Original Article

Critical care nurses' attitude towards life-sustaining treatments in South East Iran

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BACKGROUND: Life-sustaining treatments (LSTs) may prolong life but greatly decrease the quality of death. One factor influencing decision-making about withholding and withdrawing these treatments is the attitude of nurses. This study aimed to evaluate the attitude of critical care nurses towards life-sustaining treatments in South East Iran.

METHODS: In this cross-sectional study, "Ethnicity and Attitudes towards Advance Care Directives Questionnaire" was used to investigate the attitude of 104 critical care nurses towards life-sustaining treatments in three hospitals affiliated to Kerman University of Medical Sciences.

RESULTS: The findings of this study indicated that although a majority of critical care nurses (77%) did not have personal desire for use of LSTs including CPR and mechanical ventilation, they had moderately negative to neutral attitude towards general use of LSTs (2.95 of 5).

CONCLUSIONS: These findings suggest that nurses' attitude towards LSTs can be changed by inclusion of specific courses about death, palliative care and life-sustaining treatments in undergraduate and postgraduate nursing curricula. Educating Muslim nurses about religious aspects of LSTs may also improve their attitudes.

KEY WORDS: Life-sustaining treatments; Critical care nurse; Attitude; South East Iran

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INTRODUCTION

The primary purpose of intensive care is focused on saving the life of individuals. Critical care professionals do not always succeed to restore the health, and death is common in intensive care units (ICUs).^[1] Death is often viewed as a failure, and critical care specialists can cause a great damage by their efforts to treat illness, disease, and injury and save the life of patients.^[2] This "life-saving" culture continues to drive life-sustaining treatments (LSTs) such as ventilator support, dialysis and cardiopulmonary resuscitation even the ultimate outcome will be death.^[2] LSTs may prolong life but greatly reduce the quality of death.^[3] Extending patient's life in a severely compromised state may be associated with unnecessary pain or sufferings for the patient and his/

her family. At this time, the patient's life may no longer worth living and the burden of the life far outweigh the benefit.^[4] When implementation or continuance of such therapies is not beneficial to the patient, treatment is never prescribed (withholding) or the prescribed treatment should be stopped (withdrawing).^[5]

Decisions about withholding or withdrawing LSTs are complex and pose moral, legal, and social problems.^[6] Nurses are responsible for decision-making about LSTs for patients.^[7] The nurse assists the patient to evaluate the positive and negative results of LSTs, thus making the decision that is most congruous with his/her values and beliefs.^[8] The nurse cannot make an ultimate decision to initiate or give up a treatment,^[9] and does not impose any decisions or values on the patient.^[8] As

attitudes of individuals guide their behaviors,^[10] attitude of nurses towards LSTs might affect their caring behaviors to patients. Moreover, the patient and his/her family may have come to appreciate the opinions and understanding of critical care nurses, and they may rely on nurses' advice about withholding or withdrawal of life-sustaining treatments.

Review of the literature indicated that there are a number of studies that examined health care providers' attitude towards LSTs. Sjøkvist et al^[11] in Sweden, Kim and Lee^[12] in Korea and Cramel et al^[13] in Israel assessed nurses' attitude towards LSTs. They reported that participating nurses believed that a patient has the right to refuse these treatments.^[11–13] Some studies^[11,14,15] assessed physician's attitude towards LSTs in Sweden, and stated that physicians have a general positive attitude towards limited use of life-sustaining treatment for a good death.

In Iran, there are no studies assessing health care providers attitude towards LSTs. Although some studies evaluated nurses,^[16] nursing students^[17] and medical students^[18] attitude towards do not resuscitate (DNR) orders, they reported that in many key items participants showed negative attitude towards DNR orders.^[16–18] They believed that DNR orders do not prevent unnecessary suffering and may cause legal problems for them.

Diverse cultural, religious, philosophical, legal and professional attitudes lead to great difference in attitudes and practice relating to LSTs.^[19] In the review, no study was found on health care providers' attitude towards LSTs in countries whose main religion is Islam, such as Iran. Thus, this study was conducted to assess critical care nurses' attitude towards LSTs in the South East Iran.

According to Islam, human life is sacred and a gift from God. The Holy Quran ordains that "if anyone killed a person not in retaliation of murder, or (and) to spread mischief in the land it would be as if he killed all mankind, and if anyone saved a life, it would be as if he saved the life of all mankind".^[20] It is an equal honour that all humankind enjoy, and all humankind are directed to preserve this valuable life regardless of individuals' level of function or contribution to society, let alone their health status.^[21] For Muslims, everything possible must be done to prevent premature death.^[1] When medical experts believe death is inevitable, withdrawal of withholding treatment is acceptable, because this is seen as allowing death to take its natural course.^[22] According to Atashzadeh et al^[23] in Iran, withholding and withdrawing LSTs are not legal. They go on that since there are no guidelines, legislations or official statements concerning end-of-life care, Iranian physicians are

not likely to write orders regarding withholding and withdrawing LSTs. They are afraid of legal problems and criminal prosecution.^[23]

METHODS

Design

In this study we used a cross-sectional descriptive design. Before the collection of any data, the study was approved by both Kerman University of Medical Sciences and the three hospitals (Shahid Bahonar, Afzalipour, and Shafa Hospitals) of the university.

