ABSTRACT

**Background:** A nurse has an important role as a caregiver for patients and helps to manage physical needs, prevent illness, and treat health conditions. This study aimed to determine predictors of work performance among nurses at PKU Muhammadiyah Hospital, Yogyakarta.

**Subjects and Method:** This was an analytic observational study with a cross-sectional design. The study was conducted at PKU Muhammadiyah Hospital, Yogyakarta, from April to June 2018. A sample of 203 nurses was selected for this study by simple random sampling. The dependent variable was work performance. The independent variables were motivation, skill, tenure, and motivation. The data were collected by questionnaire and analyzed by path analysis.

**Results:** Work performance was directly improved with better skill (b=1.74; 95%CI= 1.07 to 2.41; p<0.001), longer tenure (b=0.71; 95%CI= 0.07 to 1.35; p= 0.003), and stronger motivation (b=-0.62; 95%CI= -0.07 to 1.31; p= 0.079). Work performance was indirectly affected by satisfaction.

**Conclusion:** Work performance is directly improved with skill, tenure, motivation, and is indirectly affected by satisfaction.

**Keywords:** work performance, tenure, motivation, skill, satisfaction

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**BACKGROUND**

Nursing plays an important role in improving the quality of health services in hospitals. Nursing practice is a way to fulfill professional obligations (PPNI, 2010). In improving the quality of service, the hospital needs to improve the quality of nurse's performance (Mulyono et al., 2013).

The performance of nurses is the spearhead in health services, so it needs to be studied in improving the quality of health. Nurses are keys to improve service quality, so nurses are required to have high performance. