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Original Research

# Factors Associated with Nurses' Self-Efficacy in Applying Palliative Care in Intensive Care Unit

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### **ABSTRACT**

**Introduction:** The increasing need for palliative care (PC) in the intensive care unit (ICU) is characterised by an increasing number of patients with critical and terminals conditions. It requires comprehensive treatment of nurses, through PC. Self-efficacy is a major predictor that affects the application of PC in ICU. Therefore, nurses need to have high self-efficacy to provide quality PC for patients and their families. This study aimed to analyse the factors that dominant relates to nurses' self-efficacy in implementing of providing PC in ICU.

**Methods:** This research was correlational research with cross-sectional survey design. The sampling technique used was total sampling, which involved 127 critical nurses who were actively working at a general hospital in Bandung, Indonesia. Data were collected using questionnaires. Bivariate analysis using Pearson correlation and Rank-Spearman test and multivariate analysis using linear regression.

**Results:** The results showed that the majority of respondents had high self-efficacy, working experience >15 years, enough interest to the nursing profession had less knowledge and negative perception related to the PC in ICU. There was a significant relationship between self-efficacy with work experience, nurses' interest in the nursing profession, knowledge and perception variables. The most dominant factors related to self-efficacy, namely knowledge and perceptions of nurses related to PC.

**Conclusion:** This study indicates that majority of the respondents lacked knowledge and had negative perceptions related to PC in ICU, it is necessary to socialise and training related to it by focusing on self-belief or self-efficacy of nurses on their ability.

#### ARTICLE HISTORY

Received: October 10, 2018 Accepted: February 28, 2019

#### **KEYWORDS**

ICU; nurse; palliative care; self-efficacy

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Cite this as:

Kurnia, T.A., Trisyani, Y., & Prawesti, A. (2018). Factors Associated with Nurses' Self-Efficacy in Applying Palliative Care in Intensive Care Unit. *Jurnal Ners*, *13*(2), 219-226.

doi:http://dx.doi.org/10.20473/jn.v13i2.9986

### **INTRODUCTION**

Palliative Care (PC) is primarily comprehensive care given to patients with life-threatening or life-limiting diseases (Shreves, 2014). The increasing need for PC arose since the introduction of the importance of this program in the health care area in the United States (US). There was an increase of up to 125% from 2000-2008 (Urden, Stacy & Lough, 2014). PC is not only given in community settings but also given in the care of inpatient services in hospitals, such as medical ward and even

the intensive care unit (ICU) (Payne, Seymour & Ingleton, 2008).

ICU is a treatment area which is full of various sophisticated technological innovation tools aiming to extend the lives of patients with critical conditions (Cox, Handy & Blay, 2012). This critical patient condition often causes pain that is not recognized or treated, shortness of breath, delirium, fatigue, lack of appetite, drowsiness, dyspnea, anxiety, depressive mood and weakness, constipation, tightness, nausea and vomiting, fever and infection, edema, anxiety, delirium, and metabolic disorders (Ayasrah, O'Neill,

Abdalrahim, Sutary & Kharabsheh, 2014; Wilkie & Ezenwa, 2012; Delgado-Guay, Parsons, Li, Palmer & Bruera, 2009; National Clinical Effectiveness Committee, 2015; Nelson, Mulkerin, Adams & Pronovost, 2006; Urden, Stacy & Lough, 2014).

The PC provided in ICU contributes positively to the patient, family and clinician team (Aslakson, Curtis & Nelson, 2014). In providing high-quality and effective PC in ICU, nurses play a strategic role for being the primary liaison between patients, families and other members of the multi-professional team. However, professional nurses nowadays may not always be ready to provide qualified PC for patients and families (Fitch, Fliedner, & O'Connor, 2015; World Health Organization/WHO, 2018).

