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Original Article

Dimensions of Futility at the End of Life: Nurses' Experiences in Intensive Care Units

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Abstract

Background and aims: The concept and meaning of futile care depends on the existing culture, values, religion, beliefs, medical achievements, and emotional status of a country. In Iran, futile care has become a challenge for nurses working in intensive care units (ICUs). Considering the differences observed in defining futile care based on the patients' conditions and the nurses' personal values, we aimed to define the dimensions of futility at the end of life from the viewpoints of nurses working in ICUs. This qualitative phenomenological study was done to understand the experiences of nurses working in ICUs with respect to the dimensions of futility.

Methods: this research was a qualitative phenomenological study. The statistical population of this study included nurses working in the ICUs of 11 teaching hospitals and hospitals affiliated to the Social Security Organization in Qazvin province, northwest of Iran. Personal interviews and observations of 25 nurses working in the ICUs of 11 hospitals were collected. All interviews were recorded and codes and themes were extracted using Van Manen's analysis method.

Results: Initially 80 codes were extracted. During data analysis and comparison, the codes were reduced to 65. Ultimately, one theme and 2 sub-themes, and 5 categories were emerged: "futile medical orders, futile diagnostic procedures, and category of nursing which included futile nursing interventions and irrelevant duties to nursing".

Conclusion: Considering that nurses play a key role in managing futile care, being aware of their experiences in this regard could be the initial operational step for compiling useful care and educational programs in ICUs.

Keywords: Futility, End of life, Nurses, Intensive care unit, Phenomenological study

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Introduction

The word "futile care" was initially defined in 1980 and entered *Textbook of Medical Ethics* in 1990.[1] Its definition differs based on the patients' conditions and the nurses' personal values.[2] Some nurses define futile care based on the quality of life after survival.[3] Moreover, the definition of futile care depends on the individual's perception of the quality and quantity of life, moral beliefs, and judgment regarding successful and unsuccessful treatment.[4] A considerable proportion of resources are allocated to futile care in intensive care units (ICUs).[5] Some studies state that 40%-60% of care given in ICUs is futile.[2] Eighty-four percent of Canadian physicians and 95% of nurses believe that futile care is given at least once every year. Studies show that the positive effect of futile care is less than 10%, but it is given because physicians are more worried about getting involved in legal issues than cost imposed on insurance companies.[6] It should be noted that futile care not only include end-of-life care but also any care that does not lead to the patient's survival and discharge or maintenance and enhancement of his/her quality of life.[4]

The costs of futile care add up to 30% of all treatment costs. The lowest and highest costs of end-of-life care in the ICUs of teaching hospitals are $53 432 and $93 000-$105 000 per patient, respectively.[6] Futile care is done for all patients regardless of disease severity. Studies have shown that without futile care millions of dollars would be saved in the salaries of physicians.[6]

Studies show that futile care increases risks, losses, and costs, as well as created painful complications such as bedsores, catheter induced infections, and ventilator induced pneumonia.[6] Therefore, plans to enhance the quality of nursing care and accessibility to intensive care

consultants is necessary for policy making regarding the conditions of futile care.[2]

In Iran, futility is also a challenge for nurses in ICUs. However, despite the prevalence and complications of issues related to futility among nurses working in ICUs, few studies have been done on the type of futile care and dimensions of futility.[3] To identify and analyze these challenges, it is initially necessary to understand the nurses' experiences of dimensions of futility in ICUs. Therefore, we aimed to assess the nurses' experiences of dimensions of futility in ICUs.

Methods

The study was done using the phenomenological method during 2014-2015 in Qazvin province, Iran. The statistical population of this study included nurses working in the ICUs of 11 teaching hospitals and hospitals affiliated to the Social Security Organization in Qazvin province, northwest of Iran. Twenty-five nurses were selected for personal interviews using the purposive sampling method. Nurses with at least a BSc degree and one-year work experience with normal auditory and verbal function were included in this study.

