

## Quality of Care of Nursing from Brain Death Patient in ICU Wards

Seyedeh Toktam Masoumian Hoseini<sup>1</sup> (MSc); Zahrasadat Manzari<sup>1\*</sup> (MD)

<sup>1</sup>: Department of Medical Surgical, Faculty of Nursing and Midwifery, Mashhad University of Medical Sciences, Mashhad, Iran.

ARTICLE INFO	ABSTRACT
<p><b>Article type:</b> Original Article</p> <hr/> <p><b>Article history:</b> Received: 9-Oct-2014 Accepted: 30-Oct-2014</p> <hr/> <p><b>Keywords:</b> Brain Death Nurse's Role Practice Organ Donation</p>	<p><b>Introduction:</b> Nowadays, Intensive Care Unit (ICU) nurses play a significant and key role in the care of brain dead patients and their families, therefore their Practice extremely important to the success of organ donation. To assess ICU nurse's practice in relation to nurse's role in the organ donation process from brain dead patients in Iran.</p> <p><b>Materials and Methods:</b> In a cross-sectional analytical study 90 ICU nurses in Ghaem and Imam Reza Hospitals in Mashhad through stratified random sampling allocation method were selected. Data collection tools included a questionnaire on demographic information, factors influencing nurse's practice during the organ donation process and surveying "nurse's practice in relation to their roles in the organ donation process."</p> <p><b>Results:</b> 90 nurses participated in this study. (70.0%) of the research subjects had spoken with their own families about organ donation, and (20.0%) had organ donation cards. Practice scores were calculated on a scale of 100. The mean score of nurses' practice was (6.04± 3.66). 96.7% of nurses' weak practice in terms of their roles in the organ donation process.</p> <p><b>Conclusion:</b> As a result, they do not have adequate practice regard nurse's role in organ donation process and in relation to brain death patient and their families. Therefore it is suggested to include nursing courses in the organ donation process and organ transplantation as well as educational programs to acquaint nurses with their roles in the process to improve their practice by different training methods.</p>

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### Introduction

Following the development of science and technology and the increasing incidence of end-stage failure of vital organs such as the kidney, liver, heart, and lungs, the need for organ transplantation is rapidly increasing (1), such that the need for organ donations has increased (200%) over the past two decades (2).

According to the Ministry of Health, the average statistics of brain death in the country is 5-6 thousand people a year. Furthermore, (16%) of the deaths that occur in the Intensive Care Unit (ICU) and (1-4%) of hospital deaths are primarily associated with brain death. Iran has the highest rate of brain death mortality compared to other countries (3). Brain dead patients worldwide are considered potential organ donors, and after the organ donation act of 1999 in Iran, organ donation statistics rose from (1.7) out of a million people in 2008 to 5.7 out a million in 2011. While this figure shows only a slight increase, it suggests a growing trend of organ donation in Iran (4).

Numerous studies have documented evidence of the

significant role of nurses, new and transparent rules and regulations, and requirements of the communities. The rate of increasing organ donation throughout the world and in our country has expanded the role of nurses (5-11) such that nowadays, the focus of nursing has shifted from special care nursing to nursing in the organ donation process (5). According to the results of a study by Polletier, Coyle, and Sque, involvement in the organ donation process is the most positive and valuable part of the nursing profession and nurses play a vital role in this process (6, 10, 12). Sque and Coyle's study showed that brain dead patients' families considered nurses the most effective contributor of the health care team in providing emotional support during the organ donation process (10,12). In addition, Watkinson, Kim, and Collins' study showed that nurses play several roles such as identifying potential organ donors, effectively following-up on the needs of brain dead patients' families', public education, and nursing of patients with multiple organ donors (13-15). In Iran

based on the model of nursing in the organ donation process (dynamism and continuous improvement in seeking assurance and getting approve nursing model) in the Organ Transplant Center of Mashhad University of Medical Sciences, two important contributing roles and nurse advocacy in the donation process are discussed (16). The role of nurse contribution refers to nurses informing the family of brain death and asking for organ donations as well as their role as coordinators in the process of organ donation (16). The results of Garland's study showed that although doctors are accountable for diagnosis and prognosis, nurses are best for reiterating the doctor's points; therefore nurses should be present when doctors give information to the patients' families (17). If nurses can manage to appropriately request organ donations when they inform families of brain death, the families can more easily accept their patients' condition and are more likely to consent to donating (8). Nurses can act as coordinators between the treatment team, requesting team, patients and their families, and organ recipients (12, 16, 17). Another role of the nurse is to be the patient's advocate in the organ donation process, which plays a role in the two areas of support and protection.