Self-efficacy is an internal factor greatly influences nurses in implementing PC (Gaffney, 2015). This is supported by the statements of Lenz & Shortridge (2002), that self-efficacy is the most important predictor in influencing changes in individual behavior and providing satisfactory results. It is also a predictor that influences nurses in providing quality PC (Ferrel, Coyle & Paice, 2015). Self-efficacy is someone's belief in his/her ability to do something to achieve his/her goals (Bandura, 2005). Within the context of nursing, selfefficacy is an important aspect that supports nurses' skill performance (Tyler, Bourbon, Cox, Day, Fineran, Rexford, & Ward-Smith, 2012). Nurses' self-efficacy correlates with professional autonomy empowerment. Nurses with high self-efficacy perceive obstacles as opportunities instead of threats (Manoilovich, 2005). High self-efficacy also influences the quality of clinical performance which later leads to the satisfactory outcome of patients (Joy, 2015).

According to Gaffney (2015), the current phenomenon happened is that nurses' self-efficacy is not balanced. Some nurses have low self-efficacy while some others have high self-efficacy. This problem relates to several factors, among others: age, gender, knowledge, perception, and experience (Bandura, 2004). Soudagar, et al (2015) added that other factors affect the self-efficacy of nurses, namely interest to the nursing profession.

Research shows that there are still many nurses who have never received information regarding PC and have a low knowledge score related to PC (Al Qadire, 2014; Ayed, Ahmad, Sayej, Harazneh, Fashafsheh & Eqtait, 2015; Kalogeropoulou, Maria, Evanthia, Petros & Dimitris, 2016; Agustina, Anna and Praptiwi, 2014). This shows that there are still nurses who have not been exposed to information related to PC, thus affecting the knowledge they have. In addition, Johnston and Lorraine (2006) state that nurses' perceptions of PC currently vary, which is only given to patients with severe illness and who are dying or patients nearing death, especially for cancer patients, care to relieve pain and aggravating symptoms at the end of life (Rodriguez, Barnato & Arnold, 2007; Sarfo, et al, 2016). These perceptual differences about the PC referral process result in a lack of utilisation of palliative services and can result in a decrease in nurses' self-efficacy in achieving the goals to be carried out (Rodriguez, et al., 2007; Gaffney, 2015).

Individual self-efficacy is also influenced by the experience of the individual, which is formed through a process of adaptation and learning that recurs in the situation. The longer the individual is in the situation, the more self-efficacy they have will be improved or high (Bandura, 2004). Successful experiences experienced by individuals can increase their selfconfidence and self-efficacy. On the other hand, experiences of failures that have been experienced can reduce individual self-efficacy (Zulkosky, 2009). Interest is a situation where individuals have special attention to something and have the desire to know and learn more (Darmadi, 2017). The higher the individual has an interest in something, the higher the self-efficacy he has. High individual self-efficacy is an important predictor of how individuals behave towards choices to be made, mindset, emotional reactions, motivations, and ways of acting (Soudagar, 2015). Lack of interest into the nursing profession, working experiences, knowledge and differences in perceptions experienced by nurses as described previously can influence nurses' self-efficacy in implementing PC. This study aimed to analyse the factors that dominant relates to nurses' self-efficacy in implementing of providing PC in the ICU.

### MATERIALS AND METHODS

This research was quantitative research which used descriptive analytic study with cross-sectional survey design. The location of the study was in the ICU of the General Hospital in Bandung. The study was conducted for one month, May to June 2018. The sampling technique used in the study was a non-probability sampling technique, namely total sampling. There were 127 actively working nurses involved in this research.

