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Factors analysis affecting nurse efficacy in implementing resuscitation in cardiac arrest patients

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Abstract

Research on self-efficacy against resuscitation cases in patients with heart disease are still small, especially in Indonesia. The aim of this research is to measure type of research is Self-efficacy

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using The General Self-efficacy Score. The majority of respondents are males (66.7%), with a mean age of 32.93 and a majority of education is the D-III Nursing (80%). There is a correlation between Mastery experience and verbal persuasion with self-efficacy nurses with mastery experience as the dominant factor in carrying out resuscitation in patients with cardiac arrest in the emergency room at the General Hospital Dr. R. Koesma Tuban.

Keywords: Nurse, Efficacy, Resuscitation, Emergency room, Cardiac arrest.

Análisis de factores que afectan la eficacia de la enfermera en la implementación de la reanimación en pacientes con paro cardíaco

Resumen

La investigación sobre la autoeficacia contra los casos de reanimación en pacientes con enfermedades cardíacas aún es pequeña, especialmente en Indonesia. El objetivo de esta investigación es medir el tipo de investigación es la autoeficacia utilizando el puntaje general de autoeficacia. La mayoría de los encuestados son hombres (66,7%), con una edad media de 32,93 y la mayoría de la educación es la Enfermería D-III (80%). Existe una correlación entre la experiencia de dominio y la persuasión verbal con enfermeras de autoeficacia con experiencia de dominio como el factor dominante en la realización de la reanimación en pacientes con paro cardíaco en la sala de emergencias del Hospital General Dr. R. Koesma Tuban.

Palabras clave: Enfermera, Eficacia, Reanimación, Urgencias, Paro cardíaco.

1. INTRODUCTION

One emergency case that can be life-threatening if it does not get good treatment from a health worker is cardiac arrest. The death rate from cardiovascular disease in the world reaches more than 135 million people

every year while the incidence of cardiac arrest outside the hospital reaches 20-140 events per 100,000 people with survival rates of 2-11%. Data on patient visits to emergency rooms (IGD) throughout Indonesia reached 11,719,015 (13.1%) of the total visits at the RSU) with a total visit of 12% of emergency visits coming from referrals with a total of 1,033 public hospitals from 1,319 houses Pain is there .

According to medical record data from General Hospital dr. R Koesma Tuban the number of IGD visits in 2014 amounted to 15,039 and increased in 2015 by 17,718. This is because the Tuban Hospital became a referral hospital from Satellite and private hospitals in the Tuban Regency area. Patients with cardiac arrest almost 98% died and referred despite having received treatment and resuscitation.

A preliminary study of emergency room General Hospital DR Koesma Tuban nurses from found that around 90% of nurses had BLS and PPGD certificates originating from training outside the Hospital and in house trainingorganized by Tuban Hospital. From the results of interviews with 5 nurses (50%) who rarely did resuscitation said they were busy with patients who had come first and were unsure of resuscitation due to fear of being wrong, lack of experience and often seeing other nurses failing to do resuscitation. Observations of researchers Procedures (SOPs) resuscitation in emergency room already on the walls and documented in the guidebooks but had not meningk ari atkan confident nurses in resuscitation of cardiac arrest patients.

High quality resuscitation and effective self-confidence are very important for nurses who usually become the first responder in the hospital's emergency clinic. This requires a set of coordinated actions in

the Survival Chain , and includes early introduction and immediate activation, early CPR, rapid defibrillation, effective advanced life assistance and integrated post-cardiac care (TRAVERS, 2010). Lack of readiness and trust in nurses responding to resuscitation events can result in a long time for intervention and consequently a decrease in the chance of patients to survive (MORETTI, 2007) .

Resuscitation self-efficacy is defined as an assessment of the perceived ability to regulate and carry out the treatment process during resuscitation. Another research by Swenson's with 284 respondents nurses that nurses who have self-efficacy and strong character will improve the quality of care at the clinic. Research on nurses' self-efficacy has been considerable in the hospital environment but the analysis of nurses' self-efficacy factors in carrying out resuscitation in patients with heart disease is still small, especially in Indonesia. Therefore, research interested in analyzing the factors affecting Self-efficacy nurses carry out resuscitation in cardiac patients in the ER at General Hospital dr. R. Koesma Tuban hospital.