Participants and procedures

Critical care nurses working in the hospitals were supervised by the hospitals of Kerman University of Medical Sciences between September and November 2013. The data were collected from 9 ICUs in the three hospitals. These ICUs comprised four traumatic ICUs in Shahid Bahonar Hospital, a general ICU and a surgical ICU in Afzalipour Hospital as well as a general ICU, an open heart ICU and a Neuro-ICU in Shafa Hospital. Convenience sampling was used for collection of data. Participation in the survey was voluntary and all responses were kept confidential. To ensure that the eligible staff were provided with an opportunity to participate in the study, the wards were repeatedly visited by a researcher, covering all three staff shifts (days, evenings, and nights). A total of 104 questionnaires were handed out by the third researcher, along with a letter containing information about the aims of the study. Eighty-four questionnaires were returned. The rate of response to the questionnaires was 80.76%. Within these questionnaires, 89% of all questions were answered.

Instruments

The questionnaire consisted of questions about age, gender, marital status, level of education, years of experience in ICU, etc.

To fulfill the aim of the study, a translated version of the "Ethnicity and Attitudes towards Advance Care Directives Questionnaire" was used. This questionnaire designed by Blackhall et al^[24] in 1999.

It consists of two sections: (1) attitude towards use of life-sustaining/prolonging technology "general attitude", and (2) personal desire for use of life-support "personal desire". The "general attitude" was assessed through 13 items, each measured by a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). Six items were termed as "positively" (in favor of life-sustaining/

prolonging technology) and seven items as "negatively" (opposed to life- sustaining/prolonging technology). Thus, the scores of negative items were reversed. The second part "personal desire" consists of 8 items in four different hypothetical situations. For the four items related to cardiopulmonary resuscitation (CPR), three response choices were given (want, don't want, and not sure). For the four items related to mechanical ventilation, four response choices were given (want, don't want, not sure, and for a short time only). Higher scores imply greater personal desire for life-prolonging/sustaining technology. For translation of questionnaire from English into Farsi, the standard forward-backward procedure was applied. The items and the response categories were independently translated by two professional translators and then temporary versions were provided. Afterwards, they were back translated into English, and, after a careful cultural adaptation, the final versions were provided. Translated questionnaires were subjected to pilot testing. Suggestions by nurses were combined into the final version of the questionnaire.

Validity and reliability

Blackhall et al^[24] reported acceptable internal (construct and content) and external validity (including extensive pilot testing) for this instrument. Also Ko et al^[25] computed Cronbach's alpha for the scale with the sample of Korean and Mexican Americans and it was 0.89. In Iran, there was no study assessing the reliability and validity of this scale, so the validity and reliability of scale were checked again. The validity of scale was assessed through a content validity. Ten faculty members in Nursing and Midwifery School have reviewed the content of the scales from cultural aspects. They agreed

on an acceptable validity (CVI: 0.83). To reassess the reliability of translated scale, alpha coefficients of internal consistency ($n=20$) was computed. The alpha coefficient for the instrument was 0.78. So the translated scale showed reasonable reliability and validity.

Data analysis

Data were analyzed with SPSS version 20 (SPSS Inc, Chicago, Illinois, USA). The Kolmogorov-Smirnov test was used to assess the data from a population with a normal distribution. Descriptive statistics was used for the study variables. The demographic factors were compared using Student's *t* test or one-way ANOVA. The results were of significance with an α level of 0.05.

RESULTS

Participants

In this study, most (58.3%) of the participants were at age of 28–35 years (Figure 1), and 92.9% were female and 73.8% were married. Most of the participants had a degree of Bachelor of Science in nursing (95.2%). Approximately

Figure 1. Background information of participants.

