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Perception of the Futile Care and Its Relationship With Moral Distress in Nurses of Intensive Care Units

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ABSTRACT

Introduction: The development of science and technology has provided more opportunities for patients to live and even receiving futile medical care or treatment with no hope of recovery. This process leads to awkward experiences and moral distress in nurses who frequently deliver with such care.

Objective: This study aimed to determine the perception of futile care and its relationship with moral distress in nurses working in intensive care units

Materials and Methods: This is a cross-sectional study conducted on 155 nurses working in Intensive Care Units (ICUs) employed in educational-therapeutic centers and hospitals of Guilan Province, Iran. They were selected by convenience sampling method. The study data were collected using the researcher-made questionnaire and Corley moral distress questionnaire. The obtained data were analyzed using descriptive statistics and inferential statistics the Kolmogorov-Smirnov test, nonparametric Mann-Whitney U, Kruskal-Wallis, Fisher exact and Backward logistic regression model.

Results: The Mean±SD age of the samples was 34.71±6.68 years; their Mean±SD work experience was 10.24±5.63 years, and the Mean±SD work experience in the ICU was 6.76±4.64 years. The results indicated that their Mean±SD perception of futile care was 63±7, and their Mean±SD moral distress was 92±54. The score of moral distress showed a low but significant and positive correlation with the legal and organizational aspects of futile care (r=0. 279, P=0.001) and the total score of perception futile care (r=0.2, P=0.012). In the multivariate analysis based on the logistic regression model of futile care, only the relationship between the legal and organizational score in care had a significant relationship with moral distress. So that by increasing one unit in the legal and organizational aspect of care, the chances of scoring above the mean of moral distress increases 1.2 times (P=0.0001, 95% CI; 1.077-1.324).

Conclusion: Perhaps by familiarizing nurses with the legal and organizational nature of patient's care, the moral distress of caring can be reduced.

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Highlights

- Therapeutic care with therapeutic effects but without benefit for the patient is called futile care.
- Most nurses working in intensive care units have an experience of moral distress when caring for patients.
- Nurses' sound perception of futile care increases burnout and emotional fatigue in nurses.
- The perception of the treatment team members about the concept of futile care can affect the physical and mental health of the treatment team and the quality of nursing care.

Plain Language Summary

The development of science and new technologies in life caring have caused disabled patients and even brain death patients to continue their vegetative state in intensive care units. Many of these patients endure a great deal of pain without hope of recovery, and in many cases, their vegetative state imposes hefty costs on them, their families, and the health system. This situation causes nurses to face many problems and moral distress because they are committed to performing their duties, despite the futility of providing care to return these patients to their health. This study aims to determine the perception of futile care and its relationship with moral distress in nurses working in intensive care units. The results showed that the majority of studied nurses in intensive care units had mild moral tension. The intensity of moral distress was significantly correlated with the legal and organizational aspects of futile care and the total score of the perception of futile care. Besides, despite knowing their futility, the legal and organizational care (that the nurses committed to provide) were the predictors of moral tension in nurses.

Introduction

The increasing development of methods and technologies in the field of health sciences has provided more opportunities for people to save their lives [1, 2]. All of the recent developments in new therapies have delayed people's deaths. But the question that comes to mind is whether these treatments save people's lives from death or just prolong their lives without a suitable quality [1, 3].

New life-care technologies have allowed patients and even brain death ones to continue their minimal vegetative state in Intensive Care Units (ICUs). Many patients endure a great deal of pain without hope of recovery, and their persistent vegetative state may impose very high costs on themselves, their families, and the health care system [4].

Despite technological advances, the issue of care has remained significant. Care is known as the core and essence of nursing and one of the main principles of all health professions [5, 6]. Therapeutic care but without therapeutic benefit for the patient is called futile care [6, 7]. The fruitless care in the ICU is considered an influential factor in increasing the life hours of people [1].

Futile care brings many challenges; one of them is the cost of futile care. The indefinite duration of benefiting from these services has incurred great costs for the patient and the family, and the health system [1, 8]. Another challenge of futile care is related to the staff in intensive care units that provide this care. They are at risk of burnout as an unpleasant experience. This condition jeopardizes their quality of care and increases staff shifting in these departments, and indirectly affects the nurses [1, 3].

