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Model of Emergency and Observation Nursing Services at the Community Health Center in East Java

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ABSTRACT

Public health centers as the spearhead of health services, also provide 'emergency and observation' nursing services, due to the high number of accidents in East Java. The purpose of this study was to develop the nurse's performance model in providing 'emergency and observation' nursing services at Puskesmas (Emergency and Observation) Community Health Center) in East Java, using cross sectional design. The subjects of 120 nurses were selected by multi stage sampling technique. Data were collected through questionnaires and FGDs, and then analyzed using structural equation modeling to produce an model of 'emergency and observation' nursing service for nurses at Puskesmas. Components of the model were reinforcing factors, personal factors, cognition factors, affection factors, commitment, interpersonal, reinforcement and nurse performance. Nurses can use this model in providing nursing services with due regard to their knowledge and skills, facilities and infrastructure, as well as interaction and self-reinforcement, so as to be able to perform nursing services 'emergency and observation' well.

Keywords: Nursing service, Emergency and observation, Community health center

INTRODUCTION

Referring to Dinkes Jatim (2011), the high number of accidents is the cause of the high mortality rate in East Java, Indonesia. Community Health Centers need to provide 'emergency and observation' services as they are the spearhead of health services for the community. Not all nurses serving in the emergency services unit of the 'Community Health Center' have good knowledge and skills, especially in conducting initial assessment in the primary survey stage. Thus, many cases of accidents can not be handled properly in the Public Health Center. Improper first aid may be caused by a lack of skill among health professionals, including nurses, and lack of facilities at community health centers. This condition can cause death or disability in the accident victim. First aid is too slow given will cause loss of time emergency help (whasthing time). So far there has been no service model that can be used as a guide in providing emergency nursing services in Puskesmas. The purpose of this research is to develop the model of nurse performance in providing "emergency and observation" nursing service in Puskesmas in East Java, Indonesia.

METHODS

This study was classified as an observational study, with a cross-sectional design. The population of this study was all nurses Puskesmas with population size 530 people. The sample size was 120 nurses selected by multi stage sampling technique. Respondents in this study were nurses who served in Puskesmas in Tulungagung, Jombang, Gresik, and Bangkalan districts. Independent variables studied were reinforcing factors, personal factors, cognition and affection factors, commitment factors, and interaction factors; while the dependent variable was the performance of the nurse. Data were collected through questionnaires and focused group discussions (FGDs), and then analyzed using structural equation modeling to produce an model of 'emergency and observation' nursing service for nurses at Puskesmas.

RESULTS

Convergent validity test results in the development of this model can be seen in outer model loadings (Figure 1). From the figure we can know the factor loading value on each variable that make up the construct.

Some variables have a factor loading value less than 0.7, but have a t-value greater than 1.96 then this variable should not be removed from the construct. The result of factor loading test from figure can be seen in Table 1. The result of analysis using structural equation modeling shows that all indicators have fulfilled the convergence validity requirement.

