

## The effects of relatives' participation in critical care delivery on nurses' attitude to collaborative care

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### Abstract

**Background and Aim:** In recent years, the importance of families' active participation in care delivery has increased dramatically. Nurses' attitude is a key factor in the implementation and the success of programs which actively involve families in critical care delivery. The purpose of this study was to analyze the effects of relatives' participation in critical care delivery on nurses' attitude to collaborative care.

**Methods:** This pretest-posttest quasi-experimental study was conducted in 2013 on 44 critical care nurses of Shahid Rahnemoun Hospital, Yazd, Iran, who were recruited through census method. The intervention was the involvement of patients' relatives in providing basic care services to their own critical care patients for three consecutive months. A demographic questionnaire and the Families' Importance in Nursing Care-Nurses' Attitude scale were used for data collection. The items of this questionnaire are scored on a four-point Likert scale. Scores of 52 and less are considered as nurses' negative attitude to families' participation in care delivery. The face and content validity as well as the reliability of the questionnaire were confirmed by respectively ten experts and the test-retest method. Study data were analyzed by using the SPSS software (v. 16.0) and via conducting the paired- and the independent-samples t tests and the one-way analysis of variance. The level of confidence was set at greater than 0.95.

**Results:** The mean of nurses' pretest and posttest attitude scores were  $64.11 \pm 9.64$  and  $65.93 \pm 7.08$ . The difference between these two scores was not statistically significant ( $P=0.18$ ). The pretest-posttest mean difference of the FINC-NA score of nurses whose first-degree relatives had the history of hospitalization in ICU significantly differed from nurses who had not such history ( $P<0.03$ ).

**Conclusion:** Study findings revealed that in overall, nurses had a positive attitude to relatives' participation in care delivery. Although the study intervention had no significant effect on nurses' attitude, their positive attitude to such an intervention can be taken into account by healthcare managers for developing more family-centered care programs.

**Key Words:** Nurses; Critical Care; Cooperative Behavior; Attitude

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## Introduction

Hospitalization of family members in intensive care units (ICU) is always considered by people as a major stressor (1). Because of sophisticated and specialized medical equipments, presence of critically- or terminally-ill patients, and restricted visitation hours, ICUs may be stressful and horrible to families (2, 3). Moreover, the structure and the policies of ICUs not only deprive patients from their families' support, but also cause deep concern for families due to lack of their knowledge about their patients' unstable clinical condition (4, 5).

Given the altered consciousness of critical care patients, family support is immensely important to these patients (6). Therefore, the importance of families' active participation in care delivery has increased in many countries in recent years (2, 7-9). The benefits of families' participation in care delivery may include, but not limited to, positive medical and psychological outcomes for patients, shorter hospital stay, families' better morale, information exchange between healthcare professionals and families, and decreased healthcare costs (10-13).

One of the models for broadening families' participation in care delivery is Family-Centered Care (FCC) which is based on active interaction among patients, families, and healthcare professionals (14). FCC was primarily limited to pediatric and neonatal care units; however, it was gradually extended to adult care units, particularly ICUs (15). Despite attempts to remove ICU visitation restrictions in some countries, the traditional restricted visitation policy is still followed in almost all teaching hospitals located in our country, Iran (7, 10, 16, 17).

The results of a study done by Haghbin et al. (2011) reflected that 39.4% of all 71 ICUs located in Fars province, Iran, did not allow any kind of visitation, 15% of them followed a 1.5-hour per day visitation policy, and 23.9% of them allowed families to visit their patients for one hour from behind of ICU windows and in a small visitation area. Haghbin et al.

(2011) also quoted Giannini et al. (2008) as saying that respectively 23%, 50%, and 70% of ICUs located in France, the United Kingdom, and Sweden have unrestricted visitation hours (18).

