

# The Effect of Education Based on Human Care Theory on Caring Behaviors and Job Involvement of Nurses in Intensive Care Units

## Abstract

**Background:** Caring is the essence of nursing, and nurses who are dissatisfied with their job are not able to perform optimal patient care. This study was conducted with the aim to determine the effect of education based on human care theory on nurses' caring behaviors and job involvement. **Materials and Methods:** In this clinical trial, a total of 110 intensive care unit nurses from Nemazee Hospital, Shiraz, Iran, were randomly allocated to control and intervention groups. The intervention group received a 6-h workshop based on Watson's human care theory using a collaborative and role-playing approach and 1-month follow-up period through presenting weekly preplanned care and caregiving scenarios. The control group received routine hospital trainings. The data collection tools used were included in a demographic information form, and the Larson Caring Assessment Questionnaire, and Kanungo Job Involvement Questionnaire. Data were analyzed using Chi-square test, and independent and paired *t*-test in SPSS software. **Results:** Majority of the participants were married women and had Bachelor of Science degree in Nursing. The participants' age ranged from 21 to 52 years. After the education, caring behaviors and job involvement scores significantly increased in the intervention group compared to the control group ( $p < 0.001$ ). **Conclusions:** The findings suggest that a care workshop can be effective in improving care behaviors and job involvement. Therefore, we recommend more extensive research to determine the effectiveness of long-term intervention on nursing care behaviors.

**Keywords:** Education, intensive care units, nursing care, nursing theory

## Introduction

Nursing care behavior is an act, conduct, and trait enacted by professional nurses, which provide care, protection, and attention to the patient.<sup>[1]</sup> Caring behaviors can improve the quality of care, leading to a sense of security, less anxiety, and an agreement between caregivers and patients, which subsequently enhances patient satisfaction.<sup>[2]</sup> Nurses reported that providing caring behaviors enabled them to have a better understanding of patients' conditions.<sup>[3]</sup> Most of the caring behaviors are classified into two main components, expressive and instrumental components. Instrumental behaviors are related to technical and physical behaviors, while expressive behaviors are psychological and emotional.<sup>[4,5]</sup>

Watson's theory of human care offers clear guidelines for nurse-patient interactions.<sup>[6]</sup> This theory is applicable in clinical care units that provide critical care for patients,

including Intensive Care Units (ICUs). All of the issues and problems associated with patients in ICUs are of high sensitivity and importance; hence, in this environment, nursing performance should be accompanied with adequate professional nursing care in a timely manner.<sup>[7]</sup>

Caring behaviors include holistic patient care, which is related to job satisfaction, interest in staying on the job, and job involvement. Job involvement is an important issue in nursing because it is linked to job commitment prediction and the intention to stay.<sup>[8]</sup> According to the definition provided by Kanungo, job involvement refers to the state of a person's psychological identification with his or her job.<sup>[9]</sup> In addition, nurses reported that providing caring behaviors enhances their commitment to the nursing profession and organization.<sup>[10]</sup> Several quantitative and qualitative studies have indicated that nursing care behavior is a key motivational

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factor influencing work involvement.<sup>[11-13]</sup> Some studies in Iran concluded that job involvement in nurses is at a low<sup>[14]</sup> or moderate level<sup>[15,16]</sup> and we are faced with some challenges in this regard. Thus far, interventions for the improvement of caring behaviors in ICU nurses have not been investigated in Iran. Therefore, this study was conducted to determine the effect of education based on human care theory on caring behaviors and job involvement of nurses in ICUs.

