a sense of the collected data by considering the overall information. After transcribing the interviews verbatim, we read and reread the transcripts to gain a general understanding of participants'