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Caring efficacy to improve nurses' caring behavior☆

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Abstract
Objective: This study aimed to assess how caring efficacy training influences the nurses' caring behavior of two hospitals in Riau province, Indonesia.
Method: A quasi-experimental, pre–posttest with control group design was used in this study. 50 nurses of X hospital were assigned in the intervention group while another cohort of 50 nurses from Y hospital was allocated for the control group. Both groups had a baseline measurement of caring behavior. A training on caring efficacy was given followed by evaluation at two-time points for the intervention group.
Results: There was a significant difference between the caring behavior of the nurses in the intervention and control group after the caring efficacy training (p-value = 0.0001). In addition, knowledge was found to be linked with the caring behavior of the nurses ($r = 0.20$, $p = 0.04$).
Conclusions: Caring efficacy training is likely to be associated with the nurses' caring behavior and knowledge.

Introduction

Caring' has been defined as an essential characteristic of the nurses. Caring nurses deliver excellent nursing care, which can also define the quality of health care service given the front-line position of nursing service. However, studies in some hospitals in Indonesia showed that Indonesian nurses were still lack of caring behavior.[1,2] A study in Gianyar, Bali, reported the nurses' caring behavior was as low as 56.3%,[1] while another study in Bandung, West Java demonstrated a slightly higher figure of 58.1% caring behavior.[2]

In our preliminary study, the interviews with the head nurses revealed that staff nurses tend to have more 'curing' attitude over 'caring', hence being in the shadow of the doctor's role in treating illness. Interview with the patients reinforced such view. Seven out of ten patients mentioned that nurses only made brief, inauthentic interactions with them that they hardly felt any caring moment with the nurses. The patients also said that not all nurses

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would introduce themselves or motivate them for a swift recovery.

Poor, caring behavior could be linked with the low level of nurses' caring efficacy. Caring efficacy is a belief in a person's ability in developing his or her caring relationship with the patient.[3] Nurses with low self-efficacy may fail to attend the basic needs of the patients such as by providing comfort, bathing, etc., in a caring manner. Aside from the apparent low quality of nursing care, patients would eventually feel lack of caring behavior of their nurses.[4] Having caring efficacy is therefore of paramount importance for nurses. In this regard, we trained nurses to improve their caring efficacy and assessed their outcome in terms of caring behavior.

Method

This study used a quasi-experimental, pre–posttest design with the control group. Two arms of fifty nurses ($N = 100$) were recruited from two hospitals in Riau province, Indonesia. Participant recruitment was done through purposive sampling with proportionate random sampling technique. Staff nurses of X hospital were assigned in the intervention group, while nurses of Y hospital were in the control group. The inclusion criteria were staff nurses working in the ward that was not taking leave during the intervention and had the willingness to participate voluntarily in the study. The sample size was determined using the formula of paired sample *t*-test with a *significance level of* 5% and power of test = 90%. With the formula $n1 = n2 = \sqrt{2SD\,2[((Z\alpha/2 + Z\beta)^2)/d^2]}$, we had the sample size of 45.36. Added by 10% to anticipate participant dropout, we obtained 50 as the sample size of the study.

Three questionnaires (participant demography, Nurse's Caring Behavior, and Caring Efficacy) were used to measure the influence of the training on nurses' caring behavior. The caring efficacy questionnaire was developed by the author and tested the content validity by an expert panel from the Faculty of Nursing, Universitas Indonesia. The questionnaire used in this study yielded good reliability (Cronbach's Alpha = 0.879).

Measurements in the intervention group were conducted three times, i.e.: before, right after, and three weeks after the training. Meanwhile, the control group was measured twice: the baseline measurement and three days after the baseline measurement. The first, author conducted the statistical analysis by using the independent *t*-test, dependent *t*-test, and repeated ANOVA. The latter was done to assess the changes of caring behavior of the intervention group before and after the test of every measurement time point (pre–posttests 1–3). The statistical analysis results were checked and discussed with the second and third authors.

The caring efficacy training module for nurses was reviewed by a panel of experts for legibility and expert test. We maintained the ethics of research throughout the study conduct. Prior to the commencement of this study, ethical approval was obtained from the Ethical Committee of the Faculty of Nursing, Universitas Indonesia.