Nurses are one of the largest groups of service providers in the health system that spend most of their time beside the patient's bed, and this continuity of nurses' activities faces them with moral problems in the workplace more than other health system groups. Most ICU nurses experience moral distress when caring for patients [1, 9].

Tension and distress arise in nurses due to the need to follow medical instructions and their awareness of their provided futile care. Nurses expect to take care according to ethical principles, and when they are in such work situations (futile care), they experience moral distress [2].

Moral distress may also impair the quality of patient care. At the same time, moral distress may reduce job satisfaction, especially in nurses, and also affect the life quality of nurses and the health care quality [10, 11].

When nurses face with moral distress, they feel more stress as well as physical disorders such as headache, insomnia, loss of appetite, palpitations, or emotional symptoms such as low self-esteem, anger, and feelings of worthlessness and hopelessness or internal manifestations as job insecurity or lack of self-confidence. This situation reduces their relationships with other members of the health team. Moral distress also affects some nurses' ability to continue working in the same ward [12].

The results of a study show that 87% of physicians and 95% of nurses studied in Canadian ICUs felt that they had provided futile care at least once in the past year [13]. The results of the Piers' study also showed that physicians and nurses in the ICU experienced futile care at least once in their work shifts [14]. Iran, like other countries in the world, with recent advances in medicine and an aging population, has faced an increase in the number of patients with chronic diseases [15].

Moral distress due to futile care is very high, and reducing the amount of futile care leads to lowering tension and increasing nurses' job satisfaction [2]. Researches show that nurses' increased perception of futile care increases burnout and emotional fatigue in nurses. The treatment team members' understanding of the futile care concept and its effect on the physical and mental health of the treatment team and the quality of nursing care provided can be effective [1, 16].

The inequality of the facilities, equipment, and culture of the environment makes the perception of futile care different in people. This condition can affect moral distress. Therefore, the researcher decided to conduct the present study to determine the perception of futile care and its relationship with moral distress in nurses working in ICUs by considering personal and occupational variables.

Materials and Methods

The present study was a cross-sectional, analytical study conducted on all nurses working in the ICU sections of educational and medical centers in Guilan Province, Iran, in 2019. The sampling method was the census method. The number of nurses was 165 at the time of data collection, of whom 155 nurses who met the inclusion criteria were included in the study. The inclusion criteria included having at least a bachelor's degree and one year of clinical experience in the relevant department.

The study instrument used is a three-part questionnaire that in the first part examines demographic information including age, gender, marital status, education, job position, general work experience and work experience in the special section, type of work shift, type of employment status, and the second section included a researcher-made 17-questions questionnaire regarding the perception of futile care and the third part included the Corley moral distress questionnaire [17]. It contains 21 questions, which its psychometric indexes were checked by Soleimani in Iran [18]. Corley moral distress instrument with 21 phrases assesses the frequency and severity of moral distress based on 5-point Likert-type scales from no time (equal to 0) to daily (equal to 4) and the intensity dimension from never (equivalent to 0) to very much (equal to 4).

The effect of moral distress in each phrase is calculated by multiplying the score of the intensity in moral distress by the frequency of the moral distress of that phrase. The overall moral distress score for intensity, frequency, and effect is obtained by calculating the average total score of the phrases. The frequency and intensity scores obtained from the whole scale are classified into three categories: mild (0-112), moderate (113-224), and high (225-336) [17].

Regarding the fact that no instrument was found in the field of futile care, the studied instrument is derived from similar research done in Iran [1, 5, 15, 19]. This questionnaire includes 17 questions related to the three areas of futile care: professional and individual values and beliefs (8 items, scores between 8 and 40), legal and organizational domain (5 items, scores between 5 and 25), and social and cultural domain (4 items, scores between 4 to 20). Each item was scored based on the 5-point Likert-type scale, from 1 "strongly disagree" to 5 "strongly agree." The total score of this questionnaire is 85. To check the validity of this questionnaire, it was given to 10 Nursing Faculty members.

