

Original Article

# Moral Distress and Perception of Futile Care among Nurses of Neonatal Care Units

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## ABSTRACT

**Objectives:** Moral distress (MD), which is affected by several factors such as futile care provision and is considered the cause of adverse effects such as job dissatisfaction and decreased care quality, is a new concept attracting increasing academic interest. This study aims to assess the correlation between nurses' perception of futile care and MD in neonatal care units.

**Material and Methods:** This descriptive-correlational study was carried out among 115 nurses working in the neonatal intensive care units and neonatal special care units of two hospitals in West Azerbaijan Province during 2020. A demographic information form, the 21-item MD-Pediatric version scale, and the 17-item perception of futile care questionnaire were used to collect data and analysed using SPSS 16 software.

**Results:** The results confirmed the direct correlation between MD and the perception of futile care. In addition, MD and the nurses' perceptions of futile care were estimated to be moderate.

**Conclusion:** The results of this study provide evidence to emphasise the need for further studies to investigate other causes of MD in neonatal units and find the solutions to make the work environment more ethical. Furthermore, the results provide the platform needed for hospital and university managers to make the necessary decisions and create the required changes in the educational curriculum of nursing students and provide the appropriate courses for neonatal unit nurses to improve their ability to cope with the MD caused by providing futile care.

**Keywords:** Moral distress, Futile care, Nurses, Perception, Neonates

## INTRODUCTION

Nowadays, moral distress (MD) is a growing problem in the nursing occupation.<sup>[1]</sup> Jameton defines MD as, knowing what to do in an ethical situation but not being allowed to do it.<sup>[2]</sup> Different factors such as incompetence of colleagues and organisational rules are the sources of MD,<sup>[3]</sup> leading to adverse effects for nurses and patients;<sup>[4,5]</sup> some of these adverse effects include a decrease in nursing care quality,<sup>[3]</sup> hopelessness,<sup>[6]</sup> and consequently and failure to respond to patients' basic needs.<sup>[4]</sup>

Confrontation of nurses of neonatal care units, including neonatal intensive care units (NICUs) and neonatal special care units (NSCUs), with MD, is different from and more

severe than that of other nurses.<sup>[7,8]</sup> According to Molloy and Carter's studies, dealing with neonates with lethal abnormalities, neonates requiring extensive and aggressive procedures, and extremely preterm neonates are among the significant stressors for nurses.<sup>[7,9]</sup> In such situations, healthcare professionals are directed to deliver futile care and treatments because they know that other treatments are less likely to succeed.<sup>[10]</sup> Therefore, nurses face MD due to little or no participation in the therapeutic decision-making process, parents' insistence on continuing life-saving interventions, and the unpredictability of the disease and therapeutic process.<sup>[7,9]</sup>

Most existing studies have been carried out among nurses working in adult intensive and palliative care units.<sup>[11]</sup>

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Although several studies, including the study of Borhani *et al.*, conducted in 2015, have examined the perception of futile care and MD in ICUs and NICUs, these studies did not focus on neonatal unit nurses and only limited number of participants were employed in the NICUs.<sup>[10]</sup> In addition, the researcher did not find any study that examined these two phenomenon in NSCUs. However, the researcher has experienced and observed the psychological, physical, and moral effects of providing futile care for neonates admitted to NSCUs with life-threatening conditions and poor prognoses. As regards, maintaining and promoting the health of infants as a vulnerable group is considered important in the health system and they spend their critical development period in NICUs and NSCUs,<sup>[12]</sup> there is a need to continuously improve the quality of nursing care as a constant objective in these units. Accordingly, this study was carried out to assess the correlation between the perception of futile care and MD, among nurses of NICUs and NSCUs.

## MATERIAL AND METHODS

### Study design and participants

The present descriptive-correlational study was carried out in NICUs and NSCUs between June and January 2020. One hundred and fifteen participants were selected using the convenience sampling method among the nurses employed in the NICUs and NSCUs and 16 nurses were reluctant to participate in the study or were not eligible. The inclusion criteria were registered nurses with BSc (Nsg) or higher degrees working in NSCUs or NICUs with at least 6 months of work experience in neonatal care units. The exclusion criterion was lack of experience in providing futile care.