Support includes two components related to "patient care" and "family care".

One of the most important factors in gaining the trust of families seems to be nurse advocacy in the organ donation process, and this can be achieved by witnessing adequate patient care. Before nurse intervention, the care and treatment team should establish family trust that they will do all they can to ensure the safety and improvement of their patient, and their patient will receive enough care and treatment.

The nurse's role also includes informational support (counseling), emotional support, and bereavement support (16).

Despite the brief description above about nurses' roles and their importance in the organ donation process, various studies show that ICU staff members, such as doctors and nurses, are not prepared to successfully manage the process of organ donation (18, 19). The results of a study by Lin showed that the ability of nurses to spend time with families, answer their questions, and keep a positive attitude toward organ donation during the organ donation process is vital and required (11).

Mattan and Sque's study emphasized the important role of nurses in this process and suggested that its success is closely linked to their practice in organ donation and transplantation (12, 18).

Finally, according to the aforementioned studies and a comparison between studies conducted both domestically and abroad, it is important to consider the role of nurses in the organ donation process. Studies show that nowadays, ICU nurses play a significant and key role in the care of brain dead patients and their families, therefore their practice extremely important to the success of organ donation. Hence, the researcher

aimed to assess ICU nurse's practice in relation to nurse's role in the organ donation process from brain dead patients and factors influencing it in Iran.

## Materials and Methods

This cross-sectional analytical study was conducted in 2014 with ICU nurses in Ghaem and Imam Reza Hospitals in Mashhad. The sample size was based on the results of a pilot study, and 90 nurses were selected using a stratified random sampling. Inclusion criteria included having at least one encounter with a brain dead patient, no previous training in this field, and interest in participating in the study. Exclusion criteria included withdrawal from the study and failure to complete research. This study was a student thesis, and approval was obtained from the Ethics Committee of Mashhad University of Medical Sciences. Informed consent from subjects and the right to withdraw from the study at any time were considered. Data collection tools included a questionnaire on demographic information, a questionnaire on factors influencing nurse's practice during the organ donation process, and a questionnaire surveying "nurses' practice in relation to their roles in the organ donation process." The nine-question form studied factors influencing nurses' practice in the organ donation process along with questions regarding having an organ donation card, caring for brain dead patients, speaking with families about organ donation, etc. The questionnaire "Nurse practice in relation to their role in the organ donation process" was based and designed on dynamism and continuous improvement in seeking assurance and getting approve nursing model which introduced nurse roles in the organ donation process in Iran (16).

Questionnaire was designed to evaluate nurse practice in relation to their role in the organ donation process, included two factual scenarios of brain dead patients in Shahid Kamyab Hospital in Mashhad written by the researcher. The first scenario related to the role of nurse advocacy in the organ donation process, and the second scenario related to nurses' participatory roles in this process. Each scenario was followed by five descriptive questions. The minimum score was zero (the lowest nurse practice in the organ donation process), and the maximum score was 10 (the highest nurse practice). Validity of study tools was confirmed by content validity. A test-retest method was used for reliability of the survey factors influencing nurse's practice during the organ donation process questionnaire ( $r=0.86$ ). Inter-rater agreement was used to assess the reliability of the practice questionnaire ( $Kappa=0.87$ ). The questionnaires were completed by participating subjects in the ICU of Ghaem and Imam Reza Hospitals in the presence of the researcher. SPSS software Version 11.5 was used to analyze the data. To describe the characteristics of the sample, descriptive statistics including mean, standard deviation, and frequency distribution. To examine the relationship between variables, an independent T-test, Chi-square

and one-way ANOVA were used, and Pearson correlation coefficient was used to evaluate practice. Practice scores were calculated on a scale of 100. The results for practice were divided into 5 sections: very high, high, medium, low, very low. Also Normal distribution was determined using a Kolmogorov-Smirnov and Shapiro-Wilk test and based on the result; score of practice had normal distribution.

(95%) confidence and (80%) power of all tests were considered.

## Results

90 nurses participated in this study. (76.7%) of subjects were married, and 23.3% were single. (82.2%) were female, and 18.8% were male. The age range was 24-56 years old, and the average age was (5.8±33.2).