The CVR (content validity ratio) of all exept three questions was 0.62. The lowest CVI (content validity index) obtained in all three dimensions was equal to 0.7, and the highest was equal to 1. Therefore, questions that ranged from 0.7 to 0.8 underwent minor review, and questions above 0.9 remained unchanged in the instrument. Thus, the above instrument was reduced from 20 questions to 17 questions. To evaluate the external reliability of the instrument for the perception of futile care and moral distress, we used the retest method. The questionnaire was distributed in two stages with an interval of 10 days among 20 nurses working in the ICU. Reliability values based on the Intraclass Correlation Coefficient Index (ICC) were found 0.87 for the first domain (professional and individual beliefs and values),

Table 1. Distribution of personal and occupational factors

Individual-occupational Variables		No. (%)
Age (y)	>30	40 (25.81)
	30-39	82 (52.90)
	40≥	33 (21.29)
Gender	Woman	142 (91.61)
	Man	13 (8.39)
Marital Status	Single	33 (21.29)
	Married	122 (78.71)
Education	Bachelor degree	136 (87.74)
	Master degree or higher	19 (12.26)
Position	Nurse	147 (94.84)
	Supervisor	8 (16)
Work experience (y)	5≥	39 (25.16)
	10-6	30 (19.35)
	15-11	60 (38.71)
	16≤	26 (16.77)
Work experience in an intensive care unit (y)	5≥	73 (47.10)
	10-6	38 (24.52)
	11≤	44 (28.39)
Shift	Fixed morning shift	13 (8.39)
	Fixed night shift	5 (3.23)
	Morning & night	4 (2.58)
	Rotation	133 (85.81)
Employment status	Permanent/Formal	63 (40.65)
	Temporary/Contractual	36 (23.23)
	Contract & Cooperate employing	37 (23.87)
	Temporary	19 (12.26)

0.86 for the second domain (legal and organizational aspects), and 0.86 for the third domain (social and cultural aspects). Regarding the external reliability coefficient of the whole questionnaire, it was found 0.84. The reliability of the moral distress instrument was also evaluated using the retest method, and the results of the ICC agreement coefficient were 0.97 (P=0.001).

The questionnaire, after obtaining legal permits and observing ethical standards while emphasizing on confidentiality principle were provided to the research samples at two shifts in the middle of the morning and evening shifts (according to the number of nurses). A total of 155 questionnaires were collected. According to the research objectives, the obtained data were analyzed by descriptive statistics (Mean±SD, minimum

and maximum, frequency and percentage of frequency) and inferential statistics (the Kolmogorov-Smirnov test, Spearman correlation, nonparametric Mann-Whitney U test, the Kruskal-Wallis, Fisher's exact test, Backward logistic regression) in SPSS v. 21.

Results

In the present study, 155 nurses participated in educational and medical hospitals of Guilan Province. Their Mean±SD age of the samples was 34.71±6.68 years, the Mean±SD work experience was 10.24±5.63 years, and their Mean±SD work experience in the ICUs was 6.76±4.64 years. Other specifications are available in Table 1. The results indicate that the distribution scores of the futile care aspects and also the moral distress score did not follow the normal distribution (P<0.05). Therefore, to measure the relationship between moral distress score and futile care fields, we used the Spearman correlation coefficient. For comparing these scores based on individual and occupational variables, the nonparametric tests were applied. The highest Mean±SD, i.e. 31±4, was related to the score of professional and personal beliefs and values in the perception of the futile care field of research samples. And the Mean±SD of legal and organizational care is equal to 17±4. Also, the Mean±SD of social and organizational care was 14±2, and the Mean±SD of futile care perception was 63±7. Finally, the Mean±SD of moral distress was 92±54. Based on the classification instruments, most nurses (74.84%) working the ICUs had mild moral distress. Moral distress was high in only 2 nurses (1.29 %). Based on personal and occupational characteristics, there is no significant difference between the nurses' perception of futile care in the intensive care unit.

