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Perception of futile care and caring behaviors of nurses in intensive care units

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Abstract

Objectives: Futile medical care is considered as the care or treatment that does not benefit the patient. Staff of intensive care units experience moral distress when they perceive the futility of care. Therefore, this study aimed to determine the relationship between perceptions of nurses regarding futile medical care and their caring behaviors toward patients in the final stages of life admitted to intensive care units.

Method: This correlation, analytical study was conducted with 181 nursing staff of the intensive care units of health centers affiliated to Mazandaran University of Medical Sciences, Mazandaran, Iran. The data collection tool included a three-part questionnaire containing demographic characteristics form, perception of futile care questionnaire, and caring behaviors inventory. To analyze the data, statistical tests and central indices of tendency and dispersion were investigated using SPSS, version 19. Pearson's correlation coefficient, partial correlation, t-test, and analysis of variance tests were performed to assess the relationship between the variables.

Ethical considerations: The study was reviewed by the ethics committee of the Mazandaran University of Medical Sciences. Informed consent was obtained from participants.

Results: Our findings illustrated that the majority of nurses (65.7%) had a moderate perception of futile care, and most of them (98.9%) had desirable caring behaviors in taking care of patients in the final stages of life. The nurses believed that psychosocial aspects of care were of utmost importance. There was a significant negative relationship between perception of futile care and caring behavior.

Conclusion: Given the moderate perception of nurses concerning futile care, and its negative impact on caring behaviors toward patients, implementing suitable interventions for minimizing the frequency of futile care and its resulting tension seems to be mandatory. It is imperative to train nurses on adjustment mechanisms and raise their awareness as to situations resulting in futile care.

Keywords

Caring behaviors, futile care, intensive care unit, nursing palliative care

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Introduction

Providing care for patients is the primary responsibility of nurses,[1] and it is one of the most essential components of human evolution and survival.[2] Meeting the individual needs of patients is pivotal to nursing care, and the ultimate objective of nursing is to provide high-quality care.[3]

The outcome of care should improve the attitude of patients toward their improvement and future.[4] Currently, application of complicated technological interventions in intensive care units (ICUs) has been on growing trend.[5] The increasing development of methods and technologies in the field of health sciences has provided further opportunities to save lives.[6] All these advances can prolong lives of individuals through novel clinical methods.

However, the question arises as whether these treatments really save people's lives or just slightly prolong their lives without any quality.[7] Nowadays, shortage of intensive care beds along with the frequency of stress factors in ICU has raised challenging discussions as to futile care.[8] Futile care is defined as aggressive treatment or intervention for patients, who are at final stages of life and the probability of their survival and improvement is very unlikely, similar to conditions where the chance of survival is very slim.[9]

In fact, cares with clinical effects, but with no benefit for patients, are termed as futile care.[10] Data analyses in various studies have provided an operational definition for futile care, which is the use of considerable resources without the possibility or reasonable hope to improve patients or reaching a degree of relative independence to interact with surroundings. According to previous studies conducted all over the world, this concept is mostly described by the staff of special wards as contradiction between the care provided by the staff of special wards and determined prognosis for patients. This disproportion was mostly related to excessive care.[11]

In the United States, at least one out of five patients admitted to ICUs die,[12] and approximately half of the patients dying in hospitals of this country were hospitalized in ICUs and received futile care. A significant proportion of resources are allocated to futile care in ICU.[13]

The unascertained duration of such care burdens patients, families and health systems with high costs on patients, their families, and health systems; in addition, it indirectly affects nurses.[14] According to one study, 40%–60% of care provided in ICUs was futile.[15]

Futile care is not low cost and about 16% of the annual medical budget is allocated to implementation of futile care for every 60 days of life.[16] Financial detriment to hospitals for each patient that at least needs 72 h of mechanical ventilation is US$23,000.[17]

This is not the only cost carried for implementation of futile care; there is also the cost of insurance and additional expenses.[18] In addition to health organizations, families also burden heavy costs and experience frustration.