This study employed four questionnaires, namely demographic questionnaire, knowledge questionnaire, perception questionnaire and nurse self-efficacy in the application of intensive palliative questionnaire. Questionnaire on respondents' characteristics contained age, sex, ICU, religion, recent education, ethnicity and palliative education activities, working experiences and level of interest to the nursing profession. Standardised questionnaires were employed in this research, among others on knowledge questionnaire proposed by Nakazawa, Miyashita, Morita, Umeda, Oyagi, & Ogaswara (2009), on perception proposed by White & Coyne (2011) and the one on self-efficacy designed by Desbiens, et al. (2011). A survey questionnaire namely Palliative Care Knowledge Test (PCKT) which contained 18 statements with choices of right, wrong, and unsure answers. This questionnaire had been adjusted to the WHO palliative definition (2014) by Nakazawa. This knowledge questionnaire consisted of some conceptual content about the philosophy and principles of PC (2 items), pain and other symptoms management (symptoms of pain: 6 items, dyspnea: 3 items, gastrointestinal: 4 items) and aspects psychosocial (3 items) (Nakazawa, et al., 2009). Palliative Care Practice of Registered Nurses (PCPCRN) questionnaire proposed by White and Coyne since 1999 was employed to collect data on nurses' perception about PC. This instrument consisted of some questions which were categorised into two parts based on the level of importance of PC (10 domains) and the level of individuals' competence in performing PC (10 domains) (White, Roczen, Coyne, & Wiencek, 2014). Nurses' self-efficacy was measured using a survey questionnaire namely Palliative Care Nursing Self-Competence Scale (PCNSC) questionnaire developed by Desbiens & Fillion since 2011. In this research, surveys were conducted to measure nurses' self-efficacy based on ten categories or ten PC dimensions which included physical needs: pain (5 items), physical needs: other symptoms (5 items), psychological needs (5 items), social needs (5 items), spiritual needs (5 items), needs related to patients' functional status (5 items), ethical and legal issues (5 items), inter-professional collaboration and communication (5 items), personal and professional issues related to nursing care (5 items) and end-of-life care (5 items) (Desbiens, Gagnon, & Fillion, 2012).

The results of the measurement of knowledge were then analysed using the percentage score, with a score range of 0-100%. The percentage results were then categorised as follows the category of low (score> 56%), enough (score 56-75%), and good (score 76-100%) (Nursalam, 2011). The results of measurement on perception and self-efficacy were then analyzed using T score using this following formula (Azwar, 2010). The score obtained from the test were then categorised into these following categories: positive perception or high efficacy = if T score ≥ mean score, whereas, negative perception or low efficacy = if T score is lesser than the mean T score. The researcher categorised the variables to make it easier to describe the results of research based on those categories, which results were not to be analysed.

The researcher did a back translation and retested the validity and reliability of the questionnaire on 42 intensive nurses using Pearson product moment correlation for validity and KR-20 and Alpha Cronbach for reliability. One item on the knowledge questionnaire was not valid and all items on the perception and self-efficacy questionnaire were valid. The PCKT, PCPCRN and PCNSC questionnaire were reliability because the reliability coefficient value was greater than 0.7 (KR-20 = 0.718 for knowledge, Alpha Cronbach = 0.841 for perception about importance of PC, Alpha Cronbach = 0.888 for perception about individuals' competence in performing PC, Alpha Cronbach = 0.908 for physical needs: pain, Alpha Cronbach = 0.948 for physical needs: other symptoms, Alpha Cronbach = 0.873 for psychological

needs, Alpha Cronbach = 0.913 for social needs, Alpha Cronbach = 0.889 for spiritual needs, Alpha Cronbach = 0.903 for needs related to patients' functional status, Alpha Cronbach = 0.927 for ethical and legal issues, Alpha Cronbach = 0.952 for interprofessional collaboration and communication, Alpha Cronbach = 0.959 for personal and professional issues related to nursing care and Alpha Cronbach = 0.930 for end-of-life care).

Univariate analysis was used to determine the frequency of each variable. For bivariate test analysis, Rank Spearman test was used if the data were not normally distributed while the Pearson correlation test was used if the data were normally distributed. Before collecting data, the researcher conducted ethical clearance from the Ethics Committee of Hasan Sadikin General Hospital (RSUP) Bandung on March 29, 2018 number: 1193/UN6.L6/LT/2018.

### **RESULTS**

Based on the results of the statistical analysis in Table 1, the data on respondents' characteristics showed that the majority of respondents were female (73.2%), came from the General ICU (GICU) treatment room (57.5%), had the last education of diploma's degree in nursing (D3) (62.2%) and had not attended education related to PC (75.6%). Also, almost all respondents aged 26-45 years (86.6%), were Muslim (97.6%) and were Sundanese (76.4%).