Results

Participant characteristics

In both groups, most participants were female, had a diploma in nursing, and had been working for less than ten years, as detailed in Table 1. The mean age of the participants in the intervention group was 32.40 (SD = 6.47, 95% CI = 30.56–34.24) while in the control group was 32.42 (SD = 5.66, 95% CI = 30.81–34.03). A homogeneity test using Levene Test indicated that the participants in both groups were homogenous (gender, p-value = 0.55; educational background, p-value = 0.62; and working period, p-value = 0.79). The baseline levels of caring knowledge and behavior of the nurses in both groups before the intervention was also comparable (Table 2).

After the intervention, the caring behavior score of the nurses in the intervention group rose by 9% in the first time point (right after the training) and declined by 4% three weeks after the training (Table 3). Whereas, in the control group, the second measurement of the caring behavior showed a one percent increase from the baseline measurement.

There were significant differences between the caring behavior of the nurses in the intervention group before and after the intervention ($p = 0.0001$), as well as in the control group ($p = 0.021$). Table 4 presents a comparison of both groups.

Analysis of the participant characteristics versus caring behavior showed that there were no significant differences between gender, educational level, age, work experience/length of work and the caring behavior of the nurses in both groups (Tables 5 and 6). Male nurses scored a little higher in caring behavior measurement than the female nurses did. Knowledge of caring was found to be related to caring behavior, despite the weak association (Table 6).

Discussion

Caring behavior and knowledge of the nurses in the control group were somewhat higher than those in the intervention group, but the difference was not significant. This could be related to the relatively similar background of educational levels of the nurses in both groups and also the organizational culture in both settings which were regional hospitals in Riau province, Indonesia. A prior study pointed out that organizational culture was closely linked with the nurses' caring behavior ($p = 0.036$).[5] Another study mentioned that the organizations with similar or comparable organizational culture tend to have fairly akin goals and staffs' attributes including staffs' motivation and knowledge.[6] In this study, moreover, the fewer number of staff nurses in hospital Y (control group) might lead to a less extensive range of controls for the nursing managers to improve the quality of the staff nurses.

Caring efficacy training improved the caring behavior of nurses in the intervention group. This finding supports the notion that trainings can bring a positive impact on the motivation and work performance.[7–10] Trainings can also be the key to cultivate caring behavior through

Table 1 Characteristics of the participants ($N = 100$).

Variable	Category	Intervention group ($n = 50$)		Control group ($n = 50$)		Total ($n = 100$)	
		n	%	*n*	%	*n*	%
Gender	Man	6	12	7	14	13	13
	Woman	44	88	43	86	87	87
Education	Diploma in nursing	39	78	40	80	79	79
	Bachelor in nursing/RN	11	22	10	20	21	21
Working experience	≤10 years	34	68	42	76	76	76
	>10 years	16	32	8	24	24	24

Table 2 Baseline levels of caring behavior and knowledge of the nurses before the intervention ($N = 100$).

Variable	Group	Mean	SD	Min–Max	95%C1
Knowledge (pretest)	Intervention	60.32	14.086	8–84	56.32–64.32
	Control	61.04	14.224	32–88	57–65.08
	Total	60.8	18.088	8–88	57.88–63.48
Caring behavior (pretest)	Intervention	105.30	10.126	77–127	102.42–108.18
	Control	109.82	9.432	94–127	107.14–112.50
	Total	107.56	9.997	77–127	105–109

Table 3 Changes in caring behavior after caring efficacy training ($N = 100$).

Caring behavior	Mean	SD	Mean difference	*p*-Value
Intervention group				
Pretest–Posttest 1				
Pretest	105.30	10.126	12.20	0.0001*
Posttest 1	117.50	6.707		
Pretest–Posttest 2				
Pretest	105.30	10.126	6.120	0.0001*
Posttest 2	111.42	7.106		
Posttest 1–Posttest 2				
Posttest 1	117.50	6.707	−6.080	0.0001*
Posttest 2	111.42	7.106		
Control group				
Pretest	109.82	2.31	0.78	0.021*
Posttest 1	110.60			

* Statistically significant different ($p<0.05$).

