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The Attitude And Experience Of Iranian Nurses About Do Not Resuscitate Order

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Abstract
Introduction: Do-Not-Resuscitate order (DNR) in Muslim countries, has been known as a controversial issue. There is also limited information about nurses 'attitudes and experiences toward it. Therefore, this study aimed to evaluate nurses' experiences and attitudes about DNR.
Methods: It was a descriptive-analytic study on 630 nurses who working in hospitals affiliated with Kermanshah University of Medical Science (KUMS). A researcher-made questionnaire on DNR experience and Dunn's do-not-resuscitate attitude questionnaire were used to collect the data. Data were analyzed using Statistical Package for Social Sciences (SPSS Inc, Chicago, IL) software examining descriptive and inferential statistics.
Results: 64.8% of nurses had experience with DNR and most of them reported their positive attitude towards DNR orders in many key items. %62.8 of nurses believed that DNR should be allowed under patients and their families' permission while 72% of nurses reported that DNR was ordered without the consent form patient's family.
Conclusions: Results showed positive attitude of nurses toward DNR, in addition they were afraid of legal consequences of applying DNR. Therefore, it seems necessary to formulate a national guideline for implementation of DNR and apply the views of nurses throughout the process.
Keywords: Attitude, DNR, Experience, Nurse

Introduction

Do-Not-Resuscitate Order (DNR) refers to the instruction to avoid Cardio Pulmonary Resuscitation (CPR) in the case if cardiac arrest should not be applied to any situation other than cardiac arrest [1,2] In 1974 the American Medical Association for the first time introduced avoiding CPR under the name DNR, and the first hospital policies in this regard were published in 1976[3]. Stating that all actions taken with regard to DNR should be in consultation with the patient's caregiver and records in his profile[4]. .Although DNR is widely used today, there are many challenges to its ethical, legal, and religious aspects[5,6] .Various factors may influence attitudes toward DNR, the most important of which are race and cultural characteristics[7]. In Judaism, active euthanasia is forbidden, but in a patient with imminent death, suffering and no hope of recovery, it is acceptable to discontinue life sustaining treatment and DNR implementation. In Christianity, treatment may withdraw or withhold to reduce the suffering of a dying patient and the patient has the right to refuse CPR[8]. Most European countries agree with DNR, while disagreement is reported in small number of studies conducted in Muslim countries[9]. However, in a systematic review study, Mohiuddin et al. (2020), reported that in 16 Islamic fatwās, all the fatwās except Shaykh Hani agreed to DNR in certain circumstances where the death of the patient is inevitable and recovery is impossible. They also stated that according to the rules from Saudi Permanent Committee, if three experts agree on the futility of resuscitation, they can unilaterally decide on the patient DNR, withdrawal and withholding of life, even if the patient's family disagrees; though, Mufti al-Kawthari states that the consent of the patient and the patient's family should be obtained, but he does not mention whether this is necessary or just a recommendation[10].

In practice, DNR rates are much lower in Asian and Muslim countries compared to European countries[7]. In Iran, where the majority of the population is Muslim, reports indicate that DNR is informal, non-standard and verbal, and one of the most important reasons could be fear of prosecution[3,7,11]. In fact, there is no clear legal and religious rule regarding DNR in Iran, and Islamic jurisprudence's views are not obvious[12]. However, few studies investigated DNR in Iran[7]. In some studies, attitude toward DNR is found to be positive[6,7,13,14] and in others attitude to DNR is negative[9,15]. One of the most important reasons for opposing the issuance or applying DNR in Iran is the lack of

guidelines and DNR regulations, which creates a challenge and unpleasant experience of implementing DNR[5]. Fallahi et al. (2016) and Chang et al. (2020) in their study showed that participating in DNR process can influence nurses' attitude to DNR[7,16]. However, Iranian nurses' experience with DNR and its relationship with attitude in this regard were not previously studied. Therefore, due to the lack of a similar study, this study aimed to investigate the attitude and experience of DNR in nurses in Kermanshah, western province of Iran.

Methods

Study questions

1. What is nurses' attitude to DNR?
2. How do nurses feel about their experience with DNR?

Study design

It was a cross-sectional, descriptive analytical study. It was conducted from October 2017 to May 2019. The study population included all nurses working in the hospitals affiliated with Kermanshah University of Medical Science (KUMS). 630 participants were selected through stratified random sampling. Inclusion criteria included having a bachelor's degree in nursing, having at least two years of clinical experience and informed written consent. Incomplete questionnaires were removed from the study.