Data collection was done until data saturation. Data were collected using semi-structured interviews and non-structured observations. Cases conforming or not conforming to the statements of the participants were written down. The interviews were done during May-November 2014. In order to start the interviews and reach a comprehensive understanding of the studied phenomenon, the participants were asked to express their experience of type of futile care. The subsequent questions were asked on the basis of the participant's description of futile care. Sample questions were as follows: What does futile nursing care mean? Describe your experiences of type of futile care. What measures do you often label as futile?

The duration of the interviews was 30-86 minutes over 1-3 sessions. All interviews were done by a single researcher. However, assessment of interviews was done by all authors of this study. After each interview, the obtained data were quickly recorded and reviewed accurately several times and transcribed word by word. Then, the transcribed data and recordings were reviewed simultaneously to increase the accuracy of the transcribed data and the researchers' understanding. From this point, the transcribed data were the raw source of data for defining the concept of futile care in this study.

Non-structured observations were also used during semi-structured interviews for recording the participants' behavior, non-verbal communication, appearance, facial expression, and eye contact. Data were analyzed based on Van Manen's phenomenological method. Van Manen[7] introduced the following 6 activities as the operational approach for hermeneutic phenomenology:

1) *Paying attention to the nature of the lived experience:* the first stage in studying the nature of the lived experience: The tendency and interest of the first author to study the phenomenon of futile care in ICUs dates back to the time when she worked as a head nurse at a hospital. During rounds at the ICU, she had noticed that some nurses believed that some care giving was considered futile by the nursing staff. They gave futile care for specific purposes such as fear of supervision. It also seemed that such care affected their performance and attitude. Therefore, the author became interested to study futile care and its related factors.
2) *Discovering a specific experience as lived:* At this stage, the researcher studies an experience exactly as it is lived and not the way it is conceptualized. In our study the main data collection method was interviews with open-ended questions. The interviews started with a simple question to begin conversation and continued with general questions preferably focusing on specific issues.
3) *Contemplation on essential themes that define the phenomenon's characteristics*: Three approaches have been used for clarifying and uncovering thematic aspects of a phenomenon; holistic, inductive, and deductive approaches. We used a selective approach for separating thematic sentences. Initially, each interview was read several times and we asked ourselves which statements were necessary for describing the phenomenon or experience. Then, the statements were identified and underlined and the statements similar to the patients' words (descriptive) or their meanings and interpretations (interpretive) were written. By merging and categorizing thematic sentences, major themes and minor categories were obtained.
4) *Describing the phenomenon using the art of writing and rewriting:* In this stage the author organized the written descriptions about the participants' statements and presented examples of what they had said.
5) *Establishing and maintaining a strong and oriented relationship with the phenomenon:* The researchers tried to constantly review the main research question at all stages including data analysis and theme extraction. In all stages of data analysis, the researchers initially reviewed the main research question and tried to extract themes according to the main research question.
6) *Balancing the research context by considering parts and whole:* By using a selective and inductive approach,[7] the researchers defined the concept of futile care and its related factors in Iran. For thematic analysis, frequent

induction and deduction was used considering the research question.

During the initial coding, 80 codes were extracted. During data analysis, the codes were reduced to 65. Ultimately, dimension of futility was defined by using 1 theme and 2 sub-themes and 5 categories. The accuracy of qualitative findings was determined using validity, verifiability, reliability, and transferability. To increase acceptance, the researchers had adequate and close interactions with the participants. The interview files and extracted codes were reviewed by external observers and their complementary opinions were considered. Verifiability was confirmed by external nurses and supervisors. It should be stated that ethical considerations such as data confidentiality were met at all stages of the study.

In this study, all ethical considerations were taken. The necessary approvals were obtained from Shahid Beheshti University of Medical Sciences, Qazvin University of Medical Sciences, and the Ethics Committees. The participants were informed about the aims of this study. Then, the interviews were recorded after obtaining the participants' permission and written informed consents. During the interviews, the names of the participants were deleted and codes were used instead. The participants' beliefs and values were respected at all stages of the study. Moreover, they were assured that their information would remain confidential and that they could leave the study at any time they wanted.