### Objectives

The objectives of this study are as follows:

1. Assess the level of MD among nurses of NSCUs and NICUs, as measured by the moral distress-pediatric version scale
2. Assess the level of perception of futile care among nurses of NICUs and NSCUs, as measured by the perception of futile care scale
3. Determine the association between MD and the perception of futile care in nurses of NICUs and NSCUs
4. Determine the association between the perception of futile care and nurses' demographic characteristics
5. Determine the association between MD and nurses' demographic characteristics.

### Data collection

Three questionnaires were utilized for gathering data, including a demographic information form, moral distress-pediatric version scale, and the perception of futile care questionnaire.

The moral distress-pediatric version scale, revised by Hamric *et al.* (2012), was used for examining MD.<sup>[13]</sup> It consists of 21 items scoring MD in the two dimensions of frequency and intensity based on a five-point Likert scale (0–4). The MD score range of each item is 0–16, calculated by multiplying the score of the frequency of each item (0–4) by that of its intensity (0–4). Thus, the total MD score range is 0–336.<sup>[13]</sup> In the intensity and frequency dimensions, the scores of 0–1, 1.01–2, 2.01–3, and 3.01–4 reflect low, moderate, high, and very high levels, respectively. Furthermore, the total MD scores of 0–4, 4.01–8, 8.01–12, and 12.01–16 demonstrate low, moderate, high, and very high MD levels, respectively.<sup>[14]</sup> The perception of futile care questionnaire was designed by Mohammadi and Roshanzadeh (2014) and focused on assessing the nurses' perception of futile care in the two dimensions of frequency and intensity. This questionnaire involves 17 items based on a five-point Likert scale (1–5). In both intensity and frequency dimensions, the scores 1–2.33, 2.34–3.66, and 3.67–5 are interpreted as low, moderate, and high levels.<sup>[15]</sup>

### Procedure

This study was approved by the Ethics Committee of the School of Nursing and Midwifery and Rehabilitation, Tehran University of Medical Sciences (approval ID: IR.TUMS.FNM.REC.1399.082).

After acquiring permission from the instrument designers, the cross-cultural validity of the original tools was approved by using a standard backward-forward translating method. Furthermore, the opinions of ten professors of the pediatric Department in three schools of Nursing were gathered, to confirm its face and content validity. Regarding reliability, the instruments were presented to 30 nurses working in NICUs or NSCUs. In the MD scale, Cronbach's alpha coefficients of frequency and intensity dimensions of 0.69 and 0.83 were obtained, respectively. Furthermore, the Cronbach's alpha coefficients of intensity and frequency for the perception of futile care questionnaire were 0.80 and 0.96, respectively. The two instruments were redelivered to the same 30 nurses after 2 weeks and the internal consistency of the MD scale and the perception of futile care questionnaire were measured to be 0.85 and 0.89, respectively.

After completing the validity and reliability process, the instruments and informed consent were given to the participants after explaining the study objectives, the confidentiality of the information, and voluntary participation.

### Statistical analysis

Perception of futile care and MD in nurses of neonatal care units were gathered and entered into SPSS software. In addition, descriptive statistics such as percentage, standard deviation, frequency, mean, and frequency table were utilized for summarising and reporting the results. The normal

distribution of the scores related to the main instruments was assessed using the Kolmogorov–Smirnov test. Due to the normality of data distribution, Pearson's correlation test and linear regression analysis were conducted to analyse the correlation between the two main variables of this study. Furthermore, the association between the main variables and other underlying variables was evaluated using the independent *t*-test and ANOVA. The significance level was considered  $P < 0.05$  in all tests.

## RESULTS

### Demographic characteristics

Our findings showed that all participants who delivered futile care were 23–52 years old, with a mean age of  $34.80 \pm 6.45$ . They had around 1–30 years of clinical work experience ( $m=12.48 \pm 6.48$  years) and 1–29 years of work experience in NICUs or NSCUs ( $m = 10.18 \pm 6.28$  years). Table 1 shows the frequency distribution of the demographic characteristics of participants [Table 1].