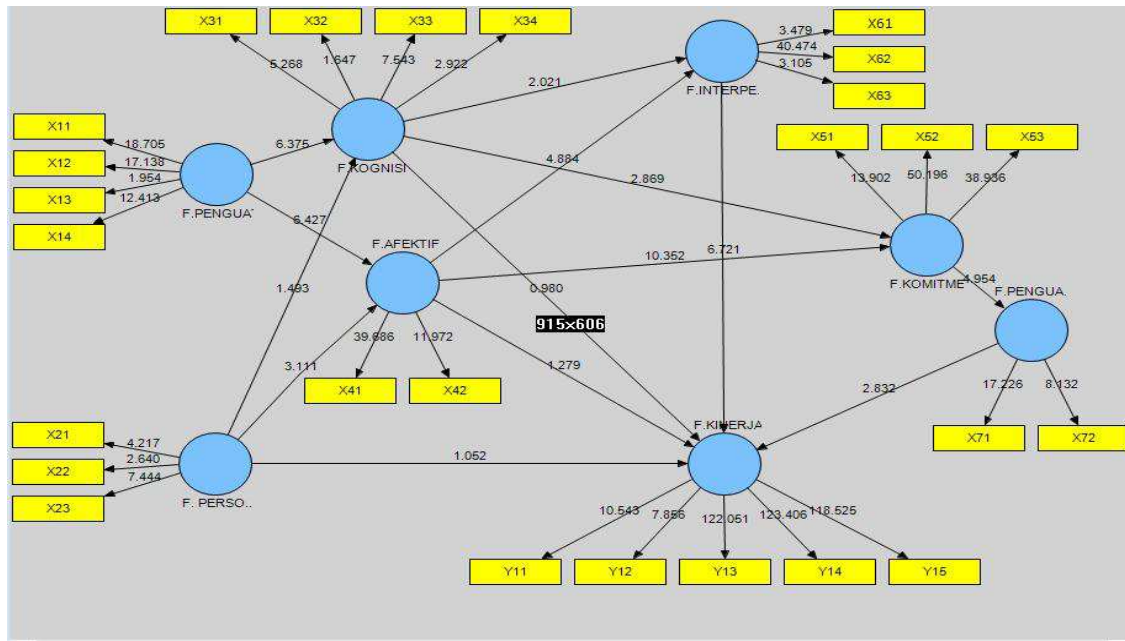


Figure 1. The result of structural equation modeling

Table 1. The result of structural equation modeling (factor loading and T-value)

Construct & Indicator	Factor Loading	Mean	Standard Error	T-value	Note	
Reinforcing factors	X1.1	0.785	0.782	0.042	18.705	Valid & Sig.
	X1.2	0.834	0.833	0.049	17.138	Valid & Sig.
	X1.3	0.293	0.263	0.150	1.954	Valid & Sig.
	X1.4	0.682	0.686	0.055	12.413	Valid & Sig.
Personal factors	X2.1	0.736	0.671	0.175	4.217	Valid & Sig.
	X2.2	0.498	0.506	0.189	2.640	Valid & Sig.
	X2.3	0.819	0.801	0.110	7.444	Valid & Sig.
Cognition factors	X3.1	0.617	0.588	0.117	5.268	Valid & Sig.
	X3.2	0.318	0.345	0.193	1.647	Valid & Sig.
	X3.3	0.793	0.767	0.105	7.543	Valid & Sig.
	X3.3	0.547	0.521	0.187	2.922	Valid & Sig.
Affection factors	X4.1	0.870	0.870	0.022	39.686	Valid & Sig.
	X4.2	0.792	0.776	0.066	11.972	Valid & Sig.
Commitment factors	X5.1	0.828	0.813	0.060	13.902	Valid & Sig.
	X5.2	0.924	0.923	0.018	50.196	Valid & Sig.
	X5.3	0.905	0.907	0.023	38.936	Valid & Sig.
Interpersonal factors	X6.1	0.558	0.519	0.161	3.479	Valid & Sig.
	X6.2	0.909	0.913	0.022	40.474	Valid & Sig.
	X6.3	0.451	0.455	0.145	3.105	Valid & Sig.
Reinforcement	X7.1	0.850	0.845	0.049	17.226	Valid & Sig.
	X7.2	0.697	0.689	0.086	8.132	Valid & Sig.
Performance	Y1.1	0.618	0.632	0.059	10.543	Valid & Sig.
	Y1.2	0.687	0.677	0.087	7.856	Valid & Sig.
	Y1.3	0.960	0.962	0.008	122.051	Valid & Sig.
	Y1.4	0.957	0.959	0.008	123.406	Valid & Sig.
	Y1.5	0.958	0.959	0.008	118.525	Valid & Sig.

Figure 2 presents the path diagram of structural equations using Partial Least Square. Table 2 is a presentation of the significance test results from the structural model (inner model). Each exogenous variable significantly influenced the endogenous variables, except the path of personal influences on cognition and the path of cognitive influence on performance, so these two paths of influence must be eliminated.

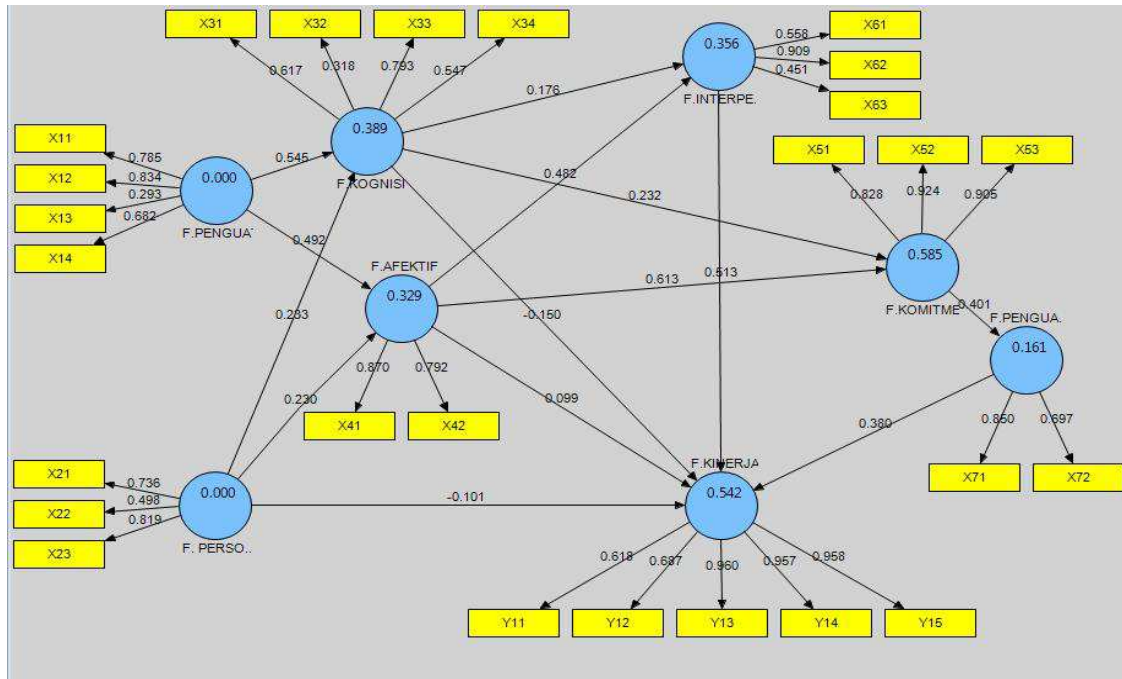


Figure 2. the path diagram of structural equations using Partial Least Square

Table 2. the significance test results from the structural model (inner model)

Path	Path coefficient	T-Statistik	Note
Reinforcing > Cognition	0.093	2.293	Significant
Reinforcing > Affection	0.246	4.321	Significant
Personal > Cognition	0.233	1.493	Not significant
Personal > Affection	0.230	3.111	Significant
Cognition > Commitment	0.232	2.869	Significant
Cognition > Interaction	0.176	2.021	Significant
Affection > Commitment	0.613	10.352	Significant
Affection > Interaction	0.482	4.884	Significant
Cognition > Performance	-0.024	0.167	Not Significant
Affection > Performance	0.440	4.703	Significant
Commitment > Reinforcement	0.401	4.954	Significant
Reinforcement > Performance	0.380	2.832	Significant
Interaction > Performance	0.513	6.721	Significant

Table 3. R-Square in path diagram

Variabel Laten Endogen	R-Square
Affection (Y1)	0.328
Cognition (Y2)	0.389
Interpersonal (Y3)	0.355
Commitment (Y4)	0.584
Reinforcement (Y5)	0.162
Performance (Y6)	0.541

Based on the value of R-Square and referring to Chin (1998), it is known that the construct model is strong enough to describe the concept of structural modeling.

To validate the overall prediction model can be seen from the absolute goodness of fit (GoF) value with the following formula (Cohen, 1988):

$$GoF = \sqrt{Comm.R^2} = \sqrt{0.596 \times 0.394} = 0.473$$

GoF = 0.473 is very high and powerful, so it can be said that the prediction model is very strong to explain the influence between variables (Chin, 1998).