(50.0%) of the nurses were contract-based, and (97.3%) held a bachelor's degree in nursing. The majority (93.3%) was clinical nurses, and (6.7%) were head nurses table 1.

**Table1: Demographic characteristics of respondents**

Variables	Group	Total
Sex	Male	17(18.8)
	Women	73(82.2)
Marital Status	Married	69(76.7)
	Single	21(23.3)
Educational Level	Bachelor's degree in nursing	89(98.9)
	Post Graduate in nursing	1(1.1)
Job Position	Head Nurse	6(6.7)
	Clinical nurse	84(93.3)
Employment type	Formal-based	12(13.3)
	Contract-based	45(50.0)
	Plan- based	12(13.3)
	Contractual- based	21(23.3)

Their average work experience in the ICU and their total work experience as nurses were (4.7±6.0 and 6.1±9.1) years respectively.(65%) of the nurses had at least one experience caring for a brain dead patient during their career. (91.7%) of them had at least once during their career introduced a patient suspected brain death to the organ procurement unit. (43.37%) were present at least once when the doctor delivered the news of brain death to the patient's family. (70.0%) of the research subjects had spoken with their own families about organ donation and (20.0%) had organ donation cards. The average score of practice was (3.66±6.04) with the highest score being (22.50) and the lowest score being 0. According to the results, (96.7%) showed weak practice in this regard.

Pearson correlation coefficient showed the mean score of nurses' practice, work experience in the ICU ward ( $r=0.44$ ,  $p<0.001$ ), as well as total experience working as a nurse ( $r=0.37$ ,  $p<0.003$ ) had a direct and significant relationship. A significant relationship between gender and practice ( $r=0.002$ ,  $P=0.98$ ) was not observed. Marital status and practice ( $r=-0.27$ ,  $p=0.14$ ) did not show a significant correlation table 2.

**Table2: Correlation of ICU nurse's practice level in relation to nurse's role in organ donation process and some of the variables**

Variables	Practice	
	r	p
Work experience in the ICU ward	0.44	<0.001
Total experience working as a nurse	0.37	<0.003
Gender	0.002	0.98
Marital status	-0.27	0.14

Results of an independent T-test between nurse's practice ( $t=2.63$ ,  $p<0.001$ ) scores and their speaking to their families about organ donation showed a significant differences, such that those who had spoken to families about organ donations showed higher practice in these areas. Likewise, those who had organ donation cards had higher and practice ( $t=2.88$ ,  $p=0.04$ ) (Table3).

**Table3: Relation between Nurse's Practice To ward nurses Role in Organ Donation Process and having organ donor card**

Variables	Organ Donor Card				P-value	T
	Yes		No			
	Mean	SD	Mean	SD		
Practice	7.9	8.9	2.6	4.6	0.04	2.88

A significant differences was also observed between those who had an organ donation card and those who had spoken to families about organ donations ( $p<0.01$ ).

There was no significant differences between nurses who were present when doctors delivered news about brain dead patients and nurse's practice ( $t=0.33$ ,  $p=0.73$ ). There was also no significant differences between brain dead patients referred to the organ procurement unit and nurse's practice ( $t=1.21$ ,  $p=0.30$ ). Likewise, no significant differences was observed between brain dead patient care and practice ( $t=0.56$ ,  $p=0.52$ ) during the organ donation process table 4.

**Table4: The result of independent t-test in relation to practice & some of the variables**

Dependent Variables	Practice
	Results of an independent t-test
Speaking to their families about organ donation	$t=2.63$ , $p<0.001$
Were present when doctors delivered news about brain dead patients	$t=2.88$ , $p=0.04$
Had organ donation cards	$t=0.33$ , $p=0.73$
Brain dead patients referred to the organ procurement unit	$t=1.21$ , $p=0.30$
Brain dead patient care	$t=0.56$ , $p=0.52$

There was no statistically significant difference between having an organ donation card and demographic characteristics of the study group. None of the subjects had previously received training in this field, and there was no history of being an organ donor or recipient among the family members.

Also To Investigate the effect of variable recruitment

of nurses on practice of nurses in relation to the role of nurses in the organ donation process, one-way ANOVA test results showed there was no significant difference between the groups in terms of this variable ( $P=0.67$ ,  $F=0.52$ ).