Results

In the present study, 21 women and 4 men were enrolled with an age range of 27-45 years and mean employment duration of 10.24 years (range: 1-20 years). The mean work experience of the participants at ICUs was 7.02 years (range: 1-15 years). The participants' demographic characteristics are shown in Table 1.

Table 1. The patients' Demographic Characteristics

Variable		No. (%)
Sex	Female	21 (84)
	Male	4 (16)
Marital status	Single	13 (52)
	Married	12 (48)
Educational status	BSc	22 (88)
	MSc	3 (12)
Title	Head nurse	2 (8)
	Staff	2 (8)
	In rotation	21 (84)
ICU Ward	Surgery	6 (24)
	Internal medicine	8 (32)
	Cardiac surgery	3 (12)
	General	5 (20)
	Trauma	3 (12)

Table 2. Dimensions of Futility

Theme	Sub-theme	Categories
Aspects of futility	Medical	Futile admission
		Futile diagnostic procedures
		Futile medical orders
	Nursing	Futile nursing interventions
		Irrelevant duties to nursing

After data analysis, 5 categories, 2 sub-themes, and 1 theme were emerged. The different aspects of futile care included measures taken by the medical team such as futile admission, futile diagnostic procedures, futile medical instructions, and measures taken by the nursing team such as nursing interventions and irrelevant duties to nursing. These categories and sub-themes are shown in Table 2.

1. "Dimensions of futility" were extracted as theme. The sub-themes of this theme included medical and nursing. Medical category included futile medical orders, futile diagnostic procedures, and category of nursing was futile nursing interventions and irrelevant duties to nursing.

1.1. Medical

1-1-1 Futile Medical Orders

The participants stated that orders that interfered with each other, various complementary orders, and not paying attention to the result of orders were futile and ultimately tired the personnel and wasted their time. Moreover, they stated that prescribing expensive drugs and different types of tests for a dying patient was useless. One nurse said: "For example, last week we had a patient whose survival rate was very low. The doctor ordered a bone marrow, the patient's family did not give consent but the doctor spoke to them and asked them whether they wanted to know what the reason for the death of their father was and finally they agreed." (Participant 11).

1.1.2. Futile Diagnostic Procedures

The participants stated that some physicians opt to perform various invasive diagnostic procedures without informing the patients and their families. One nurse said: "The doctors orders pleural tap and LP and many other things for a patient and he knows the patient is going to die but still he/she orders for an emergency sonography or endoscopy. This really tires the nursing team and disappoints them. Believe me, the patient's nurse is so tired that she cannot walk because of all these orders...; a CGS=3 patient." (Participant 13)

1.1.3. Futile Admission

The participants stated that unfortunately some physicians admit patients to the ICUs that do not necessarily need to

be admitted. They are either patients who can be admitted to other wards or dying patients whom nothing can be done for. One nurse said: "Some doctors tell the families of patients with a GCS=3 to bring them to the hospital for surgery, and the families do not listen saying that it is useless…." (Participant 8).

1-2. Nursing

1-2-1. Futile Nursing Interventions

The participants stated that unfortunately 80% of ICU care is futile. Antibiotic therapy, routine laboratory tests, injection of blood products, and caring for patients that do not really need to be admitted to ICUs are among futile nursing interventions mentioned by the participants.

> "For example, a 2-hour vital sign checking, when I know nothing has happened to the patient during these 2 hours, or ABG for a patient who does not need it" (Participant 12).

> "At the end of a shift, some nurses do not want a heavy work load at this time and a dying patient has so much work…they inject atropine so that their shift would pass and the patient is left to the next nurse… because the patient has been admitted for a longtime and they have to take lists of all the patients and close their records" (Participant 11).

1.2.2. Irrelevant Duties to Nursing

Lack of clarity with respect to the nurses' responsibilities prevents optimal performance, reduces productivity, and increases futile care. Employing ICU nurses as secretaries and making them purchase prescriptions and count medications are among the items mentioned by the participants with respect to this sub-theme.

> "Itis a pity that an ICU nurse should sit and count drugs, and enter drugs information into the system. For example, I have to sit and enter drugs information into the system the days after a night shift….one hour of my time is wasted…these are all useless works" (Participant 15).