Table 1. The general attitude of critical care nurses towards LSTs

Items	Mean (SD)
1. If life-prolonging technology exists it should always be used.	3.28 (1.01)
2. Doctors should generally try to keep their patients alive on machines for as long as possible, no matter how uncomfortable the machines are.	2.67 (0.89)
3. If a patient is dying it is best not to prolong his or her lives by medical means.	2.70 (0.91)
4. Life sustaining machines should never be stopped even if the patient appears to be dying because there is always the chance of a miracle.	2.90 (1.17)
5. It is a doctor's duty to stop life prolonging treatments of patients if the patient does not want them anymore.	3.15 (1.10)
6. Even if I were terminally ill, I would want everything done to keep me alive as long as possible.	3.03 (1.39)
7. Life sustaining machines are often painful.	2.34 (0.91)
8. When a person is permanently unconscious (in a coma), with no hope of waking up, medical treatments usually should not be used to keep them alive.	2.79 (1.02)
9. Even if my condition is hopeless I would want my life prolonged as much as possible.	2.60 (1.15)
10. I would not want machines used to keep me alive.	2.67 (1.19)
11. Present day medical care frequently prolongs dying without providing any real benefit to the patient.	3.05 (1.07)
12. If a patient is unable to breathe without a breathing machine it would be wrong to take them off the machine (even if the condition is hopeless) because that would be killing the patient.	3.58 (1.05)
13. The use of life sustaining machines can be humiliating to the patient.	3.67 (1.04)
Total mean score	2.95 (0.47)

The scores range from 1 (strongly disagree) to 5 (strongly agree).

36.9 % of the participants had 2–5 years of experience in ICU and 35.7% had more than 5-year experience in ICU.

Descriptive findings

Descriptive analysis showed that the nurses were likely to accept LSTs, with a total mean score of 2.95 out of 5 (Table 1). The item "use of life-sustaining machines can be humiliating to the patient", and had the highest mean score of 3.67 ± 1.04 among all items. The item "life-sustaining machines are often painful" and had the lowest mean score of 2.34 ± 0.91 among all items. As demonstrated in Figure 2, most (77%) of the nurses showed that they have no intention to use LSTs including CPR and mechanical ventilation. Moreover, 6% of the nurses preferred CPR or mechanical ventilation and 6% favored mechanical ventilation for a short time only. The rest (11%) were not sure which method they preferred.

Figure 2. The preferation for life support in critical care nurses.

Table 2. Demographic factors affecting nurses' general attitude towards LSTs and their desire for LSTs

Demographic factors	Nurses' attitude towards LSTs	
	General attitude towards use of LSTs	Personal desire for LSTs
Age (years)		
<27	2.94 (0.40)	0.10 (0.17)
28–35	2.89 (0.47)	0.06 (0.13)
>35	3.19 (0.51)	0.16 (0.22)
	$F=2.32$	$F=2.72$
Experience in ICU (years)		
<2	2.79 (0.39)	0.08 (0.15)
2–5	2.97 (0.48)	0.07 (0.13)
>5	3.05 (0.49)	0.11 (0.20)
	$F=2.13$	$F=0.64$
Gender		
Female	2.92 (0.46)	0.07 (0.15)
Male	3.37 (0.48)	0.27 (0.21)
	$T=2.28^*$	$T=2.85^{**}$
Marital status		
Single	2.89 (0.43)	0.07 (0.14)
Married	2.97 (0.48)	0.09 (0.17)
	$T=0.69$	$T=0.73$
Level of education		
Bachelor of Science	2.96 (0.47)	0.09 (0.17)
Master of Science	2.82 (0.54)	0.00 (0.00)
	$T=0.55$	$T=5.25^{\#}$

Student's *t* test and ANOVA test are significant at $^*P < 0.05$ and $^{\#}P \leq 0.01$.

Correlations

Analytic analysis revealed that the personal desire of male and female nurses as well as their general attitude towards LSTs was different (Table 2). Male nurses were more likely to use life-support in general ($P=0.02$) and had a more strong desire for such life-support for themselves than female nurses ($P<0.01$). The results of the analysis showed that the personal desire of critical care nurses for LSTs was influenced by their educational levels. Nurses with a Master Science degree had a less strong desire for LSTs than those with a degree of Bachelor of Science ($P<0.001$).

DISCUSSION

This study aimed to examine the attitude of critical care nurses towards LSTs in South East Iran. The results of the study indicated that a majority (77%) of nurses do not have a desire to use LSTs including CPR and mechanical ventilation. Sjökvist et al^[26] reported that 59% of Swedish nurses stated that if they were the patients who are conscious and competent with pneumonia and sever cancer, they would wish to discontinue the ventilator treatment. Kim and Lee^[12] also reported that 90.8% of Korean nurses would refuse LSTs if there was no chance of recovery. The low desire of nurses for life-support at the end of their life might be related to association of ICU nurses with pain and sufferings from LSTs of patients. Being witness to suffering patients causes nurses to be aware of their own vulnerability.^[27] As shown in the present study, nurses mostly considered that "life-sustaining machines are often painful". They had the least positive preference towards this treatment (2.34 ± 0.91).