Instrument

Demographic information questionnaire, DNR experiences questionnaire and Dunn (2000). DNR attitude questionnaire were used to collect the required data. The DNR attitude questionnaire was developed in 2000 by Dunn[9] .The validity and reliability of this tool was confirmed in various studies[9,13,15]. In Iran, the questionnaire was translated by Mogadasian et al. (2014) and its validity was assessed by content validity and Cronbach's alpha reliability (α=0.82) [9].This questionnaire has 25 items and assesses attitude to DNR (Items1,4,5,7,8,12,13,22), DNR implementation method (Items2,3,6,9,10,14,15,18,19, 20, 21,25), the attitude to passive euthanasia (Items11,16,17) and the influence of cultural religious factors (Items 23 and 24). A five-point Likert scale (including totally disagree, disagree, indifferent, agree, totally agree) was used to score the responses from one to five, respectively. Acquired rating range was from one to five. Higher score on an item indicated a more positive attitude toward that[9,13,15]. Personal information questionnaire, designed by the researcher, consisted of 4 questions related to gender, age, religion, work experience, CPR experience, and patient care history at terminal phase of life.

Also, experience questionnaire was designed by the researcher after extensive review of articles on DNR[6,17]. To test content and face validity, the questionnaire was given to 12 faculty members in the School of Nursing and Midwifery-KUMS, experts of medicine ethics in Kermanshah Medicine Ethics Research Center, and specialists of intensive care in KUMS. Afterward, their comments were implemented on the questionnaire. Reliability of the questionnaire was confirmed by Cronbach's alpha (α=0.85). The questionnaire included 9 questions that assessed individual's experience with the DNR.

Data collection

The required permissions were taken from KUMS Vice-Chancellor for Technology Research and Ethics Committee. Later alphabetical list of all nurses' names were taken from the hospital nursing service center assigning a number to each person, then the participants were selected through stratified random sampling. Considering the shifts of each nurse, the authors randomly visited the wards three times at three different work shifts and handed over the questionnaire to the nurse. Stating the aims of the study and obtaining informed written consent, nurses were required to complete the questionnaires. Due to the lack of time for nurses in each shift, the long time required for filling out each questionnaire, fatigue and unavailability of nurses during the shift, the authors had to go to the ward several times in different shifts to get questionnaires completed, so the time-frame of this study was wide.

Data analysis

Data were analyzed using the Statistical Package for the Social Sciences (SPSS V.18.0; SPSS Inc., Chicago, IL, USA) and descriptive statistics such as frequency, percent, mean, and Standard Deviation (SD). The significance level of the study was considered $P<0.05$.

Ethics approval and consent to participate

Kermanshah University of Medical Sciences (KUMS) Vice-Chancellor for Technology Research endorsed the study with grant No. 96018 and the Ethics Committee of KUMS endorsed the study protocol with reference number KUMS REC.1395.792. Objectives of the study were introduced to all samples, emphasized the confidentiality of their specifics responses, and informed written consent was obtained from all participants.

Results

In this study, out of the 630 nurses, 600(95.2%) returned fully completed questionnaires and 30(4.76%) returned the questionnaires not completely filled out. Totally 600(95.2%) questionnaires were

