Original Article

Do-not-resuscitate Order: The Experiences of Iranian Cardiopulmonary Resuscitation Team Members

Abdolghader Assarroudi, Fatemeh Heshmati Nabavi[1], Abbas Ebadi[2], Habibollah Esmaily[3]

Department of Medical Surgical Nursing, School of Nursing and Midwifery, Mashhad University of Medical Science, Mashhad, [1]Department of Nursing Management, Evidence Based Care Research Center, School of Nursing and Midwifery, Mashhad University of Medical Sciences, Mashhad, [3]Department of Biostatistics and Epidemiology, Health Sciences Research Center, School of Health, Mashhad University of Medical Sciences, Mashhad, [2]Behavioral Sciences Research Center, School of Nursing, Baqiyatallah University of Medical Sciences, Tehran, Iran

Abstract

Background: One dilemma in the end-of-life care is making decisions for conducting cardiopulmonary resuscitation (CPR). This dilemma is perceived in different ways due to the influence of culture and religion. This study aimed to understand the experiences of CPR team members about the do-not-resuscitate order. **Methods:** CPR team members were interviewed, and data were analyzed using a conventional content analysis method. **Results:** Three categories and six subcategories emerged: "The dilemma between revival and suffering" with the subcategories of "revival likelihood" and "death as a cause for comfort;" "conflicting situation" with the subcategories of "latent decision" and "ambivalent order;" and "low-quality CPR" with the subcategories of "team member demotivation" and "disrupting CPR performance."**Conclusion:** There is a need for the development of a contextual guideline, which is required for respecting the rights of patients and their families and providing legal support to health-care professionals during CPR.

Keywords: Cardiopulmonary resuscitation, content analysis, do-not-resuscitate order, resuscitation orders

Introduction

The cardiopulmonary resuscitation (CPR) as a therapeutic intervention is performed for patients with cardiac and/or respiratory arrest. The success of this intervention is generally measured through the improvement of the patients' survival rate to hospital discharge.[1] The evidence suggests the low success rate of CPR[1,2] though physicians, patients, and the public overestimate the patients' survival rate after this procedure.[3] The futility of therapeutic interventions and making decisions about conducting CPR is a medical, ethical,[4] and legal challenge,[5] especially in the end-of-life care.[6] Due to the relatively low rate of successful CPR, the costs of ineffective treatment,[7] and high probability of the occurrence of various complications, the American Medical Association for the first time in 1974 formally proposed the do-not-resuscitate (DNR) order in patients' treatment process. Furthermore, in 1976, the first hospital policies with regard to the DNR order were published.[8] Since then, there have always been arguments on the legal and ethical challenges of the DNR order.[5] DNR, do not attempt resuscitation, and allow natural death are the same commands with an equal meaning, which are used by health-care professionals when patients should not be resuscitated in case of cardiopulmonary arrest.[2] According to the American Heart Association, the DNR order should be given by credentialed medical doctor or alternative authorities who are authorized by local laws. It should be prescribed after consultation and obtaining informed consent of the patient, family, or his/her guardian[9] when the patient's prognosis is very poor.[8] Some studies have shown that old age, female gender, white race, decreased cognitive ability, and the diagnosis of disease particularly cancer are associated with the prescription of the DNR order.[10] The attitudes of health-care staff including nurses and physicians toward those patients

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Address for correspondence: Dr. Fatemeh Heshmati Nabavi, Department of Nursing Management, Evidence Based Care Research Center, School of Nursing and Midwifery, Mashhad University of Medical Sciences, Mashhad, Iran.
E-mail: heshmatinf@mums.ac.ir