Although most (77%) of nurses were reluctant to undergo LSTs, critical care nurses preferred the general use of LSTs (2.95 out of 5). It could be due to nurses' unawareness of the patients' wishes about use or forgoing of LSTs. At the end of life, patients may be unconscious or too cognitively impaired to communicate directly, and health care practitioners are unsure of the patients' wishes, advance directives are used. Advance directive is a legal document that requires medical care to include patients' preferences about medical treatment known before any serious injury or unplanned illness.^[28] It provides guidance about a patient's wishes for treatment, provides legally valid instruction about treatment, and protects the patient's rights and the provider who honors the patient.^[29] Tia et al^[30] and Sjökvist et al^[26] claimed that advance directive is one of the most important factors

influencing nurses' willingness to withdraw or continue life-support. Since 1991, advance directives have been developed in some Western countries.^[31] In Islamic countries such as Iran, there is no advance directives regarding end of life medical decisions.^[32] Based on Islamic law, "decisions about life belong to Allah, not to the person himself and documents to preserve or end personal life are not recognized" (Babgi, 2009). Of course, Islamic idea of humanity provides a provisional framework in which advance directive can generally be considered legitimate.^[33]

In the present study, participants preferred likely the general use of LSTs. This finding is supported by studies on Iranian health care providers' attitudes towards DNR orders,^[16–18] i.e. participants had negative attitudes towards many key items of DNR orders. In contrast, several studies^[11–14,34] reported that health care providers considered that treatments are unnecessary when there is no hope of recovery. Participants' preference to general use of LSTs may be related to their religious beliefs. In the present study participants were Muslims. In Islam, life is sacred. According to Zahedi et al,^[35] Muslims believe that death does not happen except by God's permission, as dictated in the Quran: "it is not given to any soul to die, but with the permission of Allah at an appointed time".^[35]

Nurses' nearly neutral attitudes towards the general use of LSTs could also be due to their insufficient professional autonomy. Job autonomy has been an important factor for proactive idea implementation and problem solving.^[36] Job autonomy fosters personal initiatives, expressing voice and suggesting improvement.^[37] Iranmanesh et al^[38] assessed critical care and oncology nurses' professional autonomy in South East Iran and reported that the participants had a moderate level of professional autonomy (3.08 of 5). Likewise, Amini et al^[39] examined nurses' level of autonomy in North West Iran. The results of this study revealed that nurses had medium professional autonomy and most of the nurses compared with those in western societies have lower professional autonomy (Amini, Negarandeh, Ramezani-Badr, Moosaiefard, & Fallah, 2013).^[39]

Another reason for nurses' moderate willingness to select the general use of LSTs might be the lack of end of life care education and specific training among Iranian nurses. Iranian nursing curriculum in all levels contains neither theoretical nor practical education about end of life care. The nurses' curriculum contains only 2–4 hours of theoretical education about death and caring for a dead body. Recently, just 0.1 credit units about palliative care are added to Master of Science in critical care nursing curriculum. Moreover, in the present study, participants

with a Master of Science degree had less personal desire for LSTs compared to nurses with a Bachelor of Science degree ($P<0.001$).

The findings of the present study indicated that male nurses had a more positive general attitude towards life-support ($P=0.02$) and were more likely to receive such life-support for themselves compared to female nurses ($P<0.01$). This is consistent with the finding of a previous study on attitudes towards LSTs among Hispanic Americans and older adults of Korean culture background.^[25] The current study as well as the study of Ko et al^[25] were conducted in context with male-dominant cultures. This specific cultural framework might affect the more positive attitude towards life-sustaining treatments among male participants in the current study. In Iranian culture, men usually earn more and view themselves as responsible for their families and they are in the position of making household decisions.^[40] Hence, in this context, male family members might consider their presence vital for family survival.

Nurses have a professional responsibility to maintain a positive attitude towards clients at all times, so every effort must be made to put personal concern and feelings aside while communicating with clients, relatives and other health care professionals.^[41] Decision-making about LSTs is a process that takes place in a team. Physicians are required to consult and discuss with other health care professionals such as nurses while making a final decision.^[42] According to Curtis,^[42] a large amount of data show that health care professionals depend on personal values and biases rather than ethics principles and outcomes while making decisions about LSTs.

In conclusion, some critical care nurses in Iran hold that LSTs should be used, regardless of their usefulness to dying patients. Lack of education, cultural and professional limitations, and religious issues may contribute to this kind of idea among Iranian nurses. These findings suggest that nurses' attitude towards LSTs can be changed through education on professional, religious and cultural aspects of palliative care and LSTs.

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Ethical approval: Prior to the collection of any data, project approval was obtained from both Kerman University of Medical Science and the heads of the three hospitals the university supervises.

Conflicts of interest: The authors declare that there are no conflicts of interest related to the publication of this paper.

Contributors: Razban F proposed the study, analyzed the data and wrote the first draft. All authors contributed to the design and interpretation of the study and to further drafts.

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