2. METHODOLOGY

The population subject is all nurses who work in the emergency room at the General Hospital Dr. R. Koesma Tuban berjumlah 30 people. Samples were taken from all nurses at the emergency room at the General Hospital Dr. R. Koesma Tuban Type B as many as 30 people using total sampling techniques. The designs are in use is observational analytic with cross sectional study in May-July 2016. Variables identified is the independent variable namely the Mastery

Experience factor, the Vicarious Experience or Modeling factor, Verbal factor and factor persuasive Physiological and Affective State towards the dependent variable namely nurse's self-efficacy.

This study uses several instruments such as questionnaire sheets. At the mastery experience point, the parameters used are period of work, education, minimum standards for emergency care II IG (PK II). The clinic nurse standard II is based on parameters, namely Nursing D-III Education with a 5-year work period, Bachelor-Degree Nursing + Nurses with a 3-year work period, having BLS / PPGD / BTLS Certificates. In vicarious Experience p or modeling parameter used is Cognitive and affective consisting of concepts of disease, p roses management and enabling environment. To measure the adoption of behavior is to use a technique Guttman scale. Verbal / social points of the Persuasion Oslo-3 Social Support Scale (OSS-3), is a short instrument, feasible to survey the population, OSS-3 is three (3) items grading scale in the form of the person in masalah diandalakan if serious; p er positive carefulness of others; help from neighbors, friends if needed.

Physiological and affective points use the Perceived Stress Scale (PSS-10) questionnaire. (COHEN, 1983) who is a self-report questionnaire consisting of 10 questions and can evaluate stress levels a few months ago in the life of the research subject. PSS scores were obtained by reversing responses (for example, 0 = 4, 1 = 3, 2 = 2, 3 = 1, 4 = 0) for four positive questions (questions 4, 5, 7 & 8) and summing up the answer score respectively (OLPIN & HESSON, 2009).

Self-efficacy questionnaire uses The General Self-efficacy Score (Jerusalem, 1995). The instrument contains ten question items to

measure one's self-efficacy. The parameter of this questionnaire is confidence in resuscitation, being able to work in an adaptive resuscitation and coping team in resuscitation. Then the respondents filled out the questionnaire by giving a sign (v) in columns A, B, C, D. Based on the results of the questionnaire, the researchers added and divided them into three categories, namely positive efficacy if the value of 20-40 and Efficacy were negative if the value was less than 20.

Analysis of the data used in this study include univariate tests, bivariate tests and multivariate tests. Univariate analysis uses categorical data consisting of Mastery Experience, Vicarious Experience or Modeling, verbal Persuasion and Physiological and Affective State, on nurse's self-efficacy variables. The presentation uses frequency and percentage. Bivariate analysis knows the relationship of each independent variable, namely the Mastery Experience factor, Vicarious Experience or Modeling, verbal Persuasion and Physiological and Affective State , with the dependent variable self-efficacy nurses. Multivariate analysis of the statistics used is Logistic Regression with the backward method. Assessing the quality of the formula obtained from multivariate analysis using calibration parameters by looking at the p value of the Hosmes and Lameshow Test which is said to be good if the value is more than 0.05 and based on the discrimination parameters seen from the value of the Under the Curve Area (AUC).

3. RESULTS AND DISCUSSION

Characteristics of respondents

The majority of respondents were male sex, namely 66.7% and 33.3% women, having a mean age of 32.93 and a median of 33, the majority of education was Nursing D-III (80%).

Distribution category self-efficacy nurse in doing resuscitation on patient cardiac arrest

In part big respondents have mastery experience that standard (60%), has Vicarious Experience in category good (60%), has Verbal Persuasion in category strong (73.3%), having Physiological and Affective State in category mild (66.7%), and have self-efficacy in category positive with (80%).

Bivariat analysis

Table 1: Independent variable bivariate analysis with Nurse Self-efficacy in Doing Resuscitation on Patient Cardiac arrest

Independent Variable	**Self-efficacy**				**Total**		**r**	**p**
	Positive		Negative					
	N	%	N	%	N	%		
Mastery Experience								
Standard	17	94.4	1	5.6	18	100	0.404	0.015
No Standard	7	58.3	5	41.7	12	100		
Vicarious Experience								
Good	15	83.3	3	17.7	18	100	0.200	0.535
Enough	7	70.0	3	30.0	10	100		
Less	2	100	0	0	2	100		
Verbal Persuasion								
Strong	20	90.9	2	9.1	22	100	0.412	0.013
Weak	4	26.3	4	50	8	100		
Psyological and Affective State								
Medium	7	70	3	30	10	100	0.147	0.333
Weak	17	85	3	15	10	100		