Based on the results of data analysis in Table 2, most respondents had high self-efficacy (56.7%), working experience >15 years (36.2%), enough interest to the nursing profession (50.4%), lack of knowledge (81.1%) and had negative perceptions (52%) related to the practice of PC in ICU.

Based on the results of data analysis in Table 3, the significance value was  $\alpha = <0.05$  in all variables, working experiences (p = 0.014), interest to nursing profession (p = 0.017), knowledge (p = 0.000) and perception variable (p = 0.000). It showed that the research hypothesis was accepted. This showed that there was a correlation between nurses' working experiences, interest to the nursing profession, knowledge, perception and self-efficacy variables in implementing of providing PC in ICU in a general hospital in Bandung.

The result of linear regression analysis (Table 4) shows that perception and knowledge are the variables that were dominant related factors to nurses'self-efficacy in implementing of providing PC in ICU, meaning each increase of one unit of knowledge, giving self-efficacy improvement and every increase of one unit of perception, giving self-efficacy improvement. The coefficient of determination  $R^2 = 0.363$ , it means that total of efficacy variability which can be explained by knowledge and nurse perception variable equal to 36.3%.

Table 1 Characteristics of ICU Nurses in General Hospital in Bandung

Characteristics	n = 127		
Characteristics	Frequency	%	
Age (years)			
17-25	3	2.4	
26 - 35	52	40.9	
36-45	58	45.7	
46 - 55	12	9.4	
56 - 65	2	1.6	
Gender			
Male	34	26.8	
Female	93	73.2	
ICU			
CICU (Cardiac ICU)	20	15.7	
GICU (General ICU)	73	57.5	
NICU (Neonatal ICU)	19	15.0	
PICU (Pediatric ICU)	15	11.8	
Religion			
Islam	124	97.6	
Non – Islam	3	2.4	
Last education			
Diploma's Degree (D3)	79	62.2	
Bachelor's Degree (S1)	45	35.4	
Master's Degree (S2)	3	2.4	
Ethnicity			
Sunda	97	76.4	
Java	19	15.0	
Others	11	8.7	
Palliative Education			
Never joined any	96	75.6	
Non-formal education	20	15.7	
Formal education	2	1.6	
Formal and Non-Formal Education	9	7.1	

## **DISCUSSION**

# The Relationship between Work experience and Self-Efficacy in the Application of PC

Based on table 3, it shows that nurses' work experience in nursing has a significant relationship with self-efficacy in applying PC in ICU (p-value = 0.014). This is supported by research data which shows that most respondents (65%) who have a high level of self-efficacy and over 15 years of work experience, compared to respondents with less than five years of work. The results of this study are in accordance with the results of research conducted by Soudagar (2015), where his research showed a relationship between nurse experience with selfefficacy (p-value = 0.01) in working in the field of nursing. Respondents with >six years or more experience have higher self-efficacy score when compared with respondents with less than or five years of experience in the nursing field.

Bandura (2004) in his theory suggests that individual self-efficacy is influenced by experience, which is formed through a process of repeated adaptation and learning in these situations. The longer an individual is in the situation, the better his self-efficacy will be. Also, the experience of personal

expertise possessed in the face of failure will result in satisfactory performance (Bandura, 2004).

## Nurses' Interest Relation to Nursing Professions with Self-Efficacy Application of PC

There is a relationship between the nurse's interest in the nursing profession with self-efficacy in implementing PC in the ICU (p-value = 0.017) (Table 3). Respondents with low interest tend to occur in individuals with low self-efficacy, and individuals who have a good enough interest in the nursing profession will have good self-efficacy against palliative management in patients in the ICU. Research data support this data that individuals with high interest are more likely to have high self-efficacy (47.1%), whereas individuals with slightly more interest tend to have low self-efficacy (12.7%).

