

# Knowledge and Attitude towards Do-Not-Resuscitate Order among Nurses of a Tertiary Level Hospital

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## ABSTRACT

**Introduction:** Knowledge regarding and attitude towards end-of-life care can shape the behaviour and actions of a health professional in provision of supportive care for the comfort of the patients as well as their family members. Very little is known about nurses' knowledge and attitude regarding do-not-resuscitate (DNR) order. Therefore, the purpose of this study was to identify the knowledge of and attitude towards DNR order and relationship between knowledge and attitude towards DNR order among the nurses of a tertiary level hospital.

**Methods:** Descriptive correlation design was used. Convenient sampling method was used to select 70 nurses from a tertiary level hospital. Data were collected using pretested self administered structured questionnaire. Data were analysed using SPSS version 20 and analysed using descriptive and inferential statistics.

**Result:** Among 70 respondents, almost all (95.7%) of the respondents had good level of knowledge, 2.9% had fair and 1.4% had poor level of knowledge. Most (80.0%) of the respondents had positive attitude towards DNR order and 20.0% had negative attitude. There was a positive relationship between knowledge of and attitude towards DNR order ( $r = 0.068$ ) but the relationship was statistically insignificant.

**Conclusions:** Based on the findings, the study concludes that nurses of tertiary level hospital have good knowledge and positive attitude towards DNR order. Likewise, knowledge regarding DNR order is related with the attitude towards DNR order and thus knowledge can be enhanced to improve the attitude towards DNR by regular in-service education.

**Key words:** attitude on DNR; do not resuscitate order; knowledge of DNR; nurses

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## INTRODUCTION

Cardio-pulmonary resuscitation (CPR), introduced in 1960,<sup>1</sup> is an emergency lifesaving procedure that uses chest compressions along with artificial ventilation to restore spontaneous blood circulation and breathing in a person whose heart has stopped beating.<sup>2</sup> It has become mandatory as a life saving measure for all patients suffering from cardiac arrest. However, it is not free from complications. Some of the complications observed following CPR are fracture of ribs, liver contusion and aspiration of fluid and vomit into the lungs and injury to tissues of chest etc.<sup>3</sup> Therefore, the use of CPR has become questionable in case of terminally ill patients without significant quality of life with added possibility of complications and burden of treatment.<sup>4,5</sup> As a consequence, the concept of do-not-resuscitate (DNR) came into being in the care of terminally ill patients. DNR order is a medical order for health professionals to not to perform CPR on a patient when there is cardiac or pulmonary arrest.<sup>6</sup> This order is made only after thorough consideration of the patient's situation. These situations include the patient's imminent death or in cases when CPR will only prolong patient's death, or when CPR will increase suffering and make death more painful.<sup>7</sup> A DNR order is meant to allow natural death in the end of life care.<sup>8</sup> Although, the concept of DNR order does not mean not to treat the terminally ill patient, this concept is often misunderstood and poorly complied by health professionals.<sup>9</sup> So, to effectively use and prevent misuse of DNR order, health professional must be educated about DNR.<sup>4</sup>

Nursing care is directed towards meeting the comprehensive needs of patients and their families to prevent and relieve the symptoms and suffering of patients that are commonly associated with illness and dying.<sup>10</sup> Similarly, Nepal Nursing Council, in its code of conduct spelled out that nurses should ensure that the health service consumer's physical, social and psychological needs are assessed and responded by recognising and responding compassionately to the needs of those who are in the last few days and hours of life.<sup>11</sup>

Nurses are vital to end-to-life care as they are the ones present at bedside, having the opportunity to

observe behaviours and actions that are barriers to peaceful and dignified death while providing end-of-life care.<sup>12</sup> In practice, not many nurses fully understand what DNR order means and how it is applied even though the term comes very often in clinical settings. Nurses need to be aware of and have an active role in understanding and developing DNR policies, and positive attitude to provide ethically sound care and alleviating suffering of terminally ill patients.<sup>7,12</sup> They need to put ethical principle, such as veracity and autonomy into action in providing end of life care and have to support families and patients in making a DNR decision.<sup>13</sup> However, very few studies have been conducted regarding the nurses' understanding of DNR order. Therefore, this study was conducted to identify knowledge of and attitude towards DNR order among nurses of a tertiary level hospital. The knowledge of DNR meant possession of information related to its meaning, decision making process and provision of care, medical management and documentation. Likewise, attitude towards DNR meant attitude related to factors influencing DNR, feelings surrounding DNR status, decision making and provision of care, medical management of patient with DNR order and strategies to help deal with patient with DNR order. The findings of this study would be useful to hospital authority to understand the status of knowledge and attitude of nurses related to DNR order. This information can be useful in maintaining conducive environment and in planning in-service education on DNR order. This will facilitate in provision of supportive care to patients and their families in need of end of life care.

