ORIGINAL RESEARCH

DETERMINANTS OF INDEPENDENT NURSING ACTIONS IN DAILY LIVING ACTIVITIES, CARING & SUPPORT, AND REHABILITATION IN INPATIENT WARDS OF THE GENERAL HOSPITAL OF DR. M. HAULUSSY AMBON

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ABSTRACT

Background: Low independent nurse actions leads to poor health care quality. Therefore, understanding the factors affecting independent nursing action is necessity.

Objectives: This study aims to analysis the independent nurse actions and its related and predicting factors.

Methods: This study used a cross-sectional design with observational technique for data collection. There were 165 nurses recruited using simple random sampling in 14 inpatient wards of the General Hospital of dr. M. Haulussy Ambon, Indonesia. Spearman Rank Correlation and multiple regressions were used for data analysis.

Results: Results of this study showed that there were significant relationships of age, gender, education, employment time, family burden, working experience, knowledge, workload, and nurse ability with independent nursing action with p-value <0.05. Nurse knowledge was the most dominant factor predicting independent nursing action with R-value 0.450.

Conclusions: Independent nurse actions in daily living activities, caring & support, and rehabilitation were influenced by multiple factors such as nurse knowledge, ability, education and gender. Nurse knowledge is the most predicting factors affecting independent nursing action. Therefore, hospital and nurse managers need to well manage these predicting variables in order to improve independent nurse action that leads to the better quality of health service in the hospital.

Keywords: Independent actions, nurse characteristics, predicting factors

INTRODUCTION

Independent nursing action is performed by a nurse and does not require directions from others. This action is based on the knowledge and ability of the nurses and remains focused on the safety of the patient.[1,2] For this study, independent nursing actions include the activity of daily living (an act of fulfilling patient activity such as mobilization needs), caring and support (focusing on caring concern for patients), rehabilitation (an action that focuses on the post-hospital rehabilitation phase).

Unfinished or unresolved independent nursing action will have a devastating effect on the nursing care process, one of which is the patient's dissatisfaction with the services provided.[3] Previous study showed that 56% of patients in surgical installation were less satisfied with the actions given by the nurses, 53.3% of patients in non-surgical installation were less satisfied with the explanation of the nurses' actions, and 57.2% of the children were not satisfied with the services provided by nurses. Similar with the Ambun Installation, there was 14.7% of the patients were less satisfied with nursing services.[4] Lake's study[3] at a US hospital stated that nurses could not entertain and talked to patients and were unable to carry out patient treatment plans. Of 12 nursing activities, only partially implemented by nurses and some are not carried out during one shift.

Thus, the impact of the phenomenon makes the perception that the nurse is unable to perform an independent action, which leads to the low professional image of nurses. In addition, Ball[5] stated that the impact of low independent nursing actions were medication errors, new infections, decubitus, dry infusions, infiltration infusions, and other problems during hospitalization.

In regard to this phenomenon, the Regional General Hospital of dr. Haulussy, as a type B referral center hospital in Maluku Province, has the responsibility to improve the quality of services by enhancing nurses' competency through their independent nursing action. In fact, low patient satisfaction (57.2%) was identified with nursing care. Based on the preliminary study with 5 nurses at the Regional General Hospital of dr. Haulussy, it is indicated that nurses were unable to perform independent practice due to limited time, high workload, and lack of experiences. Of the seven nursing actions, only two actions that nurse routinely do, namely writing nursing care documentation and monitoring the patient's vital signs.

According to literature, the behavior of nurses who do not perform and complete independent actions is influenced by several factors. Gibson[6] said that there are three variables that influence the behavior of individual variables (abilities and skills, background and demographics), psychological variables (perceptions, attitudes, personality, learning and motivation) and organizational variables (supervision, regulation, policy, leadership, resources, structure, job description, incentives and workload). Other factors also expressed by Lawrance Green and his colleagues[7] indicated were 1) predisposing factors, including knowledge, attitudes and so on; 2) enabling factors, including the physical environment, the availability or unavailability of facilities or health

facilities, and 3) reinforcement factor. Al-Ahmadi[8] research revealed the factors of sex, marital status, educational level, knowledge and work experience have relationship with employee performance motivation.

Thus, understanding the determinants of independent nursing actions is needed. In this study, demographic factors (age, education level, gender, marital status, family responsibilities, years of service, experience), knowledge, abilities, and workload were examined as the determinants of independent of nursing action

METHODS

Design
This study used a cross-sectional design with observational technique for data collection.

Sample size
Fourteen inpatient wards of the General Hospital of dr. M. Haulussy Ambon were involved. A sample size of 165 nurses was recruited and calculated in accordance with the linear regression multivariate formula and adjusted for independent variables. Simple random sampling was performed with the inclusion criteria: 1) nurses who worked in the inpatient wards and 2) staff nurses. The exclusion criteria included 1) nurses who continued education and 2) off-duty nurses.

Instrument
The instruments used in this study consisted of four parts, namely:
1) Demographic instruments to measure the demographic information of each respondent.