Discussion

This research aimed to define the dimensions of futility. We found that the different aspects of futile care include measures taken by the medical team such as futile admission, futile diagnostic procedures, futile medical instructions, and measures taken by the nursing team such as nursing interventions and irrelevant duties to nursing.

Sometimes nurses face patients that spend a great amount of money for admission to the ICU. However, staying at the ICU does not have any benefit for them and in many cases all or part of the treatment costs are covered by public resources such as insurance agents. Futile procedures are in fact a waste of such resources. Moreover, the physician is responsible for preventing excess costs. On the other hand, the physicians' time as well as diagnostic and pharmaceutical facilities that are used in a futile manner are also medical resources. Using such resources for futile treatments not only wastes money but also delays accessibility to these resources for the patients who are really in need.[8] One of the challenges nurses face with respect to the futile care is related to CRP and weak management regarding no resuscitation order. Implementing a decision making structure and strengthening the nurse's role in guiding the patients and their families during this process is a challenge that most ICUs face.[3] The nurses stated that performing CRP for some patients was really useless, but according to national laws all "no code" patients must be resuscitated. Performing CRP on a patient with end-stage cancer or incurable diseases only increases their pain and suffering and this is in conflict with ethical principles such as the patient's will to accept the type of treatment.[9]

Futile care is increased when physicians do not pay attention to the patients and their families' desires and do not provide insight for them.

Considering that any procedure has some level of known or unknown complication, the patient should only be exposed to such complications when some degree of benefit is perceived for the patient. However, in futile procedures the patients suffer from these complications without any improvement. Some complications such as antibiotic resistance might pose some risks for the society as well as imposing a financial burden on families and the community. Therefore, inflicting unnecessary pain, suffering and side effects on patients is unethical.[8] In one study, 50% of the nurses and 70% of home-based caregivers reported that care given to the patients were against the standards and led to the caregivers' moral distress.[10]

Some participants believed that most routine procedures are not only futile but impose some risks for the patients. They stated that many routine procedures should be reconsidered because they harm patients. Such routine procedures are part of the caregiver's responsibilities. Therefore, the nurses felt responsible for performing these procedures. Studies have shown that factors such as staff shortage, non-standard environmental conditions, lack of organizational support, and dissatisfaction of nurses negatively affect nursing care and lead to low-quality care.[11]

Baljani and colleagues[12] found that nurses pay more attention to routine technical aspects of care rather than socio-emotional aspects. Such an approach cannot meet all the patients' needs. Therefore, such issues should be considered in nursing education and planning programs. We found that most nurses were not satisfied with the fact that they spend more time in nursing stations and not at

the patients' side.

Meltzer and Huckabay[10] found that futile care affects professional caregivers. Many studies have addressed problems related to excess treatments for dying patients and their negative effects on the staff. In one study on 759 nurses and 687 physicians, 50% of nurses, 30% of physicians, and 70% of home-based caregivers reported performing treatments lower than nursing standards.

Conclusion

Futile care wastes resources and creates emotional and ethical conflicts in ICU nurses which would in turn lead to their occupational burnout. Therefore, hospital managers and nursing supervisors should be aware of the causes of futile care using our inventory in order to provide more effective treatment and care programs in ICUs.

Moreover, nursing education policy makers could teach suitable approaches for reducing futile care given to nursing students.

On the other hand, the results of this study could facilitate other qualitative research for reducing futile care given by physicians and nurses. This inventory could be used for enhancing the end-of-life care in patients admitted to ICUs. Moreover, since there are no clear guidelines on the instances and boundaries of futile care for physicians and the medical team in Iran, developing such guidelines are necessary for decision-making regarding futile care.

Limitations

Since generalizability is limited in qualitative research, in this study we cannot generalize the results because we only interviewed nurses in Qazvin province. However, considering that in this province, the nurses also work and reside in Tehran and other surrounding cities, this shortcoming was controlled to some extent.

Conflict of Interest Disclosures

None.

Ethical Approval

This study was part of a larger study and was approved by Institutional Review Board (IRB) (approval No. 870), in international branch of Shahid Beheshti University of Medical Sciences.

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