## METHODS

This descriptive correlation study was conducted at Shree Birendra Hospital, Chhauni, Kathmandu, which is a tertiary level central hospital of the Nepalese Army. The study population consisted of nurses with certificate or bachelor level nursing qualification and working in selected units of SBH namely critical care units (ICUs), step down unit, neuro ICU, emergency unit and medical units (Medical I and Medical II). These units were selected as these are the units where death and dying are more frequently encountered by nurses. Total 80 nurses were working in these units. Out of them, 70 nurses were available during the period of

data collection and remaining 10 were on leave. So a convenience sampling technique was used to include 70 available nurses all of whom responded to the questionnaire.

A self-administered structured questionnaire was developed to measure the study variables through literature review. Instrument consisted of three parts. The first part included questions related to demographic variables. The second part included items related to knowledge regarding DNR order and the third part included items related to attitude regarding DNR order. The instrument was pretested among eight nurses working in surgical and high care units of SBH and instrument was finalised before using it for data collection.

Research proposal and ethical clearance was obtained from the institutional research committee of Nepalese Army Institute of Health Sciences (NAIHS), College of Nursing. After obtaining written permission for data collection from SBH respondents were approached in their work units. Objectives of the research study were cleared and informed written consent was obtained. The researcher was present while the respondents filled the questionnaire to prevent data contamination through consultation. It took about 20 minutes to the respondents to fill up the questionnaire. In a day eight to 12 respondents were approached. Data was collected during the two weeks period from 2019/08/18 to 2019/09/02.

Collected data were coded and entered in SPSS version 20. Data were analysed using descriptive statistical methods such as frequency, percentage, mean and standard deviation. A non-parametric inferential statistics i.e. Spearman rho test was used to analyse the correlation between knowledge and attitude scores due to non-normal distribution of data. The level of significance was set at 0.05.

## RESULTS

The mean age of the respondents was 25.4 years (SD = ± 5). Majority (54.3%) of the respondents had PCL nursing qualification. Majority (62.9%) of the respondents had up to five years of clinical experience. Highest proportion (28.6%) of the respondents was working in ICU and majority (58.6%) of the respondents had up to one year of work experience in the present station. Only 2.9%

of the respondents had participated in conference, workshop or seminar related to DNR order. Most (84.3%) of the respondents got information about DNR order from the clinical experience and only 27.1% of the respondents received information regarding DNR from pre-service education.

Table 1 reveals that all (100.0%) respondents answered correctly to the statement that “DNR does not mean no-care”. Almost all (94.3%) knew correctly that CPR is not done in patients with DNR order. Almost all (90.0%) respondents answered correctly on the statement that “the basis for DNR order is medical judgment along with patient’s wish.” Table 2 reveals that almost all respondents knew different care components of patients with DNR order.

Table 3 shows that almost all (97.1%) of the respondents knew pain relieving medicines are administered to patients with DNR order as per need. Same percentage of the respondents knew that DNR order is given in written form. While 24.3% of the respondents did not know that

**Table 1.** Respondents’ Knowledge regarding Meaning of DNR and Decision-Making Process in DNR Order (N = 70)

Statements	Yes N (%)	No N (%)
<b>Meaning of DNR</b>		
DNR does not mean withholding all treatment*	68 (97.1)	2 (2.9)
Supportive measures are performed in the patient with DNR orders*	54 (77.1)	16 (22.9)
DNR does not mean "no-care"*	70 (100.0)	-
DNR does not mean "do-not-treat"*	68 (97.1)	2 (2.9)
CPR is not done in patient with DNR order	66 (94.3)	4 (5.7)
<b>Decision Making Process</b>		
Only physician can place DNR order	45 (64.3)	25 (35.3)
The basis for DNR order is a medical judgment along with patient's wish	63 (90.0)	7 (10.0)
DNR cannot be overruled	48 (68.6)	22 (31.4)
For placing DNR order, patient's wish is necessary*	61 (87.1)	9 (12.9)
Nurse is obligated to initiate CPR if there is no DNR designation	57 (81.4)	13 (18.4)

\*Negative statement converted to positive statement

**Table 2.** Respondents' Knowledge regarding Provision of Care to Patients with DNR Order (N = 70)

Provision of Care	Yes	No
	N (%)	N (%)
Gastric feeding is continued even if patient gets DNR order.	67 (95.7)	3 (4.3)
Intravenous feeding is continued in patient with DNR order.*	66 (94.3)	4 (5.7)
Hygiene care is essential in patient with DNR order.	66 (94.3)	4 (5.7)
If bleeding occurs in a patient with DNR order, it should be controlled.	66 (94.3)	4 (5.7)
Oxygen administration should be continued in a patient with DNR order.*	67 (95.7)	3 (4.3)
Emotional support is required to family as well as the patient with DNR order.	69 (98.6)	1 (1.4)
In patient with DNR order, positioning cannot be neglected.*	67 (95.7)	3 (4.3)

\*Negative statement converted to positive statement

diagnostic investigations cannot be stopped in patient with DNR order.