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examined. Overall response rate was 95%. In this study, results suggested that most nurses were females (n=389, %64.8), married (n=406, 67.7 %,), Shia (n=373, % 62.2) with a mean age of 33.45.±5.09 years and a mean work experience of 10.08.±4.88 years. 68.5% of nurses had less than 10 years of experience (n=411), 72.8% had experience with taking care of patients in the terminal phase of life (n=437) and 89% had CPR experience (n=534) (Table 1). 117 118 119 120 121
Table 2 reports nurses' experience with DNR. As shown in this table, 64.8% of nurses (n=389) had a DNR experience, which was challenging for 98.2% (n=382), the most challenging reason for participating in DNR process for nurses was cultural religious beliefs (n=206, 53.9%) and fear of legal issues and lack of a regular DNR guideline (n=118, 30.9%). 96.1% of nurses (n=374) stated that DNR was prescribed verbally (n=377, 96.9%) by a physician (n=372, 96.1%), without the permission of the patient's family (n=280, 72%) and without consulting nurses (n=325, 83.5%). In this study, the most common treatment offered by nurses to patients with DNR were palliative treatments (n=115, 29.6%), personal hygiene (n=79, 20.3%) and prevention cares for pressure ulcer (n=62, 15.9%). Diagnostic tests (n=9, 2.3%) and tracheal intubation (n=12, 3.1%) were the least performed treatments offered, respectively. 70.4% of nurses (n=274) reported that they opposed the DNR if required and notified the center manager (Table 2). 122 123 124 125 126 127 128 129 130 131 132
Responses to each item regarding attitudes toward DNR are shown in Table 3. As shown, most items suggested positive attitude of nurses towards DNR (Items 1,4,5,7,8,13,22). 69.2% (n=415) believed that DNR would help clarify patients' treatment plan (Item 1) (3.24±1.18). In this study, 24% of the nurses (n=144) stated that patient at the terminal phase of life must be kept alive as late as possible (Item 4) (2.18±1.26) and only 10.2% (n=61) believed that keeping patient alive in any way is the major goal of medical team (Item 5) (1.88±1.07). 27.3% (n=164) believed that medical team should give hope to patients at the time of death (Item 13) (2.39±1.17). Also, 75.3% (n=452) believed that DNR protects the patient from unnecessary suffering (Item 7) (4.05±1.12) and 66.8% (n=401) attributed the decision to physicians (Item 8) (3.9 ± .93) and only 4.3% (n=26) did not want DNR to be performed on their families (Item 22) (1.69±.79). Also, 93% (n=558) found it difficult to talk about death with the patient (Item 12) (4.38±.74). Concerning the perception of DNR implementation, the results showed that only 16.3% of nurses (n=98) believed that patients and their families should not be asked about DNR (Item 6) (2.28 ±1.42) but 71.5% (n=429) reported that patient and her family must contribute to DNR decision (Item 10) (3.98±.85) and 79.2% (n=475) stated that patient's family must permitted DNR (Item 25) (4.05±1.11). 61.2% (n=367) found it necessary to obtain authorization for DNR enforcement (Item 15) (3.69±1.13) and 82% (n=492) reported concern about the legal consequences of applying DNR (Item 18) (3.49±.72). Concerning attitudes toward some of the passive euthanasia aspects, the results showed that 80.8% of nurses (n=485) opposed prolonged life in critically sick and elderly patients (Item 11) (4.11±.87) and 91.5% (n=549) reported life-prolonging equipment undermine the natural process of death (Item 16) (4.56±.79). In both items 23 and 24, 77% (n=462) and 75.7% (n=454) of nurses, respectively, reported that religious (3.93±1.29) and cultural (3.93 ± 1.21) factors influenced their attitude to DNR (Table 3). 133 134 135 136 137 138 139 140 141 142 143 144 145 146 147 148 149 150 151 152 153 154
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Table 1. Demographic and professional characteristics of the participants

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variables		Nurse Number (%)
Age(Year)	19-24	0(0.0)
	25-30	236(39.3)
	31-36	122(20.3)
	37-42	242(40.3)
gender	Male	211(35.2)
	Female	389(64.8)
Marital status	Married	406(67.7)
	Single	194(32.3)
Religion	Shia[1]	373(62.2)
	Sunni	227(37.8)
with terminal Care of patient illness	Yes	437(72.8)
	No	163(27.2)
Participated in CPR	Yes	534(89)
	No	66(11)
Work experience	0yrs	0(0.0)
	1-10yrs	411(68.5)
	>10yrs	189(31.5)

[1]Shia is one of the two main branches of Islam which includes the majority of Iranians.