In the end, the nurses are negatively affected by the organizational limitations.[19] Results of former studies indicated a relationship between futile care and moral distress.[9,20] Physicians and nurses working in ICUs suffer from moral distress due to futility of care.[9] Moral distress might lead to various types of mental and physical consequences that can have a negative impact on professional responsibilities of nurses.[21]

In addition, this problem can impair quality of care, and at the same time, moral distress might lower job satisfaction, especially for nurses, whereby their quality of life is affected by this matter.[9] Futile care may cause insensitivity toward patients, lack of attention to pain, reduced amount of effort made by nurses to provide more and higher-quality care, negligence in treatment, increase in expenses, and waste of time and energy. Furthermore, the frequency of stressful situations resulting in futile care has a significant relationship with emotional exhaustion as one of the major components of burnout among members of the ICU team.[20]

Moreover, the ensuing stress can lead to nurses leaving their job.[11] Therefore, enhancing the quality of nursing care and having access to intensive care consultants to improve decision-making in futile care situations are mandatory.[15] In Iran, critical care nurses face convoluted challenges while providing futile

care. Despite the frequency and complexity of futile care issues among critical care nurses, this concept remains unknown in the Iranian society.[4]

Thus, perception of the clinical team regarding futile care is of great importance and it has an important role in the quality of nursing care and mental and physical health of the clinical team.[11] In addition, based on the review of the available databases, a limited number of studies were conducted on this issue in Iran. Therefore, this study aimed to determine the relationship between the perception of nurses of futile care and caring behaviors toward patients in the final stages of life admitted to ICUs.

Materials and methods

This correlational, analytical study was conducted to determine the relationship between the perception of nurses regarding futile care and their caring behaviors toward patients in final stages of life admitted to ICUs of Mazandaran hospitals in 2015 after taking the ethical considerations of Mazandaran University of Medical Sciences. The research setting included ICUs of clinical centers affiliated to Mazandaran University of Medical Sciences (Imam Khomeini, Booali, Zare, Razi, Imam Reza, Imam Ali, and 17th Shahrivar).

After obtaining permission from authorities of the hospitals and approval of the Deputy of Research and Technology of Mazandaran University of Medical Sciences, the researcher commenced the study. Census method was used for sampling.

The inclusion criteria included the following: (1) a bachelor's degree in nursing and higher, (2) at least 1 year of working experience in ICU, and (3) full-time employment in ICU. The number of total nurses in these units was 240.

Only 25 of these nurses did not meet the inclusion criteria. Among the 215 eligible nurses, 181 were willing to participate in the study and filled-out the questionnaires. The data collection instruments comprised a demographic characteristic questionnaire, the questionnaire of nurses' perceptions of futile care, and the caring behaviors inventory (CBI).

The demographic variables included personal and professional characteristics of participants, which contained items on age, gender, marital status, educational level, employment status, clinical experience, working experience in ICU, type of shift working, mean working hours per week, working at more than one hospital, and experience of having a relative in his or her final stages of life in ICU.

The questionnaire of nurses' perceptions of futile care is derived from the questionnaire of Zakerimoghadam and Rezaei,[22] which was used after a few adjustments. This questionnaire consists of 35 items, rated using a five-point Likert scale. Answers were in the form of *I totally disagree*, *I disagree*, *no opinion*, *I agree*, and *I completely agree*. The lowest score of each item is 0 (*I totally disagree*), and the highest score is 4 (*I completely agree*).

The nurses were categorized into three groups of high (94–140), moderate (47–93), and low perception (0–46), based on their total score. Content and face validities of the questionnaire were established using the comments of a panel of experts, and its reliability was confirmed by Cronbach's α (0.91).

The third part was adapted from CBI, which evaluates the caring behaviors of critical care nurses. Their behaviors were rated using a five-point Likert scale, and the answers were *never*, *rarely*, *sometimes*, *usually*, and *always*. The lowest possible score was 0, and the highest possible score was 92. The nurses were divided into three groups of desirable behavior (47–92), almost desirable behavior (24–46), and undesirable behavior (0–23).