2) Independent nursing action instrument, developed by the researchers in accordance with Nursing Intervention Classification (NIC) and Indonesian nursing practice standard, which include 14 nurse actions in terms of activity of daily livings, caring, support and rehabilitation. The measurement scale consisted of two options, which "1" refers to "action performed" and "0" refers to "no action performed". The reliability of the instrument has been tested using Kappa test with five respondents and 14 enumerators. Cronbach alpha was >0.70.
3) Nurse ability instrument, adopted from Hersey & Blanchard[9] instrument consisting of 35 items with Likert scale: 1= strongly disagree, 2= disagree, 3= disagree, 4= agree, and 5= strongly agree. The results obtained with a maximum score of 175 and minimum score of 35. The questionnaire was back translation to the Indonesian language. The reliability was 0.963.
4) Workload instrument, adopted from a NASA-TLX questionnaire developed by Sandra G Hart & Lowell E Staveland.[10] The workload questionnaire has been translated into Indonesian language by a linguist after obtaining permission to use and modify. This questionnaire contained 6 workload indicators using rating scale with the highest score of 21 and lowest score of 1. The result of the measurement used for the maximum score of 126 and minimum score of 6. The test results of the validity of the workload questionnaire found that all were valid items with the lowest r-value 0.422 and the highest 0.697 (> r-table value = 0.361). The reliability test was 0.792.

5) Knowledge instrument, developed by researchers consisting of 5 items of a dichotomy question, with a Guttman scale that includes two "right" or "wrong" answers. The question should be answered by checking ($\sqrt{}$) on each item of the question according to the answer that the respondent deems the most correct. The correct answer is given a score of 1 and the wrong answer is given a score of 0. Validity of the instrument was tested with the lowest r-value = 0.477 and highest 0.715 r-value (> r-value table = 0.361). While the reliability test showed a value of Cronbach alpha of 0.811.

Ethical Consideration
This research has been approved by the Committee and Ethics of Faculty of Medicine, University of Diponegoro on March 2017 with No. 75/EC/FK-RSDK/III/2017. Prior to the data collection, informed consents were obtained from the respondents.

Data analysis
Kolmogorov-Smirnov was performed and data were not in a normal distribution (p=<0.05). Spearman Rank Correlation and multiple regressions were used for data analysis.

RESULTS

Table 1 shows that the majority of the respondents were female (81.2%), married (92.7%), and had a diploma III background.

Table 1 Frequency distribution of characteristics of respondents based on gender, marital status, and educational level (n=165)

Variable	n	(%)
Gender		
Male	31	18.8
Female	134	81.2
Marital status		
Married	153	92.7
Single	12	7.3
Educational level		
SPK (Vocational school)	10	6.1
DIII	125	75.8
S1+ Ners	30	18.2

Table 2 Frequency distribution of independent nursing action, nursing experience, knowledge, workload, and nurse ability (n=165)

Variable	n	(%)
Independent nursing action		
Good	92	55.8
Poor	73	44.2
Employment time as a nurse		
High	91	55.2
Low	74	44.8

Variable	n	(%)
Family burden		
High	98	59.4
Low	67	40.6
Nurse experience		
High	101	61.2
Low	64	38.8
Nurse knowledge		
Good	118	71.5
Poor	47	28.5
Nurse workload		
High	80	48.5
Low	85	51.5
Nurse ability		
Good	88	53.3
Poor	77	46.7

Table 2 shows that there were 92 nurses (55.8%) in a good category in doing independent nursing action. It was 91 nurses (55.2%) had a high employment period, and 98 (59.4%) of them had a high family burden. This study also revealed that the majority of nurses (71.5%) had a high working experience, good knowledge (71.5%), and good ability (53.3%). However, they also had a high nursing workload (48.5%).

Table 3 Classification of Independent nursing action (n=165)

Classification of Independent nursing action	Yes	
	F	%
Activity of daily living		
Helps moving patients from bed to brancard	115	69.7
Helps feeding the patients	101	61.2
Doing mobilization	130	78.8
Doing verbedent	123	74.5
Caring & Support		
Asking patients' conditions	151	91.5
Always smile when meeting patients and families	132	80.0
Discussing with patients about their condition	137	83.0
Giving positive *reinforcement* positive (great, you can do it, excellent) to the patients	129	78.2
Listening to patients' complaints	141	85.5
Response quickly on patients' complaints	134	81.2
Involving family in each action provided	133	80.6
Rehabilitation		
Asking patients and families about their expectation after discharge	107	64.8
Giving a chance for the patients to express their feeling about leaving hospital, problem anticipation, fear, and problem solving	115	69.7
Discussing with patients and families about the purpose and expectation after discharge	113	68.5

From the three dimensions of the independent nursing action, the majority of the nurses frequently performed as the following: 1) Asking patient's condition (91.5%), 2) Listening to the patients' complaints (85.5%), and 3) Discussing with patients about their condition. In the activity daily living dimension, two actions were below 70% including helping moving patient from bed to brancard (69.7%) and helping feeding the patients (61.2%). While from rehabilitation dimension, all items were below 70% (Table 3).