Table 4 reveals that highest proportion (45.7%) of the respondents agreed to the positive statement that medical condition of the patient should be considered in DNR order. Majority (62.9%) of the respondents strongly agreed to the positive statement that patient with DNR order should receive humanistic care to make them safe, happy and healthy.

Table 5 reveals that majority (57.1%) of respondents strongly agreed that patient's DNR wish must be respected. Similarly on the provision of care, the statement supportive care should be continued in patients having DNR order is strongly agreed by majority (68.6%) of the respondents.

Table 6 reveals that the majority (55.7%) of the respondents strongly agreed with the positive statement that monitoring of vital signs, ECG and CVP should be continued even if the patients have DNR order. Majority (58.6%) of respondents strongly agreed to the positive statement that efforts should be made to ensure that the patient is comfortable.

Table 7 shows that almost all (95.7%) of the respondents had good level of knowledge, 2.9% had fair level of knowledge and 1.4% had low poor level of knowledge. Likewise, most (80.0%) of the

**Table 3.** Respondents' Knowledge regarding Medical Management of Patient with DNR Order and Documentation of DNR Order (N = 70)

Statements	Yes	No
	N (%)	N (%)
<b>Medical management</b>		
Pain relieving medicines are administered to patient with DNR order as per need.	68 (97.1)	2 (2.9)
In a patient with DNR, performing chest compression is withheld.	60 (85.7)	10 (14.3)
Resuscitation drugs are not administered in a patient with DNR order.*	59 (84.3)	11 (15.7)
In a patient with DNR order, artificial airway is not inserted even if respiration stops.*	55 (78.6)	15 (21.4)
In a patient with DNR order, defibrillator/ cardio version is not used even when heart stops beating.*	62 (88.6)	8 (11.4)
Diagnostic investigations cannot be stopped even though patient is in DNR order.*	53 (75.7)	17 (24.3)
<b>Documentation</b>		
DNR order is given in written form.	68 (97.1)	2 (2.9)
DNR order in oral form is illegal.*	63 (90.0)	7 (10.0)
CPR is compulsory if DNR is not in written form.	58 (82.9)	12 (17.1)

\*Negative statement converted to positive statement

respondents had positive attitude towards DNR order. Spearman correlation analysis of knowledge and attitude scores of the respondents towards DNR order revealed a positive but weak relationship ( $R = 0.068$ ). This relationship was statistically insignificant ( $p$  value = 0.576 which is  $> 0.05$  level of significance).

## DISCUSSION

Discussion on nurses' knowledge regarding DNR Order:

In regards to knowledge on the meaning of DNR domain, the present study found that all (100.0%) of the respondents had knowledge that DNR does not mean 'no-care'. This finding is somewhat similar to the finding of study conducted in Syrian Arab Republic among 140 critical care nurses, which found that 83.6% nurses knew that DNR does not mean do-not-care.<sup>14</sup> The present study also found that almost all (94.3%) respondents knew correctly that CPR is not done in patient with DNR order whereas the study done in 66 NICU nurses of

**Table 4.** Respondents' Attitude towards DNR Order towards Factors influencing and Feeling about DNR Status (N = 70)

Statements	SA %	A %	UD %	DA %	SDA %
<b>Factors influencing DNR status</b>					
All cardiac patients should have DNR order.*	7.1	7.1	10.0	54.3	21.4
Medical condition of patient should be considered in DNR order.	32.9	45.7	5.7	12.9	2.9
Every critically ill patient should have DNR order.*	10.0	15.7	15.7	50.0	8.6
End stage of cancer should be a reason for DNR orders.	45.7	34.3	4.3	15.7	-
<b>Feeling surrounding DNR status</b>					
It is depressing to find patient in DNR status.*	8.6	38.6	31.4	15.7	5.7
Powerlessness is felt by the nurse while looking at the family of DNR patient.*	5.7	44.3	18.6	22.9	8.6
Death of young adult patient with DNR order is frustrating.*	34.3	48.6	12.9	4.3	-
Patients with DNR order should receive humanistic care to make them safe, happy and healthy.	62.9	27.1	5.7	4.3	-