The results of this study are following the opinion of Soudagar (2015), stating that increased willingness or interest to work in the nursing unit can lead to good or high self-efficacy. This high self-efficacy can affect how someone thinks, feels, motivates, and acts. Individual self-confidence in their ability to perform certain behaviors is an important predictor of how they behave toward choice behavior, mindset, and emotional reactions. The statement is evidenced

Table 2. Frequency Distribution of Nurses' Work Experience, Interest to Nursing Profession, Knowledge, Perception and Self-Efficacy Variables in Implementing of Providing PC in ICU (n = 127)

No.	Variable	Frequency	%		
1.	Self-efficacy				
	Low	55	43.3		
	High	72	56.7		
2.	Working experiences (in years)				
	<5	12	9.4		
	6-10	33	26		
	11-15	36	28.3		
	>15	46	36.2		
3.	Interest to the nursing profession				
	Little	11	8.7		
	Enough	64	50.4		
	Very	52	40.9		
4.	Nurses' knowledge (%)				
	Lack	103	81.1		
	Fair/enough	24	18.9		
5.	Nurses' perception				
	Negative	66	52		
	Positive	61	48		

Table 3. Bivariate Analysis of Dependent and Independent Variables of ICU Nurses (n = 127)

Independent Veriable	Mean ± SD	Min – Max —	Self-Efficacy	
Independent Variable	Mean ± SD	IVIIII – IVIAX	p-value	
Work experience (years)	14 ± 7	1 – 34	$0.014*^{a}$	
Nurses' interest in to nursing profession	$2,8 \pm 0,9$	1 - 3.8	$0.017*^{a}$	
Nurses' knowledge (%)	$39 \pm 15$	6 – 71	0.000*a	
Nurses' perception	44 ± 7	27 - 60	0.000*b	

<sup>\*</sup>Description: Analysis was used a: a Rank Spearman test and b Pearson correlation test, \*the significance value was  $\alpha = <0.05$ 

through his research where obtained data showed that individuals who have an interest in the field of nursing have high self-efficacy.

# **Knowledge Relationship with Self-Efficacy in the Application of PC**

The result of bivariate analysis based on table 3 shows the correlation between respondent knowledge to self-efficacy in applying PC in ICU (pvalue = 0.000). This is supported by the results of research showing that individuals with inadequate knowledge, have low efficacy (81.8%). Otherwise, individuals with sufficient knowledge, have high selfefficacy (19.4%). The results of this study are in accordance with the results of research conducted by Nakhaei & Mofrad (2015) which shows the relationship between nurse knowledge with selfefficacy of nurses in applying infection control principle in the operating room (p = 0.033). Also supported by the assertion Aslesoleymani (2009), that knowledge and self-efficacy are closely related, where the more knowledge the individual has, the higher the self-efficacy he has, the better the behavior will be shown by the individual.

Bandura (2004) also revealed that knowledge is the primary substance of self-efficacy. Knowledge owned by individuals can change beliefs about the ability of individuals in achieving the desired goals, this can positively affect the behavioral changes and motivation in displaying the desired behavior. So, in conclusion, knowledge affects individual self-efficacy (Hossenialhashemi, 2014).

# Perception Relationships with Self-Efficacy Application of PC

The results of the bivariate analysis showed that there is a positive correlation between perceptions of respondents about PC practice with self-efficacy in applying PC in ICU (p-value = 0.000). This is supported by research data indicating that most respondents who have positive perception, have high self-efficacy (62.5%). It is also supported that most respondents realised the importance of supporting and resource assessment (51.2%) as well as sensitive care for patients and families (53.5%), important enough to be implemented.

The results of this study in accordance with the opinion of Sunaryo (2004) which states that perception is the final process of observation, in which individuals will recognise and understand the condition of the surrounding environment (external perception) as well as the condition within themselves (internal perception). Eventually, the perception affects one's self-efficacy in determining the objective of specific action to do (Sunaryo, 2004; Bandura, 2004).