Compared with other healthcare professionals, nurses are in closer contact with patients' families. Moreover, besides patient care, nurses are also responsible for fulfilling families' needs. Accordingly, they have a key role in involving families in the process of care and accomplishing the aim of holistic care (19, 20). Nurse-related factors which contribute to the restriction of family members' presence in ICUs are nursing staff shortage, nurses' multiplicity of responsibilities, time shortage, concern over the occurrence of traumatic events for patients and family members, and lack of educations about the importance of ICU visitation (19, 21, 22). A major factor which can affect nurses' behavior and facilitate families' participation in care delivery is nurses' attitude to the importance of families' participation in care delivery (10, 19, 21). Reshaping nurses' attitude, alleviating their concerns, and supporting them can pave the way for increasing families' participation. If nurses accept that family members' presence in ICU and at their patients' bedside can be beneficial, they will offer family members greater cooperation and involve them in the process of care delivery (21-23).

Despite its long history in many countries, FCC has not been clearly recognized in Iran. Our literature review also showed that only few studies have been undertaken so far in this area in Iran. Therefore, this study was carried out to analyze the effects of relatives' participation in critical care delivery on nurses' attitude to collaborative care.

## Methods

This one-group pretest-posttest quasi-experimental study was conducted in Shahid Rahnemoun Teaching Hospital, Yazd, Iran, in 2013. Forty nine nursing staffs who had a minimal work experience of six months and worked in morning or evening shifts were recruited

from the two ICUs of the hospital by using the census method. Nurses were excluded if they were off-duty for more than one-third of the study duration, filled out the study questionnaire incompletely, went on extended sick leave, or changed their working ward. In total, five nurses were excluded from the study.

The data collection tools were a demographic questionnaire and the Families' Importance in Nursing Care-Nurses' Attitude scale (FINC-NA). The FINC-NA was developed by Benzein et al. (2008) in Sweden (23) which contains 26 items in the four main dimensions of 'family as a source of support', 'family as a conversational partner', 'family as a burden', and 'family as own resource'. The FINC-NA items are scored on a four-point Likert-type scale from 1 (Completely disagree) to 4 (Completely agree). The total score of FINC-NA is 26–104. Scores of 52 and less are considered as nurses' negative attitude to families' participation in care delivery. For assessing its validity, the FINC-NA was primarily translated into Persian and then was back-translated into English by two experts in order to ensure the accuracy of the translation. Thereafter, it was given to ten experts to assess its face and content validity. Their comments were included in the questionnaire. The reliability of the FINC-NA was evaluated via the test-retest method. Ten critical care nurses—other than the study participants—were invited to complete the questionnaire twice with a one-week interval in between. The Pearson correlation coefficient was 0.85, showing that the FINC-NA was reliable.

After obtaining the necessary permissions, study questionnaires were filled out by 49 eligible nurses. Then, we contacted patients' families by telephone, explained the aims of the study to them, and invited one eligible relative to attend ICUs one hour a day—since the third day of their patients' hospitalization—either in the morning or the evening working shifts. The inclusion criteria for patients' relatives were having an age of eighteen years or more and being able

to provide patient care. In the first session, each relative was provided with basic trainings regarding cleaning patient's face, giving a bed bath, helping healthcare staffs position the patient, performing passive range-of-motion exercises, and establishing physical contact and verbal communication with the patient. Trainings were provided based on a checklist and within 20–30 minutes. Then, each relative was asked to implement the procedures for his/her own patient while being supervised by the second author.

Three months after the study intervention, the same nurses were invited to complete the study questionnaires. Five nurses were excluded from the study due to either going on extended sick leave (two nurses), leaving the study setting (one nurse), or changing their working ward (two nurses). Therefore, forty four nurses completed the questionnaires.

Study data were analyzed by using the SPSS software (v. 16.0) and via conducting the paired- and the independent-samples t tests and the one-way analysis of variance (ANOVA). The level of confidence was set at greater than 0.95.

## Results

The mean of the participating nurses' age was  $34.04 \pm 6.21$  years. Most of the participants were female (84.1%) and married (81.8%), held bachelor's degree or higher (86.4%), and had a work experience of 2–20 years (40.9%). Almost one third of the nurses reported the history of their first-degree relatives' hospitalization in ICU (Table 1).

The mean of nurses' pretest and posttest attitude scores were  $64.11 \pm 9.64$  and  $65.93 \pm 7.08$ . The paired-samples t test showed that these two scores did not differ significantly from each other ( $P > 0.05$ ). Moreover, among the four dimensions of the FINC-NA, only the score of the 'family as a source of support' changed significantly after the study ( $P < 0.05$ ) (Table 2).