## Materials and Methods

This single-blind, randomized, clinical trial (IRCT2016121331396N1) was conducted from April 2017 to August 2018 amongst ICU nurses of Nemazee Hospital affiliated with Shiraz University of Medical Sciences, Iran. A total of 110 nurses who had the inclusion criteria were selected through convenience sampling. Then, the participants were randomly divided into control and intervention groups by applying permuted block randomization method. The sample size was calculated using the sample size formula and based on the study by Elhami *et al.*<sup>[17]</sup> ( $d = 1$ ,  $SD = 1.7$ ), and by considering a type 1 error of 0.5, power of 80%, and sample loss of 20% equal to 58 people in each group (total of 116). In total, 6 people dropped out of the study for various reasons, and thus, 110 people participated until the end (55 participants in each group) [Figure 1]. The inclusion criteria were at least 6 months of work experience as an ICU nurse, no history of an educational course regarding the subject of this study, and no history of psychosocial or psychosomatic problems according to self-report data. The study exclusion criteria were the desire to leave the study, and quitting or going on long-term leaves of absence.

The data collection tools included a demographic information form, the Larson Caring Assessment Questionnaire (Care-Q), and Kanungo Job Involvement

Questionnaire. The demographic information form included questions on age, gender, education, marital status, and work experience in the ICU. The Care-Q was developed by Larson (1981) to measure nursing care behaviors. In this tool, caring behaviors are ranked from the most important behaviors to the least important ones. The Care-Q consists of 57 items in the 6 subscales of prompt access of nurses (6 items), patient follow-up (8 items), trusting relationship (18 items), prediction of patient's needs (5 items), physical and emotional comfort of the patient (11 items), and adequate explanation to the patient (9 items). Each care behavior is scored on a 5-point Likert-type scale ranging from 5 to 1 (the most important, relatively important, neutral, relatively low, and the least important) to rate the degree of importance. The minimum and maximum total score of the questionnaire is 57 and 285, respectively.<sup>[18]</sup> In the study by Zamanzadeh *et al.*,<sup>[19]</sup> back translation was performed for the Care-Q. After preparation of the Persian version, the psychometric properties of the Care-Q related to validity and reliability were assessed. Content validity was evaluated by 10 expert panels and some small alterations were made in the items based on their suggestions. Internal consistency reliability was determined by calculating Cronbach's  $\alpha$  (alpha) using the study sample responses. The results showed an internal consistency reliability of 0.97 for all the items. The correlation of this questionnaire was reported as  $r = 0.87$  and  $r = 0.83$  in the study by Pashae *et al.*<sup>[20]</sup> in ICUs. The Job Involvement Questionnaire was designed by Kanungo<sup>9]</sup> to assess job involvement amongst nurses. This questionnaire consists of 10 questions. The questions were scored on a 5-point Likert-type scale ranging from 5 to 1 (strongly disagree,<sup>[5]</sup> agree,<sup>[4]</sup> undecided,<sup>[3]</sup> disagree,<sup>[2]</sup> strongly disagree<sup>[1]</sup>) to rate the level of agreement. Items 3 and 7 are reverse scored. The Job Involvement Questionnaire is a two-part questionnaire; the first five questions are related to job performance and the next set is related to attitude, and the total score of the questionnaire can range from 10 to 50. The interpretation of the results is based on the total score, and higher scores indicate higher job involvement.<sup>[9]</sup> The  $\alpha$  coefficient and test-retest reliability were reported at 0.87 and 0.85, respectively, by Kanungo.<sup>[9]</sup> Moreover, Mirhashemi reported an acceptable internal reliability of 0.807 and validity of 0.791 among 32 faculty members.<sup>[21]</sup> The questionnaires were completed in the intervention and control groups before and 1 month after the intervention.

The study intervention included a 6-h workshop based on Watson's human care exercise through a collaborative and role-playing approach.<sup>[8]</sup> The 1-month follow-up period for the intervention group included the weekly presentation of preplanned cases and caregiving scenarios. For role playing, a scenario was designed based on care behavior and introduced to the participants; two of them were selected as a client and nurse for the role-playing. Researchers