Table 4 Relationships of Independent nursing action and its determinants using spearman rank test (n=165)

Variable	Independent nursing action	
	Correlation Coefficient (r)	*P-value (<0.05*)*
Age	0.186	0.017*
Gender	0.280	0.000*
Marital status	0.051	0.518
Education	0.212	0.006*
Nurse employment period	0.280	0.000*
Family burden	0.191	0.014*
Working experience	0.274	0.000*
Nurse knowledge	0.503	0.000*
Nurse workload	0.159	0.041*
Nurse ability	0.257	0.001*

Spearman rank test showed that there were significant relationships of age, gender, education, employment time, family burden, working experience, knowledge, workload, and nurse ability with independent nursing action with p-value <0.05 (Table 4).

Table 5 Multivariate analysis of gender, education, working experience, nurse knowledge and nurse ability with independent nursing action using multiple regression (n=165)

Variable	Correlation Coefficient	R
Gender	0.128	
Education	0.125	
Working experience	0.130	0.624
Nurse knowledge	**0.450**	
Nurse ability	0.166	

Note: *) significant when α = 0.05

Table 5 shows that there were five variables included in multivariable analysis. Multiple regression test showed R-value of 0.624, which indicated that gender, education, working experience, nurse knowledge and nurse ability could predict independent nursing action as much as 62.4%. The analysis also showed that nurse knowledge has the higher correlation with independent nursing action. Thus, it could be said that the more knowledge the nurses have, the better independent nursing action will be.

DISCUSSION

Every nurse action can affect the quality of health service in the hospital. Therefore, nurses are demanded to perform independent nursing action optimally. Findings of this study showed that there were significant relationships of age, gender, education, employment time, family burden, working experience, knowledge, workload, and nurse ability with independent nursing action with p-value <0.05. However, knowledge is the most dominant factor predicting independent nursing action with R-value 0.450.

This is in line with Eriawan's research[11] stated that the level of nurse knowledge is related to nursing actions. However, nurse knowledge is also related to the level of nursing education, which in this study there were three educational levels of nurses, namely SPK, Diploma, and Bachelor. As literature stated that bachelor level is considered as the first level of professional nurses.[12-14] Therefore, it is necessary to improve nurse education and knowledge to support nurse competence in performing independent actions based on theories that can be justified, which can be implemented by continuing nursing education and trainings.[15]

On the other hand, nurse ability also affects independent nursing action in this study. This is in line with previous study stated that a person's work ability is determining performance in a company or organization.[15] The ability of nurses is important to perform and complete the independent nursing action well, which can be seen from the technical, social and conceptual ability.[15] However, the ability

of nurses is closely related to the nurses' knowledge.

Besides, nurse workload is also related to the independent nursing action. This is consistent with the previous study revealed that there is a meaningful relationship between the workload and the performance of nurses in implementing the provision of health services in the inpatient wards. It is 53.2% of the productive time used by the nurse is to give the action directly and the remaining 39.9% is used for supporting activities. However, a heavy workload will cause work stress on nurses who will ultimately affect independent actions. Otherwise, low nurse workload will lead to boredom that also causes low independent nursing actions.[16] The nurse's workload is strongly influenced by the number of nurses and patients and the patient's condition.[17] Thus meeting the number of nurses in accordance with the needs and the nurse proportion could reduce nurse workload. In addition, improving the nurse competence in performing independent actions for efficiency and effectiveness of care is also one way to handle high workload in the ward.[12]

Additionally, working experience also needs to be considered in order to improve the independent nurse action. Limited work experience leads to low levels of skills. Work experience is the main capital of a person to plunge in a particular field. The results of this study were consistent with Koehn[18] stated that each nurse has different experiences in caring for or giving action to the patient, thereby leads to different effects in performing independent nursing actions to the patient. However, this working experience variable is closely related to the employment period variable. The longer

the work of a nurse, the better the independent action will be.

Age is also an important component in improving the quality of independent nursing action. The average age of respondents in this study was categorized as the productive age that is able to achieve better productivity, especially in performing independent actions nurse. This is in line with previous study[11] stated that the productive age ranging from 25-35 years old is the stage of someone to determine job areas that are appropriate to their career; while age 35-40 is the career stabilization stage to achieve the goal and the peak of the career lies at the age of 40 years. It is also showed that the increase of age indicates the level of maturity and individual knowledge. The productive-age nurses will focus more on getting a job, doing something better and socializing.[19]

CONCLUSION

Based on the results of this study, it could include that independent nurse action was influenced by multiple factors such as nurse knowledge, ability, education and gender. Nurse knowledge is the most predicting factors affecting independent nursing action. Therefore, hospital and nurse managers need to well manage these predicting variables in order to improve independent nurse action that leads to the better quality of health service in the Dr. M. Haulussy Ambon Hospital.

Declaration of Conflicting Interest
None declared.

Author Contribution
All authors contributed equally in this study.

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