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who are spending the final days of their life have always been a major challenge influencing the decision for performing CPR.[6] This challenge has been perceived in different ways in different countries[11] because it is influenced by a wide range of cultural, religious, ethnical, and geographical factors.[12] In this regard, studies conducted in western countries indicted the positive attitudes of health-care professionals toward the DNR order. In many treatment centers in western countries, concrete policies have been developed with regard to the DNR order.[6,13] In a few studies conducted in Muslim countries have shown the presence of a negative attitude toward the DNR order.[11,14,15] However, conflicting perspectives about the DNR order in these countries have also been reported.[16,17] The limited number of studies and contradictory results about the DNR order in Islamic countries,[11,14,17] recommendations for further studies,[15] the prevalence of the nonstandard, informal and verbal DNR order in many Islamic countries,[18] and a lack of knowledge on the experiences of health-care providers on the DNR order in these countries motivated the researchers to conduct a study. The CPR team members are in the best position to describe factors influencing CPR and how decisions are made for the DNR order. In this respect, their experiences and valuable comments about the DNR order can help qualitative researchers with in-depth understandings of this phenomenon. This study aimed to understand the experiences of CPR team members about the DNR order.

Methods

Design

A qualitative study using a conventional content analysis method was conducted. Conventional content analysis is suitable for the descriptions of phenomena and leads to the development of categories and theme in an inductive manner.[19]

Data collection

Individual face-to-face semi-structured interviews were held for data gathering between February 2015 and April 2016. An interview guide was developed with a focus on the participants' experiences of the DNR order. The main foci of the questions asked during the interviews were:

- Will you share your experiences of the DNR order?
- What is your understanding of the DNR order?
- How do you deal with the DNR order?

The interviewers were tape-recorded and were transcribed verbatim after each interview session. The interviews lasted for 38.57 (standard deviation [SD] =10.03) min.

Participants and settings

The CPR team members working in teaching hospitals in an urban area of Iran were chosen using purposive sampling. Maximum variations in sampling in terms of age, gender, the work experience, educational level, and academic degree were considered during the recruitment of the participants. Data were collected using semi-structured interviews, which were continued until data saturation was reached. It meant that no new category was developed during further interviews.[20] Therefore, the participants were 24 members of the CPR team including 17 nurses, 5 physicians, and 2 bachelor degree anesthesiologists. The majority of the participants (70%) were female. Furthermore, the mean age and work experience of the participants were 34.58 (SD = 6.70) years and 10.21 (SD = 6.78) years, respectively.

Ethical considerations

The study research proposal was approved by the Local Ethics Committee affiliated with the university in which the researchers worked (decree number: IR.MUMS.REC.1394.105). Before the interviews, the participants were informed of the study aims and method and the probable time for interview sessions. Furthermore, those individuals who willingly agreed to take part in this study signed the written informed consent form. They were also ensured about their anonymity and the confidentiality of the data collection throughout the study process.

Data analysis

The interviews were transcribed verbatim and analyzed using the conventional content analysis method suggested by Hsieh and Shannon. The transcriptions were read several times to obtain the sense of whole. Next, the related parts to the study aim were highlighted and coded. The comparison of the codes in terms of their similarities and differences led to the development of subcategories and then categories inductively.[19] The MAXQDA (Version 10) [Computer software]. Berlin, Germany: VERBI. was used for data management.

Rigor

Prolonged engagement in the field of the study and member checking helped with the credibility of the study. The transcriptions, codes, and categories were provided to the second and third authors of this article and two other experts in qualitative research for the evaluation of the data analysis. Furthermore, the researcher tried to remain faithful to the participants' accounts and experiences of the DNR order and present their real perspectives and thoughts on the study phenomenon.[21]

Results

The participants' experiences showed that the informal and verbal DNR order existed in their workplace, which made the participants to encounter legal, ethical, and operational challenges. Furthermore, some factors affected the DNR order. The data analysis led to the development of three categories and six subcategories as follow: "The dilemma between revival and suffering" with the subcategories of "revival likelihood" and "death as a cause for comfort;" "conflicting situation" with the subcategories of "latent decision" and "ambivalent order;" and "low-quality CPR" with the subcategories of "team member demotivation" and "disrupting CPR performance."

The dilemma between revival and suffering

The experiences of the participants in this study revealed that two factors affected the issuance of the DNR order. The chances of the CPR's success and problems of the patient

and family members during and after CPR were the most important factors.