Based on table 2, mastery experience obtained a meaningful relationship between mastery experience with self-efficacy nurse in doing resuscitation patient stop with correlation category medium (p =0.015;r=0.404). In the vicarious experience, it is obtained not there is meaningful relationships between vicarious experience with self-efficacy nurse in doing resuscitation patient cardiac arrest in the emergency room at the General Hospital Dr. R. Koesma Tuban with correlation category weak (p=0.535;r=0.200).

On verbal persuasion obtained meaningful relationships between verbal persuasion withself-efficacy nurse in doing resuscitation patient cardiac arrest in general hospital Dr. R Koesma Tuban, with use values correlation category moderate (p = 0.013; r = 0.412). No, no there is meaningful relationships between psychological and affective state with self-efficacy nurse in doing resuscitation patient cardiac arrest in the emergency room at the General Hospital Dr. R Koesma Tuban with t correlation category weak (p value = 0.333 ; r = 0.147).

3.1. Results Analysis Multivariate Regression Logistics

Table 2: Analysis Multivariate Regression Logistics between independent variables with Self
efficacy Nurses in Doing Resuscitation on Patient Cardiac arrest

		B	**Sig.**	**Exp (B)**
Step 3 [a]	Mastery_exp (1)	-2,855	.43	.76
	Verbal_reg (1)	-2,683	.39	.68
	Constant	1,427	.210	4,168

Variables that have a significant effect on self-efficacy are Mastery experience (p = 0.043) and verbal persuasive (p = 0.039). The strength of the relationship from the biggest to the smallest is the Mastery experience (OR = 0.076) and verbal persuasive (OR = 0.068). From Value OR or (Exp (B) it can be concluded that nurses with mastery Experience Standard have a tendency to have self-efficacy positively by 0.076 times greater than the mastery experience nurses are not standard. While nurses with verbal persuasion strong have a tendency to have self-positive efficacy of 0.068 times greater than the nurses withthe persuasive verbal weak.

3.2. Hosmer and Lameshow Test Results

Table 3: Analysis Hosmer and Lameshow Test Results between independent variables with Self-efficacy Nurses in Resuscitation on Patient Cardiac arrest

Chi-square	Df	Sig
5,049	2	.80

Based on the results of the Hosmer and Lameshow test in table 5.10, the y equation has a quality equation that shows a good calibration with the significance value obtained (0.080), which is more than (0.05). This means that the Mastery experience and verbal persuasion variables have good levels of accuracy as nurses' self-efficacy predictors .

3.3. ROC Curve Test Results

Table 4: Analysis ROC Curve Test Results between independent variables with Nurse Self-efficacy in Doing Resuscitation on Patient Cardiac arrest

Area	Std. Error [a]	Asymptotic Sig. [b]	Asymptotic 95% Confidence interval	
			Lower bound	Upper Bound
.854	.115	.008	.628	1,000

Based on table 5.11 above, the value of Area Under Curve (AUC) is 85.4%, which means that the discrimination value from this equation model is categorized as strong. This shows that 85.4% of the regression equations obtained can distinguish self-efficacy based on Mastery experience variables and verbal persuasion , the remaining 14.6% are influenced by other factors not examined in this study. Based on the above results it also means that Mastery experience and verbal persuasion can predict self-efficacy of 85.4% of the total population.

3.4. Relationship between Nurse Mastery experience and Self-efficacy in implementing Resuscitation

All respondents who have positive self-efficacy , the majority of about more than 50% have a standard mastery experience , whereas of all respondents who have negative self-efficacy , only about 5% have mastery experience in the standard category. This is consistent with Benson's (2012) study involving 27 athletic students stating that the ability of clinical skills increased significantly in second-year and junior – year students; whereas for postgraduate students shows a higher increase

in self-efficacy. But it is there is a difference of Gonzi's study (2015) involving 322 paramedics showed that there was no correlation between self-efficacy and psychomotor CPR after a given simulation. Nurses of respondents who have high self-efficacy are better able to have low competencies. Wagler (2011) supports this with research on 46 experienced teachers producing no correlation between self-efficacy and mastery experience.

3.5. Vicarious Experience Relations with Self-efficacy Nurses in implementing Resuscitation

The results of all respondents who have the majority of positive self-efficacy have a vicarious experience in a good category, whereas for all respondents who have negative self-efficacy , only about 10% of them have a good category of vicarious experience. The results showed that there was no significant relationship between vicarious experience and nurses' self-efficacy in carrying out resuscitation of patients with cardiac arrest at the emergency room at Dr. R Koesma Tuban. This result is different from the opinion of Klassen (2002) that Vicarious experience often occurs through modeling, either by the teacher or peers, and has been stated to be a factor that does not affect a person's experience. Social comparison is an important component of Vicarious experience , and may be very important for someone who is vulnerable to develop because they have not yet realized the relative ability to develop g. This statement was supported by Muretta's (2004) study involving 146 teachers stating that there was no correlation between self-efficacy and Vicarious Experience.

Another opinion that supports states that even though the subject is in the experimental condition of the role model (imitating), there is no statistical evidence to support changes in task performance. The results of the study show that the Vicarious experience does not change self-efficacy or task performance (Moniek, 2014).

3.6. Verbal Persuasive Relationship with Self-efficacy Nurses in implementing Resuscitation

All respondents who have a positive self-efficacy, the majority of verbal persuasion has a strong category, while of all respondents who had a negative self-efficacy, only about 9.1% of verbal persuasion have strong category. The test results found that there was a significant relationship between verbal persuasion and self-efficacy nurses in. P enelitian Sudhir (2013) study on 272 students analytic correlations show that the academic climate (social support) have a significant influence on the performance of self-efficacy and academic achievement of students. According to Chan and Lam (2010) verbal persuasion to students who will influence self-efficacy is to provide response and feedback from their work.

Verbal persuasion can also improve the learning process and guarantee the quality standards of skills, moral quality, strengthen Team work , and stimulate improvement in health services. This was supported by Bobo (2012) that self-efficacy and clinical skills increased after the video evaluation and feedback from student skill actions were shown. This study is different from Baghban (2010) that family support with self-

efficacy nurses was found to have no significant relationship with involving 89 permanent nurses and contracts. Support for low contract nurse families but does not affect self-efficacy at work.

3.7. Relationship between Psyological and Affective State with Self-efficacy Nurses in implementing Resuscitation

It does not attempt a meaningful relationship exists between Psyological and affective state with self-efficacy of nurses in performing resuscitation of cardiac arrest patients in the General Hospital Dr. R Koesma Tuban. Study of Veriltasari (2014) showed no significant negative correlation. Employees with moderate and low self-efficacy have low work stress. Novita's research (2012) with 37 people consists of 20 nurses in the emergency room and 17 nurses in the ICU. With the results of the higher level of self-efficacy nurses, the lower the stress. The higher the level of stress a person works, the higher the burnout. In contrast to the results of Smith's research (2013), there was no correlation between self-efficacy and emotional stress. By comparing the scores of 135 nursing students before and after getting NCLEX training.

3.8. Dominant factors that influence Nurses' Self-efficacy in carrying out Resuscitation

The most dominant factor affecting self-efficacy is mastery experience. But it must be fixed me m account the verbal factor p ersuasif,

because of the support of the environment and management is one important factor in improving the ability and confidence to perform resuscitation in cardiac arrest patients. Limitations research is total respondent only 30 people and need improved so that possibility will got more results accurate dith respondent more a lot, policies management at IGD on shift division without pay attention standardization and ability nurse and means infrastructure support resuscitation.

4. CONCLUSION

There is a connection between Mastery experience, verbal persuasion with nurses' self-efficacy in carrying out resuscitation in patients with cardiac arrest at the emergency room at the General Hospital Dr. R. Koesma Tuban and . There is no relationship between Vicarious Experience or Modeling and Physiological and Affective State with self-efficacy nurses in carrying out resuscitation in patients with cardiac arrest in General Hospital Dr. R. Koesma Tuban. Mastery experience is the most dominant actor that influences the self-efficacy of emergency nurses in carrying out resuscitation in patients with cardiac arrest in the emergency room at the General Hospital Dr. R. Koesma Tuban but did not rule out other factors such as verbal exploitation, because environmental and management support was one of the important factors in improving resuscitation skills.

CONFLICT OF INTEREST

There is no conflict interest to declare.

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