**Table 1: The frequency distribution of the participating nurses' demographic characteristics**

Demographic characteristics	Variables	Number	Percent
Gender	Male	7	15.9
	Female	37	84.1
Age	<30	14	31.8
	30–39	20	45.5
	≥ 40	10	22.7
Marital status	Single	8	18.2
	Married	36	18.8
Educational status	Associate diploma	6	13.6
	Bachelor's degree or higher	38	64.4
Work experience	<2 years	5	11.4
	2–10	18	40.9
	10–20	18	40.9
	> 20	3	6.8
History of relatives' hospitalization in ICU	Yes	14	31.8
	No	30	68.2

**Table 2: The pretest and posttest mean scores of the FINC-NA dimensions**

The dimensions of the FINC-NA	Time		P value of the paired-samples t test
	Before (Mean±Standard deviation)	After (Mean±Standard deviation)	
Family as a source of support	24.06±4.55	25.4±3.89	0.02
Family as a conversational partner	20.75±3.39	21.22±2.66	0.37
Family as a burden	9.5±1.73	9.09±1.73	0.2
Family as own resource	9.79±2	10.2±1.48	0.16
Total FINC-NA score	64.11±9.64	65.93±7.08	0.18

The independent-samples t test indicated that the pretest-posttest mean difference of the FINC-NA score of nurses whose first-degree relatives had the history of hospitalization in ICU significantly differed from

nurses who did not have such a history ( $P < 0.05$ ). Other demographic variables had no significant effect on nurses' attitude scores ( $P > 0.05$ ) (Table 3).

**Table 3. Comparing the pretest-posttest mean difference of the FINC-NA scores based on nurses' demographic characteristics**

Demographic characteristics	Variables	Pretest-posttest mean difference	P value
Gender	Male	-0.71±5.52	0.42 Independent-samples t test
	Female	2.29±9.5	
Age	< 30 years	0.5±9.78	0.53 One-way ANOVA
	30–39	3.5±8.73	
	≥ 40	0.3±8.76	
Marital status	Single	6.62±8.01	0.09 Independent-samples t test
	Married	0.75±8.96	
Educational status	Associate diploma	5.33±8.5	0.3 Independent-samples t test
	Bachelor's degree or higher	1.26±9.06	
Work experience	<2 years	-2.6±12.34	0.44 One-way ANOVA
	2–10	3.22±8.98	
	10–20	0.83±7.56	
	> 20	6.66±12.5	
History of relatives' hospitalization in ICU	Yes	-2.28±5.55	0.03 Independent-samples t test
	No	3.73±9.72	

## Discussion

Study findings revealed that nurses had a positive attitude to relatives' participation in care delivery though the study intervention had no significant effect on their attitude. The findings of a similar study conducted by Hoseini Azizi et al. (2013) in Mashhad, Iran, also showed the ineffectiveness of family members' presence in ICU on nurses' attitude. They attributed this finding to factors such as nurses' concern over the increased risk of infection, the interference of family members' presence with nursing care services, as well as cultural barriers (21). The prevailing climate of closed-door policy in most ICUs located in Iran, critical care staffs' commitment to the traditional regulations of these units, and Iranians' common cultural beliefs about patients and visitation are the factors which can affect nurses' attitudes to relatives' participation in care delivery (21, 24).

The findings of another study conducted by Ghiyasvandian et al. (2009) to assess the effects of open visiting policy on critical care nurses' attitude

conflicted with the findings of the present study. They reported that while nurses' attitude was negative before their intervention, it was significantly improved after their intervention (24). According to Hoseini Azizi et al. (2013), this contradiction between the findings of the studies can be related to differences in the designs, lengths, samples, interventions, and settings of the studies (21). For instance, our intervention lasted three months while the length of the intervention implemented by Ghiyasvandian et al. (2009) was one month. Moreover, the sample size in that study was almost one third of the sample size of the present study.