Revival likelihood

According to the experiences of the participants in this study, when the probability of the patient's recovery after performing CPR was low, the DNR order was issued by the physician. An emergency medicine specialist said: "…Well, for some patients, the DNR order is given, because no one believes in their recovery" (N 11).

Other factors influencing the DNR order were the patient's condition and the chances of long-term survival.

Participant 10 stated: "…If I do not perform CPR for a patient, it does not mean that I do not take care of him/her. The reason is that it does not make much difference, because the patient remains for a short period of time and she/he dies soon" (The Intensive Care Unit [ICU] staff nurse).

Death as a cause for comfort

The widespread and incurable patient's current problems and difficulties for the patient and his/her family members after recovery from CPR made the CPR team members to believe in the patient's death as a cause for the patient and his/her family members comfort and performing CPR caused patient's suffering and pain.

A staff nurse in the CCU said: "…imagine that you are working with a 90-year-old woman who is ill and has dysrhythmia with an irreversible cardiac dysrhythmia. According to your knowledge and feelings, you believe that the patient is not recovered. Therefore, you like not to bother and hurt him/her more, because she/he is not recovered" (N 3).

Furthermore, participant 16 said: "…I think when the patient is so sick and may bring troubles to the family, the DNR order is issued" (pediatric ICU staff nurse).

Conflicting situation

The participants' perspectives showed that the informal and verbal DNR order existed in their workplace that led to legal, ethical, and operational challenges.

Latent decision

The informal and illegal identity of the DNR order led to unrecorded decisions in the participants resulted from the fear of being legally prosecuted.

Participant 24 declared: "…if the DNR order is given, and for some reason you are asked about in the forensic medicine organization, no one can defend such an order. There is no such an order in the patient's file and it is not documented" (the resident of anesthesiology).

Ambivalent order

Some participants were doubtful about the agreement between the DNR order and ethical principles or considered it immoral.

Participant 1 said: "…now I do not know whether it is morally right or not, but somehow the DNR order is given here" (the staff nurse of the ICU for poisoning patients).

The DNR order caused the CPR team members to feel uncertainty about the implementation of this order, particularly when the DNR order was necessary, but they began performing CPR. Some CPR procedures had tokenistic aims for satisfying the patient's family members.

Participant 17 with regard to tokenistic CPR stated: "…in the internal emergency department, CPR is nor performed, because the majority of patients need the DNR order. The patient with cancer does not need CPR and 99% of CPR cases are tokenistic to satisfy the patient's companions with regard to the provision of care" (pediatric ICU staff nurse).

In addition, some physicians had no tendency to give the DNR order, but some others verbally issued this order.

A staff nurse working in the ICU said: "…some physicians, especially medical residents are scared of giving the DNR order, but medical staff are more happy to give this order… for instance, some physicians stress out that if the patient needs CPR, do not perform CPR, but some other physicians such as doctor X does not say so" (N 16).

Low-quality cardiopulmonary resuscitation

The participants' comments showed that the DNR order reduced the motivation of health-care professionals for performing CPR and affected their performance.

Team member demotivation

The DNR order reduced the motivation of health-care professionals for performing CPR because they considered CPR a useless intervention.

A staff nurse working in the CCU said: "…When the medical resident gives the DNR order, it means that the patient does not recover and therefore, CPR team members are reluctant to perform CPR" (N6).

Furthermore, participant 16 stated: "…this is not only my perspective, most colleagues have not motivation to perform CPR, if the DNR order is give" (pediatric ICU staff nurse).

Disrupting cardiopulmonary resuscitation performance

The DNR order reduced the quality of the CPR procedure. The reason for changes in the quality of CPR was a lack of hope to successfully perform CPR.

A staff nurse working in the CCU said: "…the DNR order affects my performance… when the DNR order is given, the team work's discipline is undermined and organization of CPR procedure such as medication, massage so on are interrupted" (N 6).