Table 4 The difference in caring behavior changes in the intervention and control groups ($N = 100$).

Group	Mean	Mean difference	SD	*p*-Value
Intervention				
Pretest	105.30	12.20	9.36	0.0001*
Posttest 1	117.50			
Control				
Pretest	109.82	0.78	2.31	0.021*
Posttest 1	110.60			

* Statistically significant different ($p<0.05$).

Table 5 Relationship of participant characteristics with caring behavior ($N = 100$).

Variable	Mean	SD	*p*-Value
Gender			
Man	116.23	6.72	0.33
Woman	113.72	8.96	
Educational level			
Diploma in nursing	114.53	8.8	0.28
Bachelor in nursing/RN	112.24	8.3	

Table 6 The relationship between age, length of work and knowledge on caring behavior ($N = 100$).

Caring behavior	*r*	*p*-Value
Age	0.07	0.454
Length of work	0.15	0.124
Knowledge	0.20	0.004*

* Statistically significant different ($p<0.05$).

improving caring knowledge, understanding, and skills.[11] However, the caring behavior score of the nurses in the intervention group dropped three weeks after the training. This might happen since adopting a new behavior would need an effective learning process over a period of time. In spite of the many evidence supporting the efficacy of the training to improve the knowledge and skills of the nurses, the key of impactful training might lay in the details of the trainings, e.g.: design and implementation.[12] This should be a consideration for the nurse managers in the venture of improving quality of nurses. Good use of technology could also facilitate knowledge acquisition and support nurses' work.[13,14]

Differences in caring behavior between the intervention group and the control group were likely to be associated with the caring efficacy training conducted in the intervention group. Training is one of the staff development activities often done by nurse managers to improve nurses' performance. Training is also a component of continuing professional development for nurses.[15] Staff development is important to keep up with the increasing public demand on the quality of health services and the advancement of science and technology.

An interesting finding of this study was that male nurses scored higher in their caring behavior than female nurses did. This contradicts the common opinion that women have more sense of love and affection, hence more caring behavior. Nurses with diploma education also scored higher than those with a bachelor degree.[16] Previous studies examining the relationship between educational background and caring behavior showed mixed results.[17,18]

Furthermore, this study found that knowledge had a significant relationship with the caring behavior of nurses. In line with the results of this study, a prior study delineated the influence of knowledge on nurses' caring behavior.[19] However, studies also found a contrary result indicating no link between knowledge and caring behavior among nurses.[20,21] Knowledge, nevertheless, is a critical contributor to one's self-efficacy.[22] Self-efficacy might, in turn, manifest in the caring behavior of the nurses. In addition, a study reported that highly intelligent nurses were more likely to have good caring behavior and improved competence.[23] Nurse managers should facilitate the knowledge attainment of the nurses as the basis of their caring competency.[24]

Caring behavior is built on caring attitude, compassion, skill, empathy, responsibility, sensitivity, and support.[25] Whereas, knowledge can influence the underlying attitude of a particular behavior or action.[26] It means that the nurses' knowledge can serve as the foundation of caring behavior. However, workload and daily routine in the ward may hamper nurses to apply their caring behavior.[27] Training may help rejuvenate the knowledge and spirit of the nurses to engrain caring behavior in their nursing care. Accordingly, nurse managers, as well as the hospital management, should have a well-organized and continuous training plan to maintain and improve the caring knowledge and behavior of nurses.[28] Given its importance, self-efficacy training should be a basic training and can be enhanced by persuasive role modeling and demonstration methods.[29,30]

This study, nevertheless, has several limitations in its method. Also, the use of a questionnaire for measuring caring behavior might imply some degree of bias. Future studies should be done in a rigorous design with multidimensional and more reliable evaluation.

It can be concluded from this study that caring efficacy training is likely to be associated with the nurses' caring behavior and knowledge. Nurse managers play an important role in improving knowledge through various continuous professional development programs. To maintain caring behavior, it is necessary to create a set of strategy to make caring behavior a part of the organizational culture.

Conflict of interests

The authors declare no conflict of interest.

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