### Assessment of the level of MD and perception of futile care

Concerning MD, the mean  $\pm$  standard deviation of frequency, intensity and total scores obtained were  $1.72 \pm 0.46$ ,  $1.78 \pm 0.40$ , and  $4.04 \pm 1.57$ , respectively, which was interpreted as moderate. Regarding the perception of futile care, frequency and intensity scores were  $2.78 \pm 0.71$  (1.29–4.94) and  $3.43 \pm 0.48$  (2.41–5), respectively. Thus, the frequency and intensity of perception of futile care were at a moderate level.

### The correlation between perception of futile care and MD

The results of the Pearson correlation test showed a direct and significant correlation between the frequency of the nurses' perception of futile care and the frequency ( $P < 0.001$ ) and the total score of MD ( $P < 0.001$ ). However, no significant correlation was found with the intensity of MD. Further, the intensity of their perception of futile care was directly and significantly correlated to the frequency ( $P = 0.001$ ), intensity ( $P < 0.001$ ), and the total score ( $P < 0.001$ ) of MD [Table 2].

### The association between demographic characteristics and perception of futile care

The Pearson correlation test and correlation coefficients revealed a significantly direct association between age and the frequency of the perception of futile care ( $P = 0.003$ ), clinical work experience ( $P = 0.002$ ) and work experience in NICUs or NSCUs ( $P = 0.001$ ). This association was negative for the intensity dimension ( $P = 0.003$ ,  $P = 0.002$  and  $P = 0.004$ , respectively).

Based on the multiple linear regression analysis results, unit type (NICU or NSCU) ( $P < 0.001$ ) and employment status influenced the frequency of the perception of futile care. Thus, the frequency of the perception of futile care was higher among nurses with permanent ( $P < 0.001$ ) and temporary ( $P = 0.003$ ) positions compared to novice nurses.

**Table 1:** Frequency distribution of the demographic information related to the nurses working in the neonatal care units.

Variable	Frequency	Percentage
Marital status		
Single and divorced	34	29.6
Married	81	70.4
Total	115	100
Gender		
Female	115	100
Male	0	0
Total	115	100
Unit type		
NICU	89	77.4
Neonatal	26	22.6
Total	115	100
Educational level		
Bachelor	103	89.6
Master and doctorate	12	10.4
Total	115	100
Employment status		
Novice nurses (employed for 2 years)	20	17.4
Temporary employee (hired by companies – lower salaries than Contractual nurses)	20	17.4
Contractual (hired by hospitals – lower salaries than Temporary position)	17	14.8
Temporary position (hired by government - lower salaries than Permanent position)	9	7.8
Permanent position (hired by the government)	49	42.6
Total	115	100
Shift work		
Morning	22	19.1
Rotating	93	80.9
Total	115	100
Parenthood		
Yes	74	64.3
No	41	35.7
Total	115	100
Experience of child hospitalisation in NICU/NSCU		
Yes	10	8.7
No	105	91.3
Total	115	100
Exposure to palliative care training courses		
Yes	20	17.4
No	95	82.6
Total	115	100
Exposure to medical and nursing ethics training courses		
Yes	27	23.5
No	88	76.5
Total	115	100
Experience of providing futile care		
Yes	115	100
No	0	0
Total	115	100

**Table 2:** Correlation between the perception of futile care with moral distress among the nurses in neonatal care units.

Moral distress/Nurses' perception of futile care	Frequency	Intensity	Total score
Frequency			
Correlation coefficient	0.478	0.026	0.369
P-value	<0.001	0.870	<0.001
Intensity			
Correlation coefficient	0.303	0.440	0.390
P-value	0.001	<0.001	<0.001

In addition, the frequency of perception of futile care was higher in NICU nurses than in NSCU nurses, which was in line with the results of the independent *t*-test ( $P < 0.001$ ).

In addition, the independent *t*-test revealed that there was a remarkably higher intensity of perception in nurses with rotating shifts and those who had not experienced parenthood compared to those only working a morning shift ( $P = 0.001$ ) and those with parenthood experience ( $P = 0.040$ ).

