

# The effect of Nurse's Knowledge about Family Centered Care on Self-Care of Heart Failure Patients on Self-Efficacy of Nurses in Intensive Care Rooms

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**Abstract.** Successful treatment of serious diseases such as heart failure can be achieved with good self-care management. The role of the family in self-care management is very necessary. Knowledge of Family Centered Care (FCC) is known to increase a person's self-efficacy through education or work experience. The aim of this research was to identify the influence of knowledge about FCC on the self-efficacy of nurses in self-care of heart failure patients. The research design used was True Experiment with a pretest and posttest control group design approach. The sample in this study amounted to 32 nurses. Statistical analysis showed Family Centered Care knowledge has significant effect on nurses' self-efficacy in self-care of heart failure patients. There needs to be further research about the application of FCC related to the quality of performance and satisfaction of nurses.

**Keywords:** Heart Failure; Family Centered Care; Self-efficacy

## 1 Introduction

Heart failure is a clinical syndrome and the final common pathway of most heart problem. Nearly 26 million people worldwide suffer from heart failure [1]. Heart failure is a complex disease due to impaired function and structure of the heart, causes the inability of the ventricles to fill and eject blood, which have symptoms such as difficult in breathing, fatigue, and peripheral edema [2]. In addition, heart failure is also the disease that most often requires re-treatment in hospitals with a heart failure rehospitalization rate in Indonesia of 29% [3].

Self-care management for hanging failure consists of a fairly complex treatment regimen [4]. Self-care management is necessary to achieve optimal patient the functional capacity, prevent rehospitalization, increase patient's quality of life and lessen mortality and morbidity rates in heart failure patients [5]. However, adherence to poor self-care management continues to be a problem not only to the patient but also to the family [6].

Family members are very involved in patient self-care by providing family support in the treatment of heart failure so that patients feel safe, comfortable in increase their life expectancy and be effective in reducing the incidence of rehospitalization [7]. The provision of health training and education tailored to the patient's needs, will encourage families to participate actively in patient care at home, allowing them to assist patients in improving their health [8].

Family Centered Care (FCC) is method to provide health care by emphasizing the importance of the family in patient care programs [9]. Providing FCC means we acknowledge our responsibility to help families as well as patients survive crisis illnesses [10].

The interaction of nurses in the ICU is relatively low in the context of disease management compared to other health workers [11]. Traditionally, the ICU has been mostly patient-focused, to change to be family-centered will require changing attitudes and a multidisciplinary team approach to caring [12]. Nurses' knowledge of FCC is a very important asset for the implementation of care [13]. Nurses need to have the knowledge, abilities and qualifications in implementing FCC to be more efficient [14]. Information about FCC can be obtained from education, trainings, or on-the-job experience. Social cognitive theory of Bandura states that self-efficacy is described as an individual's confidence to coordinate and do important action or work towards events and their own environment [15]. Increasing self-efficacy in nursing practice can improve the behavior of nurses' professional practice and improve the quality of care provided by nurses [16].

Based on the results of a preliminary study showed by researchers on March 11-12 2019 at the Intensive Care Room in Malang. Researchers conducted interviews with 10 nurses on duty and obtained data that the hospital had not implemented the FCC with indicators that nurses had not yet understood the concept of the FCC. Lack of understanding certainly has an impact on reducing the self-efficacy of nurses on duty. The phenomenon that is currently happening is the unbalanced self-efficacy of nurses because some nurses have low self-efficacy while others have high self-efficacy [17]. Based on the phenomena found, it attracted the attention of researchers to conduct research on the effect of knowledge about Family Centered-Care (FCC) on nurses' self-efficacy in self-care for heart failure patients in intensive care room in Malang.

## **2 Materials And Methods**

Design used in this study was a True Experiment: a pretest and post-test control group design. In this design both groups were given a pretest with the same test. Then the experimental group was given special treatment, namely knowledge education of Family Centered Care. After being given the treatment, the two groups were tested with the same test as the final test (post-test). After both groups were post-tested, the control group was also given education about family centered care.

The sample in this study were nurses who worked in intensive care room Malang City with a total sample of 32 people who were divided into 2 groups with a random sampling approach. The intervention given in this study was to provide education by tutors who understand FCC. Education is provided using a learning program unit about the meaning of FCC, the importance of FCC, the benefits of FCC, the core concept and the role of nurses in FCC. The media used in this research are: Power Point and modules. The instrument used in this study was a questionnaire to measure knowledge about FCC which is adopted from the results of the final project [18] and the Self Efficacy questionnaire is adopted from General Self Efficacy [19]. The questionnaire adopted by the researcher was modified and tested for its validity and reliability. The data that has been collected is analyzed using Wilcoxon tests. The ethical suitability in research is issued by the research ethics commission of Universitas Brawijaya with number 265 / EC / KEPK / 10/2019.

### 3 Results

Table 1 shows the respondent characteristics. The most gender characteristics are women with a total of 20 respondents (62.5%). Most data on the age characteristics of respondents were aged 25 - 38 with 26 respondents (81.3%). Meanwhile, for the characteristics data based on the level of education, the most were associate's degree, namely 22 respondents (68.8%). The most of nurses work in Intensive Care with a range of 1-3 years, as many as 16 respondents (50%) (Table 1).