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Table 2. Participant responses to the questionnaire items

Variables		Nurse Number (%)
have you ever done "DNR "	Yes	389(64.8)
	No	211(35.2)
If yes: Who commanded DNR?	Doctor	372(96.1)
	Nurse	11(2.8)
	Patient or patient's family	4(1)
Was it challenging for you to implement DNR?	Yes	382(98.2)
	No	7(1.8)
If YES, What is the reason?	No permission from the patient or the patient's family	19(5)
	Religious and cultural beliefs	206(53.9)
	physicians do not write the DNR in the patient's record and the DNR is an orally order	39(10.2)
	Afraid of legal issues and lack of clear DNR guidelines	118(30.9)
Which one did you do?	Do DNR without the permission of physician and patient's family	25(6.4)
	Do DNR without personal desire	64(16.5)
	Do DNR with physician order but without the permission of patient's family	280(72)
	Do DNR with physician order and requesting of patient's family	20(5.1)
Was the nurse consulted to do the DNR?	Yes	64(16.5)
	No	325(83.5)
What was the DNR command?	Written	12(3.1)
	Orally	377(96.9)
What did you do if the DNR is ordered?	Medication	38(9.6)
	Diagnostic tests	9(2.3)
	Palliative cares	115(29.6)
	Life-saving	21(5.4)
	Prevention of pressure ulcer	62(15.9)
	Examine vital signs and I/O	25(6.4)
	Intubate	12(3.1)
	Dialysis	28(7.2)
	Maintain personal hygiene	79(20.3)
If you were against DNR, what did you do?	I reported my dissatisfaction, but I did the DNR	37(9.5)
	I informed the manager	274(70.4)
	I didn't do the DNR	2(8)
	I informed the patient family	70(18)

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Table 3. The response of participants to each items of attitude towards do not resuscitate (DNR)

Items	Strongly disagree of disagree	neither agree nor disagree	Strongly agree or agree	Mean±SD *
1. DNR orders helps clarify the treatment plan for terminally ill patients	175(29.2)	10(1.7)	415(69.2)	3.24±1.18
2. I think the patients that have DNR orders written get that same quality of care as those patients without DNR orders	189(31.5)	20(3.3)	391(65.2)	3.12±.1.26
3. It is difficult for me to talk to a patient or their family regarding DNR	54(9)	145(24.2)	401(66.8)	3.71±.957
4. I think a patient should be kept alive as long as possible even they are terminally ill	432(72.3)	22(3.7)	144(24)	2.18±1.26
5. Prolonging life should always be the goal of the healthcare team regardless of the patients or family wishes	409(68.2)	130(21.7)	61(10.2)	1.88±1.07
6. I feel the healthcare team should never question a patient's or the families decision regarding DNR	377(62.8)	125(20.8)	98(16.3)	2.28±1.42
7. DNR orders help keep patients from suffering unnecessarily	62(10.3)	86(14.3)	452(75.3)	4.05±1.12
8. I feel that the physician should make all the decisions regarding the patient's treatment	47(7.8)	152(25.3)	401(66.8)	3.90±.930
9. I feel all patients that are permanently brain impaired should automatically have DNR orders	16(2.7)	7(1.2)	577(96.2)	4.45±.65
10. I feel that the patient or the patient's family should be in control of all medical decisions	28(4.7)	143(23.8)	429(71.5)	3.98±.85
11. It is futile to prolong the life of frail, elderly patients	43(7.2)	72(12)	485(80.8)	4.11±.87
12. It is difficult for me to talk to my patients about death	27(4.5)	15(2.5)	558(93)	4.38±.74
13. I feel the healthcare team must always provide hope to patients even when death is imminent.	350(58.3)	86(14.3)	164(27.3)	2.39±1.17
14. I feel pressure from the hospital utilization review to push for DNR orders	59(9.8)	129(21.5)	412(68.7)	3.85±1.13
15. I feel I must conform to my peers wishes regarding DNR orders	66(11)	167(27.8)	367(61.2)	3.69±1.13
16. prolonging equipment can undermine the natural process of death	33(5.5)	18(3)	549(91.5)	4.56±.79
17. The monetary factor of keeping a terminally ill patients alive is difficult to justify	25(4.2)	107(17.8)	468(78)	3.93±.88
18. I am afraid the family will file a lawsuit if their family member is not resuscitated	35(5.8)	73(12.2)	492(82)	3.94±.72
19. I wish I had a better understanding of the legal ramifications of DNR	43(7.2)	11(1.8)	546(91)	4.23±.8
20. I wish I knew more about advance care directives.	120(20)	9(1.5)	471(78.5)	4.01±1.17
21. I would like to know more about patient's rights	90(15)	8(1.3)	502(83.7)	4.71±1.05
22. If my mother was end-stage terminally ill, I would not want DNR orders written	567(94.5)	7(1.2)	26(4.3)	1.69±.79
23. My religious beliefs greatly influence my view of DNR	119(19.8)	19(3.2)	462(77)	3.92±1.29
24. My cultural background makes it difficult for me to deal with the DNR issue	124(20.7)	22(3.7)	454(75.7)	3.93±1.21
25. The patient or the patient's family must give written permission in orders for the physician to initiate DNR orders	118(19.7)	7(1.2)	475(79.2)	4.05±1.11