Furthermore, the multiple linear regression analysis results reflected the impact of employment status on the intensity of the participants' perception of futile care. Contractual nurses ( $P = 0.023$ ) and nurses with temporary position ( $P = 0.027$ ) had a lower intensity of perception than novice nurses.

#### The association between demographic characteristics and MD

A significant and negative association was found between clinical work experience ( $P < 0.001$ ), age ( $P < 0.001$ ), and work experience in NICUs or NSCUs ( $P < 0.001$ ) and the intensity of MD. The association between age and the total MD score was negative, too ( $P = 0.04$ ).

Based on the findings of the independent *t*-test, the intensity of MD among NSCU nurses was significantly higher than NICU nurses ( $P = 0.001$ ). Furthermore, a significantly higher intensity of MD was seen for those who had not experienced parenthood ( $P = 0.006$ ) or had participated in medical ethics training courses ( $P = 0.004$ ) compared to those who had experienced parenthood and had not participated in ethics courses, respectively.

Based on multiple linear regression analysis, permanent ( $P = 0.044$ ) and temporary position ( $P = 0.012$ ) employment affect the intensity of MD and they were exhibiting less MD than novice nurses.

Furthermore, the multiple linear regression analysis results demonstrated the impact of age ( $P = 0.047$ ) and attendance in medical and nursing ethics training courses ( $P = 0.008$ ) on the frequency of MD. Therefore, the frequency decreased with advancing age and increased with participation in medical and nursing ethics training courses. Based on the results of the independent *t*-test ( $P < 0.001$ ) and the multiple linear regression analysis ( $P = 0.001$ ), the total score of MD

increased in those participating in the medical ethics training courses.

## DISCUSSION

This study revealed moderate MD levels among NICU and NSCU nurses, which is in line with the findings of Hamric *et al.*<sup>[16]</sup> and Ghasemi *et al.*<sup>[17]</sup> and in contrast with the findings of Abbaszadeh *et al.*<sup>[18]</sup> and Janvier *et al.*<sup>[19]</sup> The discrepancy may be due to differences in the study population, participants' awareness and capability to cope with MD, and the instruments used. Other causes may be poor teamwork, disregard of nurses in decision-making about caring for patients, and low autonomy of nurses.<sup>[14]</sup> Furthermore, as MD is a subjective experience, the difference between the MD levels observed in the present study and other studies can be justified.<sup>[17]</sup>

In addition, the frequency and intensity of the nurses' perception of futile care in NICUs and NSCUs were estimated to be moderate, which is in agreement with the results of Mohammadi and Roshanzadeh's study,<sup>[15]</sup> and in contrast with the results of Janvier *et al.*'s study.<sup>[19]</sup> The difference may be due to different instruments, populations, and work environments in Iran; hospital rules can also be considered a potential reason for the discrepancies.

Moreover, MD was directly and significantly related to the nurses' perception of futile care, which is in agreement with the findings of Borhani *et al.*, Ottaghi *et al.*, and Hanna *et al.*<sup>[10,20-22]</sup> MD may enhance the nurses' perception of futile care,<sup>[20]</sup> which is a strong reason for this direct correlation in the two dimensions of intensity and frequency. Concerning perception frequency of futile care, a significant positive association was obtained with age, work experience, and work experience in NICUs or NSCUs. However, this association was negative in the intensity dimension. Furthermore, the frequency was higher in NICU nurses compared to NSCU nurses. In this regard, Mohammadi and Roshanzadeh, Borhani *et al.* and Kirchhoff and Kowalkowski's studies confirmed that the frequency of perception of futile care directly correlates with age and work experience.<sup>[10,15,23]</sup>

As well, some researchers have estimated a higher frequency of the nurse's perception in ICUs.<sup>[21]</sup>

On the other hand, the frequency of the perception of futile care was lower among the novice nurses than the other types of employment status while the intensity of the novice nurses' perception was higher. However, the study by Mohammadi *et al.* revealed that employment status was not significantly related to the frequency and intensity of the perception of futile care.<sup>[15]</sup> In addition, nurses with rotating shifts and those who had not experienced parenthood exhibited a higher intensity of the perception of futile care than those who only worked morning shifts and those with parenthood experience. It seems these results may be due to the younger age and the lower work experience of these nurses.