\*Negative statement

Keys: SA = Strongly Agree, A = Agree, UD = Undecided, DA = Disagree and SDA = Strongly

an academic university hospital in the North Eastern United States found that only 24.2% nurses knew correctly the meaning of DNR as withholding CPR only.<sup>15</sup>

Regarding the nurses' knowledge about decision making process domain the present study revealed that majority (68.6%) of the respondents had the knowledge that DNR order cannot be overruled and that most (81.4%) of them had the knowledge that they are obligated to initiate CPR if there is no DNR designation. These findings are much higher

**Table 5.** Respondents' Attitude on DNR Order related to Decision Making and Provision of Care (N = 70)

Statements	SA %	A %	UD %	DA %	SDA %
<b>Decision Making</b>					
DNR status of the patient should be determined before emergency situation arise.	52.9	28.6	7.1	8.6	2.9
Obtaining the patient's / family's wish for DNR order is the physician's responsibility.*	45.7	37.1	5.7	8.6	2.9
Patient's DNR wish must be respected.	57.1	38.6	1.4	1.4	1.4
Even if there is a minor chance of prolongation of life, every possible procedure should be applied to recover the patient.*	35.7	44.3	11.4	5.7	2.9
The nurse can recommend DNR order.	10.0	32.9	27.1	21.4	8.6
<b>Provision of Care</b>					
Patients with DNR should receive less care than other patients.*	5.7	8.6	1.4	28.6	55.7
Patient with DNR order require no emotional support.*	5.7	5.7	1.4	25.7	61.4
Supportive care should be continued in patients with DNR order.	68.6	18.6	4.3	7.1	1.4

\*Negative statement

Keys: SA = Strongly Agree, A = Agree, UD = Undecided, DA = Disagree and SDA = Strongly

than the findings of the study conducted in North Eastern United States where only 28.8% of the respondents answered DNR cannot be overruled and 57.6% answered that they are obligated to initiate CPR if there is no DNR designation.<sup>15</sup> These variations in findings may be probably due to difference in study setting. Similarly this study revealed that 87.1% respondents stated that for placing DNR order, patient's wish is necessary. A somewhat similar finding was reported in a study

**Table 6.** Respondents' Attitude on DNR Order regarding Medical Management of Patient and with DNR Order and Strategies to help them (n = 70)

Statements	SA %	A %	UD %	DA %	SDA %
<b>Medical Management of Patient with DNR Order</b>					
Ventilator support should be continued in the patient.	38.6	17.1	12.9	20.0	11.4
Analgesic therapy should be initiated / continued.	51.4	37.1	7.1	1.4	2.9
Total parenteral nutrition should be stopped.*	2.9	8.6	7.1	35.7	45.7
Antibiotics and blood products should be administered if patient needs.	48.6	40.0	7.1	2.9	1.4
Monitoring of vital signs, ECG and CVP should be continued even if the patient had DNR order.	55.7	35.7	2.9	2.9	2.9
Specimen collection for different investigation is appropriate for such patient.	37.1	38.6	10.0	11.4	2.9
Performing diagnostic imaging in patients with DNR order can be fruitful.	12.9	38.6	20.0	17.1	11.4
<b>Strategies to Help Deal with Patient with DNR Order</b>					
Efforts should be made to ensure that the patient is comfortable.	58.6	34.3	4.3	2.9	17.1
DNR order means patient is already prepared to die so can be left to die alone.*	7.1	10.0	7.1	32.9	42.9
Assuring patient that his condition will improve is essential.	17.1	30.0	28.6	14.3	10.0

\*Negative statement

Keys: SA = Strongly Agree, A = Agree, UD = Undecided, DA = Disagree and SDA = Strongly

conducted among 365 nurses in Addis Ababa, Ethiopia which found that 66.0% of the respondents had the knowledge that "terminally ill patients have the right to choose DNR".<sup>16</sup>

**Table 7.** Respondent's Level of Knowledge and Attitude regarding DNR order (n = 70)

Variables	Frequency	%
<b>Level of Knowledge</b>		
Poor level (< 50% score)	1	1.4
Fair level (50 - 74% score)	2	2.9
Good level (≥ 75% score)	67	95.7
<b>Level of Attitude</b>		
Negative attitude (< 60% score)	14	20.0
Positive attitude (≥ 60% score)	56	80.0