## Discussion

This study was conducted with the aim of studying practice of ICU nurses in relation to their roles in the organ donation process of brain dead patients in Iran. It is one of the first studies conducted in Iran and worldwide in this regard. The general situation of nurses in this study in relation to their role in the organ donation process of brain dead patients showed that the practice results showed that (96.7%) of nurses with a mean score of ( $6.04 \pm 3.66$ ), showed a weak self practice.

Similar our study, Kim, showed a strong direct relationship between knowledge and attitude among healthcare professionals in relation to brain death and organ donation. Notable in this study was that even though healthcare professionals showed positive attitudes toward organ donation, (74.1%) expressed difficulty in suggesting the option to families of brain dead patients. The results indicate that while families are aware of the importance of organ donation, they are not accepting of the reality in practice. This may be a reflection of Korean culture which believes that the soul remains in the body after death (20). The results of a study by Matten, also showed that positive opinions and nurses' attitudes showed a significant correlation to their participation in consultation about organ donation with brain dead patients' families. Consequently, this is associated with an increase in donation. Therefore, it can be concluded that the success rate of organ donation is directly related to the attitude and practices of nurses (18).

In our study, only (20%) of the subjects in the present study had organ donation cards. This may be due to cultural factors and variables in Iran because many find the subject of organ transplants from brain dead patients inconsistent with Islam, the official religion, despite the approval of fat was from religious scholars. While many people have a positive attitude on this issue, many do not get an organ donation card due to psychological pressure and opposition from family members. In this respect, the results of the study by Zohur which evaluated the attitudes of doctors and nurses in the ICU in the University of Medical Sciences in Iran in relation to organ donation of brain dead patients showed that about (95%) of doctors and nurses agreed with transplantation from brain dead patients, but only about (79%) of them had completed and signed an organ donation card (21). In the study by Akgun, although (44.2%) of nurses expressed a willingness to donate their organs, only (17.9%) had an organ donation card (22). This suggests that even though nurses may express a positive attitude, they fail to realize their beliefs. Vahidi evaluated the healthcare

staff's beliefs about organ donation at the Tabriz University of Medical Sciences and showed that (52%) of the subjects had never thought about organ donation, and two-thirds of them expressed a lack of enough confidence to suggest organ donation to the relatives of brain dead patients because they believe this will add to their grief (23). The results of a study by Ozdag; showed that (58.7%) of nurses in the study had an organ donation card (24) which is more than two times the rate of nurses with an organ donation card in our study. This difference may be due to the presence of motivational programs in the field of organ donation and transplantation as well as the accessibility in obtaining an organ donation card in Social Context of this study. In the present study, nurses with an organ donation card had higher practice compared to nurses who did not have a card, which is compatible with the results of the study by Aghayan which evaluated the rate of behavior of nurses in the ICU and emergency department in the field of organ and tissue transplants.

Those with an organ donation card had significantly higher behavior compared to others, which indicates the effectiveness of more behavior for obtaining a card.

As a result, they are better accepting of organ donation. Despite of Aghayan's study, our study did not show a significant correlation between experience introducing the brain dead patient to the organ procurement unit and nurses' practice in relation to their roles in the organ donation process. This result is contrary to the Aghayan's study in which nurses with more behavior attempted to introduce more potential organ donors to the procurement unit (25). The reason for the difference between these studies may be attributed to differing hospital policies. In Ghaem and Imam Reza Hospitals, no protocol existed on how to deal with cases of brain death. Furthermore, we evaluated practice in relation to nurses' roles in the organ donation process where as Aghayan focused on the process of organ donation.

Limitations on the present study include use of a questionnaire to evaluate nurse practice in their roles in the organ donation process. There was also limited exposure to brain dead patients in a clinical setting for each nurse in the study, and the time limits of the survey did not allow for the use of a checklist.

## Conclusion

Based on the results of this study and others conducted in the past, numerous weaknesses in training nurses exist in universities as well as the work place. In academic and clinical training, there has not been as much attention given to nurses involved in the organ donation process as there has been to transplant nurses despite being cited in the nursing curriculum in Iran. As a result, they do not have adequate practice; There is, however, an undeniable link in their role as influential pioneers in the improvement of this field. Therefore it is suggested to include nursing courses in the organ donation process and organ transplantation as well as



educational programs to acquaint nurses with their roles in the process to improve their practice by different training methods.

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