In general, the contradictory results in nurses' perception of futile care can be attributed to the difference in hospital

policies, the level of nurses' awareness about futile care, and the instruments used in different studies. Although futile care exists in all care and therapeutic centres, it seems that the levels of perception of futile care in both frequency and intensity dimensions mainly depend on the quality of provided care in different treatment settings.

Furthermore, attendance in medical and nursing ethics training courses was inversely related to the frequency and intensity of MD and the total score of MD. In this respect, Otaghi *et al.* associated higher MD in nurses with higher education levels, who had more training in ethics, than those less trained in dealing with stressful conditions.<sup>[21]</sup> Neal and Shafiei *et al.* suggested that the training courses fail to play a notable role in recognising and controlling the intensity of MD in pediatric and other inpatient units.<sup>[24,25]</sup> These results are in agreement with the results of the present study. However, some researchers have found that attending medical ethics training courses reduces MD,<sup>[26]</sup> which is in contrast with the results of the present study. According to the Ghasemi *et al.* study, this paradoxical result may be related to increasing the moral sensitivity of trained nurses due to increasing their knowledge and awareness.<sup>[17]</sup> In addition, the difference in the results can be related to the non-continuity of ethics training courses and the incompatibility of the educational content with Iranian culture. The incongruence between educational topics and the level of nurses' professional needs can be a possible reason for the discrepancies.

Furthermore, based on the present study results, the frequency of MD decreased with an increase in age. In addition, the intensity of MD was higher among the participants who had not experienced parenthood, those working in NSCUs (compared to NICU nurses), and ethics-trained nurses. While the results of most studies have demonstrated that age and work experience have an inverse association with MD,<sup>[5,10,19,24,25,27-29]</sup> some researchers have outlined a direct association in this regard.<sup>[30]</sup> Ameri *et al.* (2013) found that nurses with permanent positions have higher MD than novice nurses<sup>[31]</sup> and a negative association between MD and education levels was demonstrated by Sirilla.<sup>[32]</sup> A direct association between MD and the rotating work shifts was observed by Behboodi *et al.*<sup>[27]</sup> Studies by Behbodi *et al.* and Borhani *et al.* found higher MD in ICU nurses than in nurses of regular wards.<sup>[10,27]</sup>

As mentioned above, the decrease in the total score of MD and its intensity dimension with increasing age and work experience in nurses was attributed to the acquisition of clinical skills and experiences necessary for coping with stressful conditions.<sup>[19,33]</sup> This can justify the high MD intensity in nurses who have not experienced parenthood and novice nurses, who are often of lower age. Despite the higher MD intensity in ICUs, reported in the previous studies, the nurses studied in our study showed higher intensity of MD in NSCUs than in NICUs, which may be due to the higher

number of less-experienced and novice nurses working in NSCUs.

### Implications and recommendations

The results of this study can be used as a stimulating factor for managers of universities and directors of hospitals to provide a platform to create the required changes in the educational curriculum of nursing students to include enough training in palliative care and provide appropriate courses for neonatal units' nurses to improve their ability to cope with the MD due to the provision of futile care. Furthermore, this study can be a basis for the ministry of health to create ethical committees with the presence of nurses in hospitals and publish the necessary guidelines to deal with ethical challenges and MD. A limitation of this research is the low number of participants. Therefore, similar studies with greater sample sizes are recommended to achieve more accurate results. In addition, the instruments used in this study were answered through self-report; hence, answers to the questionnaires might have been affected by the nurses' working and personal conditions. Thus, it is recommended to conduct a similar study using qualitative or observational methods.

### CONCLUSION

This study showed that perception of futile care and MD had a significant and direct correlation. Based on the results, futile care is a factor that causes MD among nurses, leading to harmful consequences for nurses, patients, and hospitals, and this critical issue is aggravated in NICUs and NSCUs due to the higher sensitivity of caring for neonates.

### Declaration of patient consent

Patient consent not required as there are no patients in this study.

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### Conflicts of interest

There are no conflicts of interest.

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