Figure 3 is a description of the final model found based on the analysis results.

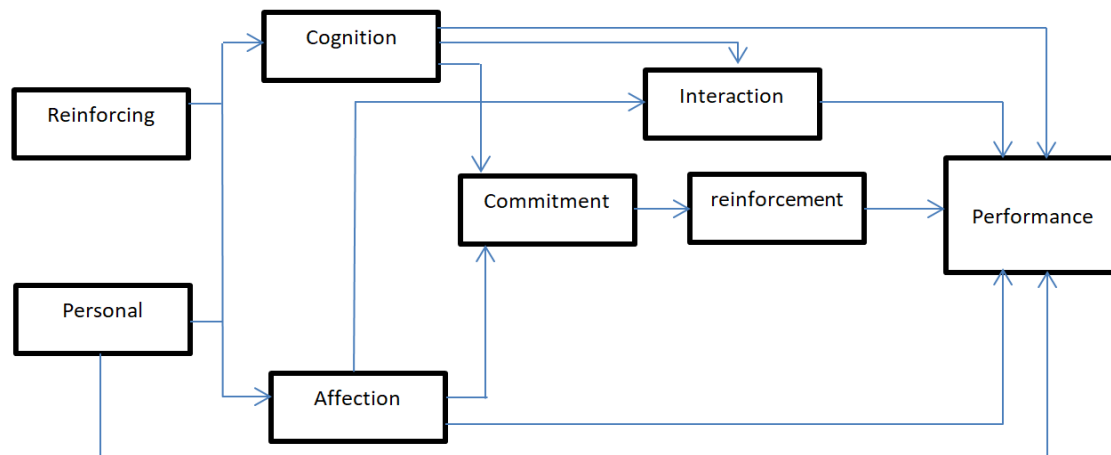


Figure 3. The Final Model of Emergency and Observation Nursing Services at the Community Health Center in East Java

DISCUSSION

Based on the research results obtained the following results: the first, reinforcing factors can improve cognition and affection. Facilities and infrastructure and financing are very useful to support the improvement of knowledge and attitude of nurses in providing 'emergency and observation' nursing service to the community.

Second, the personal factor does not affect the increase of nurse cognition factor, but affects the increase of affection factor. In this case, if personal factors improve, the willingness of nurses to provide 'emergency and observation' nursing services will become even greater.

Thirdly, cognitive factors positively influence the commitment and interaction of nurses in providing nursing services 'emergency and observation'. In this case, the intrinsic factors that motivate a person to work better are achievement (cognition), prior recognition, and responsibility.

Fourth, affection factors affect the commitment and interaction of nurses in providing nursing services 'emergency and observation' for the community. The intrinsic factors that motivate a person to work better are achievement (cognition), prior recognition, and responsibility.

Fifth, cognition factor does not affect performance but affection factor have an effect on performance. Nurse competence is one of measurable performance indicators. Nurse affections will foster interest in doing these actions and interests that affect their performance.

Sixth, commitment affects the nurse self-reinforcement in providing 'emergency and observation' nursing service to the community. Commitment is the most important construct in raising one's interest and this interest will foster self-power to do something, including an interest in providing 'emergency and observation' nursing services.

Seventh, self-reinforcement and interaction factors have an effect on the nurse's performance in providing 'emergency and observation' nursing services to the community. In this regard, self-reinforcement can build a wider awareness of the assessment dimension, as a manifestation of justice before taking action.

CONCLUSION

Based on the results of the research, a model can be developed as a guide for nurses at Puskesmas to improve their performance in providing Emergency and Observation Nursing Services, involving many factors,

ie reinforcing, personal, cognition, affection, commitment, and interaction factors. Nurses can use this model in providing nursing services with due regard to their knowledge and skills, facilities and infrastructure, as well as interaction and self-reinforcement, so as to be able to perform nursing services 'emergency and observation' well. This model is expected to be used as a pilot to be developed in community health centers throughout Indonesia.

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