Garrouste-Orgeas et al. (2010) found that different healthcare staffs in Paris, France, had a positive attitude to families' participation in care delivery to patients hospitalized in ICU. However, compared with other staffs participating in their study, nurses had a less positive attitude. They also noted that although history of open visiting and nurse-patient ratio in their study setting were respectively ten years and 2.5:1, critical care staffs of the setting may occasionally restrict

families' participation in patient care due to their lack of time and concern over the occurrence of negative events (19). Similarly, within the setting of the present study in which restricted and even forbidden visitation policy was followed, non-significant changes in nurses' attitude after the study intervention was not unexpected. Previous studies reported that providing managerial and organizational support to nurses can reshape nurses' attitude to families' participation in care delivery (1, 17, 25, 26).

Benzein et al. (2008) also employed the FINC-NA to evaluate Swedish nurses' attitude to the importance of families in nursing care and found that their participating nurses completely agreed with families' participation in nursing care (23). Factors behind such conflict between our findings and the findings reported by Benzein et al. (2008) may be as follows. First, their study was a descriptive one while our study was quasi-experimental and assessed nurses' attitudes after implementing relatives' participation in nursing care program. Second, while our study was conducted solely in two ICUs, Benzein et al. (2008) studied nurses working in different hospital wards and even in nonclinical healthcare settings. Third, the socioeconomic and the cultural context of a developed country such as Sweden may be different from developing countries (27).

Among the four dimensions of the FINC-NA, only the score of the first dimension, i.e. 'family as a source of support', changed significantly after the study intervention. Similarly, the findings of studies undertaken by Benzein et al. (2008) and Zarins (2010) showed that compared with other dimensions, the highest score was related to this dimension (23, 27). Based on the statements of this dimension, it can therefore be concluded that nurses' attitude improved about establishing relationship with families, involving them in patient care, and considering them as working partners. Accordingly, the highest score of the first dimension in our study can imply nurses' better attitude to families' participation in patient care as well as the

undeniable role of families in our culture, particularly in stressful conditions.

We also found that among demographic characteristics, only the history of first-degree relatives' hospitalization in ICU had significant effects on nurses' attitudes. In other words, nurses without such a history had a more positive attitude to families' participation in patient care compared with nurses who had such a history. This finding contradicts the findings reported by Benzein et al. (2008) and Zarins (2010) (23 and 27). This can be associated with nurses' conflict and confusion between their professional self and personal self, as suggested by Stayt. She (2007) noted that the reasons behind such findings are nurses' added psychological pressures due to providing care simultaneously to both patients and their families and fulfilling their needs in critical conditions of ICUs. Such added pressures can be alleviated by providing support and education to nurses (1). As Benzein et al. (2008) and Zarins (2010) have not provided justification for this finding, further studies are needed for resolving the conflict between our and their findings (23, 27). In the present study, other demographic characteristics were not significantly correlated with nurses' attitude scores while Benzein et al. (2008) found a direct correlation between nurses' attitude scores and their work experience. This contradiction can be related to the difference in nurses' mean age which was  $34.04 \pm 6.21$  years in our study and  $45.2 \pm 90.7$  years in the study of Benzein et al. (2008), resulting in different nurses' work experience in the two studies.

One of the study limitations was nurses' probable poor concentration while completing the study questionnaire due to their heavy workload. We attempted to minimize the effects of this limitation through providing the questionnaires to nurses in their leisure hours. Another limitation was relatives' inability to attend the ICUs during shift handover, medical visits, and critical situations. This limitation was managed through avoiding the implementation of

the intervention during rush hours of the study setting. Small sample size, exclusion of some participants, and limited time for conducting the study were the other limitations of the present study.

## Conclusion

In this study, critical care patients' families were provided with the opportunity to participate in patient care and nurses' attitude to such participation was evaluated accordingly. Study findings revealed that in overall, nurses had a positive attitude to this program and the importance of family support in care delivery. However, the study intervention had no significant effect on nurses' attitude. Nonetheless, given the importance of FCC as well as the role of nurses' positive attitude in shaping their care-related behaviors, it is recommended that healthcare authorities and managers facilitate the implementation of FCC, promote families' participation in patients care, and improve patient and nursing outcomes through supporting nurses and enhancing their work motivation.

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