Discussion

The exploration of the experiences of the CPR team members showed that factors such as the chances of successful CPR and problems for the patient and family after recovery affected the DNR order. This order has no legal status in the Iranian health-care system. Furthermore, it has created conflicting situation with legal, ethical, and operational challenges for

health-care professionals and reduced their motivation and the quality of CPR procedure. To the best of our knowledge, this was the first study conducted in Islamic countries on the experiences of CPR team members with regard to the DNR order.

A lack of hope to the patient's recovery after CPR was the main reason for the DNR order in this study. Other studies also stated that futile therapeutic interventions[4,22] and the likelihood of CPR failure were some factors affecting decision-making on the DNR order.[11,23] In other studies, poor medical conditions and prognosis were mentioned as the underlying factors of the DNR order.[18] In many European countries, when doctors do not believe in the success of CPR or are informed of the CPR's risks, they do not recommend this procedure.[24] Not to be compelled to perform CPR in cases where the risk is more important than the benefit was in line with the subcategory of "death as a cause for comfort" in this study. The high probability of complications as a result of CPR and treatment costs was mentioned in the international literature as causes for the documentation of the DNR order in patients' health file.[8,11] The future quality of life of patients should be considered the most important factor for the CPR order.[25] CPR health-care team members in this study predicted the consequences and possible problems after CPR and therefore believed that death could be a means of comfort for the patient and his/her family.

We found that the informal and illegal identity of the DNR in the Iranian health-care system made that our participant's encountered ethical and legal challenges and became skeptical about the implementation of this order. Okazi *et al*. also described the widespread, informal, verbal, and without rules of the DNR order in hospitals in Iran.[18] Other studies also showed that nurses generally had no positive attitude toward the DNR order and believed that the DNR order could lead to legal problems.[15] Furthermore, a fear of legal prosecution had a major role in shaping health-care providers role in decision making for the DNR order.[25] In another study, only 5% of medical students considered the DNR order legally problematic.[26] The probable reason for such a difference could be the different participants of these studies. In this study, participants were physicians and nurses, but in the study of Ghajarzadeh *et al*., all participants were medical students. Since students have no direct responsibility for patient care, they do not experience any legal challenge. Furthermore, we studied the experiences of the participants through holding interviews, but in the study by Ghajarzadeh *et al*., the attitudes of medical students were investigated using a questionnaire.[26]

In line with our findings, physicians face ethical dilemma when deciding for the DNR order[27] and nurses when are expected to perform this order.[15] The participants in the study by Kelly also considered the slow code an unconscionable act. Slow code means not making sufficient efforts for the patient recovery,[28] which is consistent with the subcategory of "ambivalent order" in this study. Hesitancy in performing the DNR order and performing tokenistic CPR was another challenge of the participants in this study. The results of other studies showed the presence of difficulties and challenges in the implementation of the DNR order[29,30] and increased conflict and ambivalence as the result of this order.[31] Performing tokenistic CPR or the so-called slow CPR for incurable and terminally ill patients was expressed in other studies,[32] which was consistent with the results of this study.

The results of this study also revealed that the DNR order led to reduced willingness and motivation of the CPR team members and therefore affected their performance during CPR. Since the DNR order indicted a lack of chance for the patient recovery, according to the Vroom's expectancy theory, it may lead to losing the motivation of CPR team members. According to this theory, when a person feels that his/her efforts do not lead to expected results, his/her motivation is reduced.[33] Japanese physicians have also found that the DNR order can influence performing the CPR procedure.[34]

Conclusion

The DNR order is informal and exists as a verbal order in the Iranian health-care system. Its illegal identity may create many challenges for those who implement it. Therefore, there is a need to the development of a contextual guideline based on the cultural and religious characteristics of Islamic countries. Such a guideline helps with the clarification of the process of the DNR order, which is required for respecting the rights of patients and their family members and providing legal support to health-care professionals during CPR. The findings of this study can be used for the development of such a guideline in the Islamic health-care system.

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Conflicts of interest

There are no conflicts of interest.

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