With regard to legal and organizational care, there is no significant difference between the futile care perception scores of nurses in the ICUs in terms of individual and occupational characteristics using Mann-Whitney and Kruskal-Wallis tests. Only in terms of education, nurses with a master's degree had a higher mean scores than the bachelor's degree, based on the legal and organization in performing futile care (P<0.05). Regarding nurses' perceptions of futile care in the social and cultural field of medical care, the only difference was seen in terms of age group (P=0.034) in terms of individual and occupational characteristics using the Mann-Whitney and Kruskal-Wallis test.

Nurses in the age group of 40 years and above had a higher average and median than other age groups. The distribution of moral distress status in terms of individual and occupational characteristics did not show a statistically significant difference according to Fisher's exact test. Comparison of moral distress scores in intensive care unit nurses in terms of personal and occupational characteristics was not significant according to Mann-Whitney and Kruskal-Wallis tests.

In Table 2, based on the results, the moral distress scores had significant and positive correlations with the legal and organizational aspects of futile care (P=0.001 and r=0.279) and the total score of perception of futile care (P=0.012 and r=0.2). The adjusting model according to personal and occupational variables and based on the logistic regression results showed that among the

Table 2. The relationship between nurses' perception of futile care and moral distress

Variables		Occupational and Personal Beliefs and Values	Legal and Organizational Aspects of Care	Social and Cultural Aspects of Care	Perception of Futile Care
Legal and organizational aspects of care	Correlation coefficient	0.082			
	Sig.*	0.313			
Social and cultural aspects of care	Correlation coefficient	0.265	0.114		
	Sig.*	0.001	0.196		
Perception of futile care	Correlation coefficient	0.723	0.639	0.553	
	Sig.*	0.0001	0.0001	0.0001	
Moral distress	Correlation coefficient	0.001	0.279	0.145	0.2
	Sig.*	0.987	0.001	0.071	0.012

* The Spearman test.

Table 3. Odds ratio and futile care aspects associated with moral distress

Variables		B	SE	Sig.	OR	95% CI	
						Lower	Upper
Final model	Legal and organizational scores of cares	0.177	0.053	0.001	1.194	1.077	1.324
	Constant	- 4.335	1.018	0.0001	0.013		

* Variable(s) entered on step 1: occupational and personal beliefs and values, legal and organizational aspects of care, social and cultural aspects of care, age, gender, marital status, education, position, work experience, work experience in the special section, shift, and employment status

entered variables, the scores of futile care along with personal variables including age, sex, marital status, education, job position, work experience, and work experience in ICU and shift and employment status, the score of legal and organizational cares (P=0.001) with an odds ratio of 1.2 was the only predictor variable of nurses' moral distress. In other words, the higher the score in the legal and organizational score, the higher the odds ratio of moral distress. In other words, for one unit increase in the legal and organizational score, moral distress increases 1.2 times (Table 3).

Discussion

The results of the present study showed that the distribution of the perception score of nurses of ICUs in each area and the total score in all three areas received the highest mean and standard deviation in the area of beliefs and values. A study by YekeFalah that examined the causes of futile care in patients at the end-of-life hospitalized in the ICU from the perspective of nurses showed that the most common causes were related to the organizational policy, socio-cultural factors, and legal issues. Also, the most infrequent reasons for futile care in the ICU were related to dimensions of nurses' occupational competence and individual beliefs and values [19]. Differences in nurses' level of perception in different studies are due to cultural differences, the use of various study instruments, and differences in design and subject matter.

In the present study, nurses' perceptions of futile care in general and in each area in terms of personal and occupational characteristics was significant only based on their level of education, and nurses with a Master's degree in comparison with the bachelor's degree had a higher mean and median in the field of legal and organizational scores in doing futile care. However, the results of Rezaei's study confirmed that participants with education in medicine and nursing had a good perception of futile care and the factors affecting it, and this perception was higher in nurses than physicians [20]. This finding is different from the present study due to the difference in the level and field of research in the studied samples, which leads to the formation of different opinions in the nurses. Also, because the job description of nurses is fulfilling the physicians' orders, these different results can be expected.