In regards to nurses' knowledge regarding provision of care domain, the findings of the present study revealed that almost all (98.7%) of the respondents knew that emotional support is required to families as well as the patients with DNR order. It is somewhat consistent with the finding of the study conducted in Syrian Arab Republic where 82.1% respondents knew that emotional support is essential.<sup>14</sup>

In regards to nurses' knowledge on medical management and documentation domains in the present study, 97.1% of the respondents knew pain relieving medicines are administered to patients with DNR order as per need and same percentage of the respondents knew that DNR order is given in written form. Somewhat similar results were found in the study conducted in Syrian Arab Republic where 74.6% of the respondents knew about pain medications and 94.3% knew that DNR order is in written form.<sup>14</sup>

Attitude on DNR Order:

Regarding the attitude towards factors influencing DNR order and feeling surrounding DNR status domains, 78.6% of the respondents in the present study agreed that medical condition of the patient should be considered in DNR order which is consistent with the findings of study conducted in Syrian Arab Republic.<sup>14</sup> Similarly, the findings of the present study showed that majority (58.6%) of respondents disagreed to the negative statement that every critically ill patient should have DNR order. Whereas the study conducted among 140 nurses in Syrian Arab Republic found that only 38.7% of the respondents disagreed with the statement.<sup>14</sup> This discrepancy may be due to cultural differences. Less than half (47.2%) proportion of the respondents in present study

agreed to the negative statement that it is depressing to find patient in DNR order which is somewhat similar to the finding of the study in Syrian Arab Republic where 35.0% of respondents always found the situation as depressing.<sup>14</sup> Similarly, 50.0% of the respondents in the present study agreed to the negative statement “powerless is felt by the nurses while looking at the family of DNR patient”. This finding is higher than the finding of the study done among nurses of a university hospital in North Eastern United States where 35.7% of the respondents felt powerlessness.<sup>15</sup>

About the attitude related to decision making and provision of care domains, majority (57.1%) of the respondents in this study strongly agreed that patient's DNR wish must be respected. Somewhat similar finding was reported in the study done in Addis Ababa, Ethiopia where 66.0% agreed that patient's right for not to resuscitate (DNR) should be respected.<sup>16</sup> Likewise 77.1% of the respondents in the present study disagreed to the negative statement that patient with DNR order require no emotional support which is supported by the study conducted in Syrian Arab Republic where the respondents considered emotional support as essential for patient with DNR order.<sup>14</sup>

In regards to attitude related to medical management and strategies to deal with patients with DNR order domains, the majority (55.7%) of respondents in the present study agreed that ventilator support should be continued in the patient with DNR order. This finding is lower than that in the study conducted Syrian Arab Republic where 78.6% agreed with the statement.<sup>14</sup> In the present study, most (81.4%) of the respondents disagreed to the negative statement that total parenteral nutrition (TPN) should be stopped in patients with DNR order which is in contrast to the findings of the study in Syrian Arab Republic where only 23.6% disagreed that TPN should be stopped.<sup>14</sup> The disparity in findings may be due to difference in cultural background of the respondents.

In the present study majority (75.7%) of the respondents agreed that, specimen collection for

different investigation in patient with DNR order is appropriate. Likewise, 51.5% of respondents agreed that performing diagnostic imaging can be fruitful and 75.8% disagreed to the negative statement that DNR order means patient is already prepared to die. These findings are supported by the study conducted in Syrian Arab Republic where 53.6% of the respondents agreed that specimen collection for different investigation is appropriate, 51.4% of the respondents agreed that performing diagnostic imaging in patient with DNR can be fruitful and 69.7% of the respondents responded that they always make sure patient does not die alone.<sup>14</sup>

Correlation between knowledge regarding and attitude towards DNR order:

On the whole almost all (95.7%) respondents in this study had good knowledge and most (80.0%) had positive attitude towards DNR. This may be probably because the respondents in this study were from tertiary level hospital which is also a teaching hospital. In regards to relationship between knowledge and attitude towards DNR this study found a positive but insignificant correlation (Spearman's  $\rho = 0.068$ ). This finding is somewhat similar to the findings of a study done among health care workers of palliative care in Southern Phillipines which found a low positive correlation between knowledge and attitude towards palliative care with Spearman's  $\rho = 0.40$ .<sup>17</sup>

## CONCLUSIONS

Based on the findings of the study it is concluded that nurses of the tertiary level hospital have good knowledge and positive attitude towards DNR order. The findings of the study might help hospital authority to incorporate such environment in the hospitals that promotes and maintains the knowledge and attitude among nurses towards end of life care and DNR order which will facilitate in quality dignified patient care. This study also recommends the need for the replication study to confirm the nature of relationship between knowledge and attitude components of DNR care.

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