Table 4. Multivariate Analysis of the Dominant Related Factors with Nurses' Self-Efficacy in Implementing of

Providing PC in ICU

		Unstandardized Coefficients		Standardized Coefficients	p value	$\mathbb{R}^2$
		В	Std. Error	Beta	- <b>-</b>	
Step 1	(Constant)	32.042	15.620		0.042	0.363
	Nurses' knowledge	0.586	0.141	0.304	0.000	
	Nurses' perception	1.954	0.319	0.458	0.000	
	Working experience	-0.053	0.290	-0.013	0.856	
	Nurses' interest	2.986	2.480	0.089	0.231	
Step 2	(Constant)	30.953	14.372		0.033	
•	Nurses' knowledge	0.583	0.140	0.302	0.000	
	Nurses' perception	1.963	0.314	0.460	0.000	
	Nurses' interest	3.009	2.467	0.090	0.225	
Step 3	(Constant)	34.798	14.050		0.015	
•	Nurses' knowledge	0.606	0.139	0.314	0.000	
	Nurses' perception	2.047	0.307	0.479	0.000	

# Factors Most Associated with Self-Efficacy Application of PC

The results of linear regression analysis showed that the factors that dominant contributed to the self-efficacy of nurses in applying PC in the ICU were the perception and the knowledge factor of the nurses related to PC practice with the ability to explain the self-efficacy of 36.3%. The linear regression equation obtained in this study is self-efficacy = 34.798 + 0.606 x knowledge + 2.047 x perception.

The results of this study in accordance with the theory of Bandura (2004) which states that knowledge is the basic substance of self-efficacy. Through the knowledge they have, the individual will believe in the capabilities they have. Johnston & Lorraine (2006) adds that the nurses' perception of PC is a major predictor for individuals in believing their abilities. It can support behavioral changes and improve therapeutic relationships between nurses and patients. Positive perceptions of nurse respondents related to PC, supported by respondents' statements through data in the analysis of the study table show that almost all respondents (76.4%) mentioned that it is essential for nurses to get education related PC. Through the education gained, the individual can know, interpret, and live to it, then interpret it (through perception) (Sunaryo, 2004).

The results of this study differ from the results of research Soudagar (2015), where the interest factor of nurses to the nursing profession and work experience is a predictor in affecting self-efficacy nurse with p-value = 0.000 in multiple regression analysis tests. This shows that the factors of knowledge and perceptions of respondents in the study are stronger than other factors. Knowledge of the individual, through the thinking process, will be transformed into perception. Where perception is the terminology or the final process that stimulation can come from within and even outside the individual.

Nurses' perceptions of PC currently vary. Research conducted by Rodriguez, et al. (2007) support this statement, where there are still many nurses who think that PC is only given to patients with

severe and dying conditions, especially in cancer patients only, treatments to relieve pain and symptoms which incriminates at the end of life (Rodriguez, et al., 2007). This perceptual difference inhibits the PC referral process and results in a lack of PC (Rodriguez, et al., 2007), and may result in a decrease in self-efficacy of nurses in achieving the objectives (Gaffney, 2015). Therefore, efforts need to be made to address this gap, namely the importance of identifying and adapting the nursing education curriculum, continuing education programs, and adding resources within the practice environment (White, Roczen, Coyne, & Wiencek, 2014).

### **CONCLUSION**

The researchers concluded that the majority of nurses have high self-efficacy in applying all domains of PC in ICU. The high level of self-efficacy of the nurses in applying PC is related to the factors of working experience, nurses' interest into the nursing profession, nurses' knowledge and perception related to PC practice. Factors of knowledge and perception are dominant factors that have a relationship with self-efficacy of nurses in applying PC in ICU. This study indicated that there were still many nurses who had insufficient knowledge related to symptom management and psychosocial aspects and negative perceptions related to competence in implementing PC in the ICU. It was due to the lack of information and training related to PC. Therefore, it was important for the hospital to provide socialization and training related to PC in the ICU for all intensive nurses.

### Acknowledgment

The authors express the deepest gratitude to all respondents who sincerely want to be involved in this research, and to all who were actively involved directly or indirectly to make this research completed on time.

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