The validity of this scale was confirmed using opinions of experts in the field, and its reliability was established by Cronbach's α (0.95). Data collection was performed through presentation of the researcher to the hospitals and distribution of the questionnaires among nurses in the morning, evening, and night shifts for 2 months.

Table 1. Frequency distribution of perception of futile care in nurses working in intensive care units.

Frequency of perception score	Absolute	Relative
Low	36	19.9
Medium	119	65.7
High	26	14.4
Total	181	100

Table 2. Frequency distribution of caring behaviors of nurses working in intensive care units.

Frequency of caring behaviors	Absolute	Relative
Undesirable	0	0
Almost desirable	2	1.1
Desirable	179	98.9
Total	181	100

The obtained data were analyzed using SPSS, version 19, and descriptive statistics such as frequency of distribution and central tendency and dispersion (e.g. mean and standard deviation) were calculated. Pearson's correlation coefficient, partial correlation, independent sample t-test, and analysis of variance (ANOVA; with Bonferroni post hoc test) tests were run to determine the relationship between the variables.

Results

Our findings exhibited that 85.6% of the participants were female. The mean age of the participating nurses was 34.48 $\pm$ 5.98 years. Moreover, 84.5% of the nurses were married, and 44.2% were official employees. Mean working experience of the participants was 9.79 $\pm$ 5.01 years, and 5.83 $\pm$ 3.79 years of working experience in ICU; furthermore, 95.6% of the nurses had bachelor's degree.

Most of the nurses (90.1%) were working in rotational shifts. The mean working hours per week was 48.79 $\pm$ 11.38 h. The results of the study suggested that the majority of the nurses (87.8%) were only working at one hospital at the time, and more than half of the nurses (60.2%) did not have the experience of having a relative in final stages of life in ICU. Most of the nurses (65.7%) had a moderate perception of futile care (Table 1).

The majority of the nurses (98.9%) had desirable behavior toward treatment of patients in final stages of life (Table 2). There was a significant difference between the mean score of the technical–physical aspects and psychosocial aspects of care. Moreover, nurses believed that psychosocial aspects were more important than other factors ($p < 0.001$).

The present results demonstrated that there was a significant negative relationship between futile care and caring behaviors of nurses toward patients in final stages of life ($p = 0.000$; Table 3).

The results revealed that there was no significant relationship between demographic variables including age, working experience, working experience in ICU, marital status, educational level, employment in several hospitals, experience of having a relative in final stages of life in ICU, type of employment, and type of shift working, with the perception of futile care ($p > 0.05$).

However, there was a significant relationship between the mean working hours per week and perception of futile care ($p < 0.05$). In addition, it was only the mean working hours per week among the

Table 3. Relationship between perception of futile care and caring behaviors of nurses in intensive care units.

Variable	Correlation coefficient	p-value
Viewpoint Caring behavior	−0.76	0.00

demographic variables that had a statistically significant relationship with caring behaviors of nurses ($p < 0.05$).

Discussion

The results of this study revealed that the majority of nurses (65.7%) had a moderate perception of futile care. Mohammadi and Roshanzadeh[23] also in a study conducted in hospitals of South Khorasan, Iran, showed that nurses had moderate perception of futile care in terms of intensity and frequency. Borhani et al.[24] also reported the perception of nurses regarding futile care to be at a moderate level. This result is not in accordance with the results of Piers et al.,[11] who found that nurses had high perception of futile care. Ferrell et al.[25] also reported the perception of nurses toward futile care to be at a high level.

Zakerimoghadam and Rezaei,[22] in a study performed to compare the perception of physicians and nurses toward futile care, revealed that nurses had acceptable perception of futile care. Moral distress caused by futile care was high in the study of Mobley et al.[9]

Dunwoody et al.[26] reported that the perception of nurses toward futile care was high, and introduced the ensuing problem from futile care as one of the most important factors causing moral distress in nurses.