**Table 1.** Respondent Characteristics

Characteristics	Experimental group		Control group	
	n	%	n	%
Gender				
Male	6	37.5	6	37.5
Female	10	18.2	7	31.8
Age				
18-25 years old	0	0	3	18.8
35-38 years old	14	87.5	12	75.0
38-60 years old	2	12.5	1	6.3
Level of education				
Associate's degree	9	56.3	13	81.3
Bachelor's degree	7	43.8	3	18.7
Length of work				
1-3 years	9	56.3	7	43.8
3-5 years	1	6.3	3	18.8
>5 years	6	37.5	6	37.5

**Table 2.** All Groups Pre and Post-test Knowledge

Variable	Pretest		Posttest	
	n	%	n	%
Expiremental group				
Lack of knowledge	3	18.8	0	0
Medium knowledge	6	37.5	4	25.0
Good knowledge	7	43.8	12	75.0
Control group				
Lack of knowledge	2	12.5	2	12.5
Medium knowledge	7	43.8	7	43.8
Good knowledge	7	43.8	7	43.8

Table 2 shows the knowledge of the treatment group after intervention. Respondents with good knowledge increased from before the intervention as many as 12 respondents (75%),

**Table 3.** Self Efficacy Pre and Post test for All Groups

Self Efficacy	Control group	Expiremental group
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	<b>Mean</b>	<b>SD±</b>	<b>Mean</b>	<b>SD±</b>
Pretest	30.00	0.758	30.31	1.306
Posttest	30.00	0.758	33.50	0.962

Based on table 3 above, it can be seen that the mean self-efficacy of respondents in the control group before and after is the same, namely 30.00 with an SD value of 0.758. In the treatment group, this result increased than the results before treatment, namely the mean value was 30.31 with a SD of 1.306.

**Table 4.** The results of the Wilcoxon Test on knowledge of Family Centered Care on the self-efficacy of nurses

<b>Pretest &amp; Posttest Self Efficacy</b>	<b>Z</b>	<b>P</b>
	- 3.201	0.001

Based on table 4, from the results of the Wilcoxon test that was carried out, the p value was 0.001 <0.05, meaning that there was an influence of knowledge about Family Centered Care on nurses' self-efficacy in the independent care of patients with heart failure.

## 4 Discussion

The results showed that the knowledge of FCC before the intervention in the control group and the treatment group had almost the same good knowledge. However, the frequency of respondents with sufficient knowledge and less when added together still dominates than nurses with good knowledge. This is due to the fact that the majority of the nurses at Malang's Intensive Care Unit have not been properly trained and do not grasp the concepts of FCC, particularly in the area of self-care for heart failure patients. Nurses have a role as educators and interpreters of medical information and facilitate communication between doctors and families [20]. Nurses are often responsible for preparing patients with heart failure, nurses need good knowledge to manage their illness after discharge from the hospital [21]. To provide comprehensive education before the patient goes home, nurses must have optimal knowledge about self-care [22].

The nurses' self-efficacy in implementing FCC in the control group and the treatment group before the intervention had almost the same mean value and it shows that the self-efficacy of nurses in implementing FCC is still less than optimal. This situation is due to self-efficacy which refers to individual beliefs and abilities to drive motivation, cognitive abilities in the aspects of knowledge and actions needed to meet the demands of the situation [23]. Knowledge of a person affected by education is a process of changing the attitude and conduct of a person through teaching and training efforts [24]. This means that nurses' self-efficacy that is not optimal in implementing family centered care can be caused by a lack of education or training that is obtained about the material.

The results of the research on the respondent's self-efficacy after the FCC education treatment obtained an increase than the results before the treatment. The factors that affect the self-efficacy of nurses in providing care are professional knowledge in caring for patients and the continuing education system both formal and informal [25]. In this study, the most nursing respondents were Associate's degree. Knowledge, length of work and being active as members of professional organizations are factors that can increase nurses' self-efficacy [26].

The results of the study using the Wilcoxon test showed that there was a significant difference in self-efficacy in the treatment group after the educational intervention about family centered care for nurses. Self-efficacy in individuals is influenced by culture, gender, and positive information or in the context of this study information is obtained from education or training on the concept of family centered care received by nurses [27]. FCC education consists of providing information about the core concepts and application of FCC when nurses perform nursing care for patients with heart failure. Heart failure patients who get high family support, the quality of life they get is high [28]. This means that the concept of FCC plays an important role in the transition of care experienced by patients with chronic disorders such as heart failure patients.

## 5 Conclusions

Nurses' knowledge and self-efficacy in applying family centered care in the intensive care room increased after educational interventions were carried out. There is a significant effect of knowledge about Family Centered Care on nurses' self-efficacy in self-care of heart failure patients in the intensive care room. Nurses are required to play an active role in enhancing the family's ability to care for patients with heart failure. Nurses serve as collaborators, educators, and partners with patients and families by empowering them.

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