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*SD=Standard deviation; DNR=Do not resuscitate

Discussion

The primary findings of this study indicated that 64.8% of nurses had experience with DNR. The results of other studies also showed that most nurses had experience with DNR process[6] as. 66% in Emami-Razavi et al. (2014), 91.4% in Tanha et al. (2010), 89% in Kim et al. (2019) and 80.2% in Park et al. (2011), studies[6,18-20]Another important finding of this study reported the positive attitude of nurses to items related to attitude toward DNR (Items 1,4,5,7,8,13,22). In other countries, the results also indicated a positive attitude toward DNR in most nurses[20-22].Kim et al. (2019) stated that 74% of nurses were willing to perform DNR and 54% wanted it performed for their loved ones[19].Some studies in Iran indicated negative attitude to DNR[9,15].while some others reported positive attitude to DNR[6,7,13,14].Emami-Razavi et al. (2016) showed that 61% of nurses found DNR necessary, and 67% believed that DNR organized patients' treatment plans[6].In his study, Mogadasian et al.(2014) concluded that 61% of nurses emphasized on DNR to clarify treatment plans[9].Although nurses' knowledge was not evaluated in this study, it seems likely that one of the nurses' positive attitudes toward DNR was their increased awareness in this regard.

In the present study 24% of the nurses stated that "patients at the terminal phase of life must be kept alive as late as possible" that is inconsistent with the answer to items 11 and 16 of the questionnaire (Table 3). An overwhelming percentage of nurses opposed prolonged life in critically sick and elderly patients and reported life-prolonging equipment undermine the natural process of death. Mogadasian et al. (2014) also found the discrepancy to be greater, with 47% of nurses agreeing to keep the patient alive as long as possible. In justifying this finding, it can be said that it seems that item 4 "especially its Persian equivalent" has an emotional impact and can provoke not only the feelings of nurses but also their sense of professional responsibility[9].

In the present study, positive attitude to passive euthanasia was reported, with 91.5% of nurses believed that life-prolonging equipment undermined the natural process of death and 80.8% opposed prolonging life for critically sick and elderly patients in any case. 75.3% believed that DNR protects the patient from unnecessary suffering which were consistent with the experience of participating in DNR in the present study, with nurses reporting that most common treatment applied to patients with DNR included palliative treatment (29.6%), personal hygiene (20.3%) and prevention care for pressure ulcer (15.9%) and the least common were diagnostic tests (2.3%) and tracheal intubation (3.1%) which corresponded with results from other studies on the field. Interpreting the finding that palliative care is considered higher than other options, even personal hygiene, it can be said that in Iranian medical system, all nurses have a bachelor's degree and personal hygiene is the responsibility of nursing assistants who do not have university education and valid professional courses in nursing. For this reason, nurses have no role in this field, so they did not consider personal hygiene as the most important nursing care in these patients. Also, according to the evidence, Iranian nurses considered palliative cares to include prescription of painkillers, reduction of pain, having family members staying with the patients and prayers that is common in ICU wards [23,24].

Pettersson et al. (2016) mentioned DNR as a palliative care for a Patient[1]. Assarroudi et al. (2017), Kim et al. (2019) and Sanderson et al. (2013) reported that majority of participants believed that a patient with DNR orders needed more support, physical and emotional care[3,19,25]. In Park et al. (2011) nurses reported the least amount of aggressive action with a patient with DNR order[20].Pettersson et al. (2018) studied Swedish nurses and reported significant nursing care in a patient with DNR as family support, painless and easy death, and avoidance of unwanted CPR[4].

In this study, nurses in item 2 stated that the quality of care for patients with and without DNR should be the same, but in item 1, they stated that DNR orders help clarify the treatment plan for terminally ill patients, which contradicts their attitude in item 2. In justification of this finding, it can be said that item 1 is more reflective of nurses 'experience in DNR', since according to their experience, DNR has influenced the treatment plan, which is in line with nurses' experiences in this field, few of whom have reported practicing life-saving, dialysis, diagnostic tests and intubate.