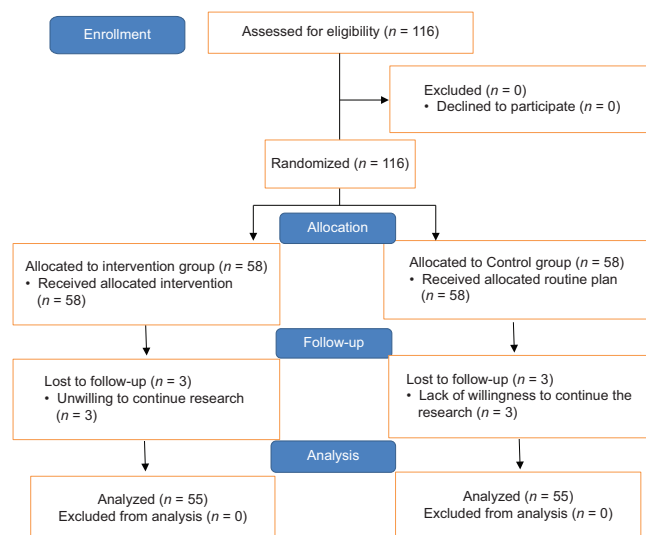


Figure 1: CONSORT flow diagram of the participants

coordinated and supervised the steps and important aspects of the role playing. The control group only received the periodic and routine hospital trainings. After completing the intervention, for ethical considerations, a CD containing all the information was distributed among the control group participants. According to Watson's theory, the content of the training sessions was based on the five factors of formation of a humanistic–altruistic system of values, the development of a helping–trusting relationship, the promotion and acceptance of the expression of positive and negative feelings, the promotion of interpersonal teaching–learning, and the cultivation of sensitivity to one's self and to others.

Data analysis was performed using independent sample *t*-test, paired sample *t*-test, and Chi-square test in SPSS software (version 21, IBM Corp., Armonk, NY, USA). *p* values of less than 0.05 were considered to be statistically significant.

### Ethical considerations

This study was approved by the local Ethics Committee of Shiraz University of Medical Sciences (ir.sums.rec. 1395.134). After explaining the goals and method of this research, the informed consent form was completed by the participants.

### Results

A majority of the participants were women (90.00%), were married (59.10%), and had a Bachelor of Science in Nursing (90.00%). The mean (SD) of work experience in the ICU was 6.71 (6.18) years, ranging from 6 months to 27 years. The age range of the participants was 21–52 years. Based on the Chi-square test and independent *t*-test, there was no significant difference between the two groups in terms of demographic characteristics [Table 1]. Moreover, the comparison of mean scores of caring behaviors and job involvement indicated no significant differences between the two groups before the intervention ( $p > 0.05$ ) [Table 2]. In addition, based on paired *t*-test, these scores significantly increased in the intervention group compared to the control group ( $p < 0.001$ ).

According to the independent *t*-test, the caring behaviors and job involvement scores improved significantly after the education in the intervention group. However, there was no significant difference in the scores of caring behaviors ( $p = 0.296$ ) and job involvement ( $p = 0.266$ ) before and after the intervention in the control group [Table 2].

### Discussion

The findings of our study indicated that the scores of both variables increased after the intervention. Therefore, it can be concluded that care workshops based on Watson's human care theory can increase nurses' level of caring behaviors and job involvement.

The findings of the present study are consistent with that of the study by Wu *et al.*<sup>[22]</sup> on nursing students trained based on Watson's 10 human carative factors. They reported a significant difference between the two study groups after the intervention.<sup>[22]</sup> Other investigations also showed that an online caring curriculum and human caring theory training program improved caring behaviors,<sup>[23,24]</sup> and concept mapping and project-based learning programs were effective methods for the improvement of caring efficacy in nursing students.<sup>[25,26]</sup> Wei *et al.*<sup>[27]</sup> reviewed 19 interventional studies based on Watson's human caring theory, most of which had indicated that interventions could decrease patient's emotional strain, and increase patients' self-management, confidence, and emotional well-being, nurse's job satisfaction and engagement, and nursing student's confidence in their clinical performance, and increase the awareness of caring behaviors. Nurses' caring behaviors are influenced by numerous factors such as working conditions, workload, management support, concern related to patients' health, and nurses' perception about caring.<sup>[28]</sup> Education can affect nurses' perception and improve their caring behaviors. In line with our study results, the results of the study by Tsai *et al.*<sup>[8]</sup> showed that caring behaviors and job involvement increased after the intervention. Some studies revealed that nurses' personal and professional satisfaction with their job is positively