In the current study, there was a major difference between the ICU nurses according to the age group about the perceptions of the futile care in the social and cultural aspects. Those nurses in the age group of more than 40 years had higher mean and median scores versus the other groups. These results were confirmed by Mobley et al., who reported that increasing age and the years of service records would result in more exposure of nurses to futile care and its challenges [10]. Meltzer and Huckabay, while expressing similar results in this regard, stated that in addition to frequent exposure to such phenomenon, increasing age is associated with specific mental and physical changes that make people vulnerable to this phenomenon and experience more impacts [21]. Such results are expected when a nurse is repeatedly confronted with a task that must do it for some reason, despite knowing that the care she provides is futile.

Examining the distribution and score of moral distress in ICU nurses based on personal and occupational characteristics showed that the distribution of moral distress was statistically significant regarding none of these variables. According to the category of study tools, the majority of nurses had low moral distress. Only two nurses had high moral distress, but the results of Beik Moradi's study showed that the intensity of moral distress in nurses in his study was moderate [22]. In his research, Dodek examined the moral distress and related factors in intensive care unit staff and showed that the score of moral distress of nurses and other caregivers was higher than physicians, and there was a direct relationship between work experience and moral distress of nurses [23]. Considering the cultural and social differences and the factors affecting the moral distress and

available facilities and equipment in different regions, the differences in these results are predictable.

In studying the relationship between moral distress scores in ICUs nurses with the perception of futile care, the results showed that the moral distress score had a significant and positive low correlation with the score of legal and organizational aspects of futile care and the total score of futile care perception. In Borhani etal. study entitled "investigating the relationship between moral distress and perception of futile care," the results showed a significant positive relationship between moral distress and futile care [16]. The outcomes of the Dzeng etal. study entitled "ethical tension on useless end-of-life therapies" conducted among American physicians showed that moral distress among medical trainees occurs when they feel that their provided care for end-of-life patients are useless and even harmful [24]. Mobley etal. also showed in their study that the moral distress associated with futile care conditions in the intensive care unit increases over time [10]. Differences in nurses' level of perception and its relationship with moral distress in different studies are expected due to differences in facilities and equipment, the process to provide services, different treatment protocols in different countries, cultural and religious differences, the use of various study tools and ruling laws in different societies.

In multiple analyses based on the regression model of the area of futile care, there was only a significant relationship between the score of the legal and organizational aspects of care with moral distress. According to the Borhani etal. study results in Kerman Province, Iran, futile care is a phenomenon that is involved in the moral distress of nurses, while the consequences and challenges can, in turn, affect its intensity and frequency. Besides fatigue or unawareness of the care provided, legal, occupational and ethical aspects may also increase nurses' stress or even make it unbearable [16]. Because of the lack of a committee to decide on transferring the dying patients to the home or ward and the lack of explicit instructions for determining the limits and evidence of futile care in medical centers, such results are expected.

One of the limitations of this study was the mental state of the research samples when completing the questionnaire and the high volume of work due to lack of human resources. The use of a researcher-made questionnaire is also one of the limitations of this research, so it is suggested that a qualitative approach research be conducted to more accurately examine the various aspects of futile care since it can result in burnout besides moral distress. Also, it is suggested that a study be accomplished to investigate the relationship between futile care perception and burnout in the intensive care unit.

Ethical Considerations

Compliance with ethical guidelines

This article is taken from the Master's thesis in intensive care nursing and extracted from a research project number 942533 with the ethical code of IR.GUMS.REC.2018.432. The project was approved by the Social Factors Affecting the Health of Guilan University of Medical Sciences. All participants signed an informed consent form before entering the study.

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Authors contributions

Conceptualization: Masoumeh Adib, Somayeh Modabi, Sadra Ashrafi and Ehsan Kazemnezhad Leili; Writing the manuscript: Masoumeh Adib, Somayeh Modabi and Sadra Ashrafi; Data collection: Somayeh Modabi; Data analysis: Ehsan Kazemnezhad Leili. All authors approved the final version.

Conflict of interest

The authors declared no conflict of interest.

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