The results of this study showed that although 66.8% of nurses believed that the primary responsibility for DNR was with physicians, 62.8% believed that patient and his family should be asked about DNR, and 71.5% stated that patient and his family must make the decision and 79.2% said patient's family must allow DNR. These findings were inconsistent with nurses' experience in caring for these patients, so that 96.9%, 72%, and 83.5% of nurses, who had experience in DNR implementation, reported that DNR was issued verbally by a physician, without permission from patient's family, and without consulting nurses, which was consistent with the results of most studies in this regard[3-6,14,22,26]. Khalaileh et al. (2014) found that only 21% of Jordanian nurses had active participation in DNR process, compared to only 37% in the UK and 19.3% in Canada[22] .Kim et al. (2019) reported that all Korean

nurses believed that DNR must be explained to patient's family; 59.6% reported that DNR was mostly accepted after explaining to patients[19].In fact, in most studies nurses agreed that a written consent from patient's family and nurse's consultation were necessary to apply DNR[4,5,20,22,27].According to Swedish National Board of Health and Welfare, one of the most important duties of the DNR team is to consult with nurses, patient, and family[27].One of the most important reasons for physicians not consulting with nurses and patients' families about DNR in Iran could be lack of registration and lack of legal and religious support for DNR[5,14] .In Iran, doctors may prefer not to let families know about DNR due to lack of support from law, and others insisted on prolonging patient's life because of religious issues. These two reasons contradicted the ethical principles of respect for patient demand and independence[5].

In this study, 61.2% of nurses believed in asking for permission to commit DNR from authorities, which was consistent with their experience of patient care with DNR orders, with 70.4% of nurses announcing their opposition to DNR to a manager. In Iranian hospitals, manger and authorities refer to the hospital management staff which according to the hierarchy, includes head nurse, the physician in charge of the ward and the director of nursing services and the head of the hospital. Mogadasian et al. and Shojaei et al. stated 43% and 47% of nurses' obedience, respectively, to authorities on DNR implementation[9,13].

Another important finding of this study was that 77% and 75.7% of nurses considered religious and cultural factors, respectively, as two most influencing factors on their DNR attitude, which was in line with their experience, so that in response to experience questionnaire 98.2% of nurses found it challenging to participate in DNR, with the most challenging being reported by religious beliefs (53.9%), fear of legal issues and lack of a regular DNR guideline (30.9%). In fact, most studies on DNR reported it challenging for physicians and nurses[3-5,14,20] and most studies identified religion and culture as two major factors influencing DNR[3, 14].The findings suggested lack of DNR policies worldwide[22].The lack of DNR protocol led physicians to act arbitrarily on DNR or avoid it[5].In most studies, nurses stated the necessity of establishing a DNR guide line[14,19,20,22].Therefore, designing a legal, Islamic-Iranian clinical guideline may eliminate many of the ethical and legal issues about DNR and prevent useless and ineffective treatments[5].One of the most important limitations of this study was lack of investigation on nurses' knowledge and awareness of DNR and their religious status, which can affect their attitude towards DNR.

Conclusions

The results indicated positive attitude of nurses towards DNR and consistency on nurses' attitude and experience regarding passive euthanasia. The results also suggested that nurses' attitudes toward some of the issues related to DNR implementation including the involvement of nurse, patient and patient's family in DNR implementation process were inconsistent with their experience in this regard, as well as fear of legal consequences of applying DNR. As a result, formulating a national guideline to implement DNR and using nurses' opinions in its formulation seems necessary.

Consent for publication

We obtained informed written consent from all participants

Availability of data and material

The data used to support the findings of this study are available from the corresponding author upon request

Competing interests

The authors declare that they have no competing interests.

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Authors' contributions

BH, MF, NS and SM contributed in designing the study, NS, BH, MF and SM collected the data, and analyzed by MF, BH, NS and SM. The final report and article were written by MF, NS, BH and SM and the paper were read and approved by all the authors

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Abbreviation

Do-Not-Resuscitate order: DNR**,** Cardio Pulmonary Resuscitation: CPR**,**

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