**Table 1: Comparison of demographic variables between control and intervention groups**

Variables	Intervention	Control	<i>p</i>
Gender [ <i>n</i> (%)]			
Male	3 (5.50)	8 (14.50)	0.112
Female	52 (94.50)	47 (85.50)	
Marital status [ <i>n</i> (%)]			
Single	26 (47.30)	19 (34.50)	0.175
Married	29 (52.70)	36 (65.50)	
Degree [ <i>n</i> (%)]			
Bachelor's degree	50 (90.90)	49 (89.10)	0.600
Master's degree	5 (9.10)	6 (10.90)	
Age (years) [mean (SD)]	31.27 (7.57)	30.82 (6.40)	0.735
Work experience in the ICU* (years) [mean (SD)]	6.94 (6.64)	6.48 (5.73)	0.706

\*Intensive care unit

**Table 2: The comparison of mean score of caring behavior and job involvement in the control and intervention groups**

Variable	Groups	Preintervention mean (SD)	Postintervention mean (SD)	t	p
Caring behavior	Control	184.70 (12.04)	183.32 (11.28)	1.05	0.296
	Intervention	185.50 (16.96)	251.47 (8.83)	-23.71	<0.001**
	t	0.28	25.35		
	p	0.776	<0.001*		
Job involvement	Control	24.29 (5.64)	24.92 (4.63)	-1.12	0.266
	Intervention	25.96 (5.37)	31.40 (5.60)	-7.88	<0.001**
	t	1.59	6.59		
	p	0.144	<0.001*		

\*Paired sample *t*-test. \*\*Independent sample *t*-test

related to caring behaviors, and nurses who felt their caring behaviors were recognized and rewarded were more likely to be involved in their workplace.<sup>[1,12,29]</sup> In a study on ICU nurses, Pashae et al.<sup>[20]</sup> reported a high care score, which suggested that nurses valued nursing care. Similarly, in our study, the caring behavior score was high. Similar to the present study, they investigated ICU nurses, and despite the complex and skilled care procedures performed in ICUs, the caring behaviors of nurses were suitable. In line with our research, which was conducted on caring behaviors, several investigations were performed to evaluate nurses', nursing students', or patients' perceptions of caring behaviors.<sup>[30,31]</sup>

Job involvement has a positive impact on organizational goals that lead to a better outcome.<sup>[32]</sup> Nurses who have a high level of commitment and job involvement present more successful and appropriate nursing care.<sup>[33]</sup> A significant relationship was found between job satisfaction and working conditions, work environment, organization, job stress, role ambiguity and conflict, understanding, and nurses' job description.<sup>[34]</sup> Positive organizational climate can create commitment and help nurses to be more involved in their profession;<sup>[35-37]</sup> in addition, emotional labor of nurses can influence their job involvement.<sup>[38]</sup> The results of our study indicated that care education impacted job involvement. Studies in this context reported the effect of organizational commitment and support on job involvement<sup>[39,40]</sup> and the effect of strong organizational culture, which can create good quality of work-life for nurses and improve their job satisfaction and performance.<sup>[41]</sup>

The main limitations of the present study stem from sampling limitations; it is possible that the sample of nurses in this study is not representative of the Iranian nurses as a whole. In addition, this study was conducted amongst nurses working in ICUs of Nemazee Hospital in Shiraz, Iran. Therefore, the results cannot be generalized to other nurses and other health-care centers. Therefore, similar studies should be conducted in other clinical wards to compare the quality and quantity of the obtained results in more realistic conditions.

## Conclusion

The present study results showed that care education

based on Watson's human care theory can improve caring behaviors and job involvement. Thus, it is clear that applying the care research results is crucial for improving and preserving the quality of nursing care management. With respect to the effect of educational courses or seminars on care behaviors, and subsequently, job involvement, it would be appropriate for instructors to consider teaching caring behaviors in nursing in-service training programs to increase the quality of community health and in the interest of job retention.

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## Conflicts of interest

Nothing to declare.

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