However, Eslami and Rezaei,[27] in a study performed in Kerman, proposed that perception of nurses toward futile care was low. Various levels of nurses' perceptions in previous studies might be due to different methods of service provision because of different treatment protocols and cultural differences in various countries, as well as the application of different tools in designing and subjects of studies and different clinical guidelines.

The disparity in the level of perception of nurses in various studies might be due to the differences in research and cultural settings and use of diverse data collection tools.

Evaluation of the relationship between demographic variables and perception of nurses toward futile care for patients in final stages of life showed that there was no significant relationship between perception of futile care and demographic variables such as age, working experience, working experience in ICU, marital status, educational level, employment in several hospitals, experience of having a relative in the final stages of life in ICU, type of employment, and type of shift working. These findings are in congruence with the results of Zakerimoghadam and Rezaei.[22] However, they were not in accordance with the results of Mobley et al. In the study by Mobley et al., perception of nurses toward futile care was significantly associated with age above 33 years, working experience in ICU of more than 4 years, and clinical experience of more than 7 years. Mobley et al.[9] propounded that gaining experience and clinical skills in ICU can help determine futile care and the resulting situations by nurses.

The results obtained by Meltzer and Huckabay were in line with those of Mobley et al. They found that frequent encounter with futile care and advancing age lead to specific physical and mental transformations, which make nurses susceptible to this phenomenon,[20] which is not in accordance with the results of this study.

The study results of Mohammadi et al.[23] and Borhani et al.[24] illustrated that there was a significant relationship between futile care and variables such as age, years at service, and type of work setting, which is not in accordance with the present results.

The results of Pearson's correlation test indicated that there was a significant link between mean working hours per week and perception of futile care. This finding is not in congruence with the results of Zakerimoghadam and Rezaei.[22]

Nurses might suffer from tension between efforts made to improve patient's health and the received feedback. It seems that additional workload affects the perception of nurses. In fact, it can be concluded that when a nurse frequently performs an action that despite knowing its futility it must be conducted, her or his perception of situations will be disturbed.

With respect to caring behaviors of nurses toward patients in final stages of life in ICU, the results argued that the majority of nurses (98.9%) have desirable behavior toward patients. The results marked that the difference between the mean total technical–physical and psychosocial scores of care was statistically significant. In addition, nurses held that psychosocial aspects of care are more important than other aspects.

In addition, there was no significant association between caring behaviors of nurses and demographic characteristics including age, clinical working experience, working experience in ICU, marital status, educational level, employment in several hospitals, experience of having a relative in final stages of life in ICU, type of employment, and type of shift working. These results are in accordance with the results of Salimi et al.[28] and Asadi et al.[29] Khademian and Vizeshfar[30] also revealed that age, gender, and clinical working experience did not have a significant relationship with caring behaviors of nurses, which is in accordance with the results of our study.

Kotronoulas et al.[31] also did not find a statistically significant relationship between nursing demographic indices (age, gender, clinical working experience, and job status) and perception of the importance of caring behaviors, which is in line with the results of this study.

The results of Pearson's correlation test reflected a negative significant relationship between working hours per week and caring behaviors of nurses. In other words, the more the working hours per week, the lower the caring behavior score, that is, factors such as shortage of human resources and non-standard working conditions can negatively influence caring behaviors of nurses.

Former findings pinpointed that there was a significant negative relationship between perception of futile care and caring behaviors of nurses toward patients in final stages of life. Accordingly, as perceptions of futile care grow, the caring behavior scores reduce. It can be mentioned that moral distress caused by futile care and the dissatisfaction induced from this tension can have a negative impact on caring behavior of nurses and the quality of care.

Conclusion

Given moderate perception of the nurses toward futile care and its detrimental effect on caring behaviors of nurses, it seems mandatory to implement training programs and workshops to help boost compatibility and morality in the medical team through identifying stressful conditions resulting from futile care. These programs can also help reduce the inevitable impact of this phenomenon on mental and physical health of the clinical team. In addition, implementing appropriate interventions to minimize the frequency of exposure to futile care and its resulting tension is mandatory.

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Conflict of interest

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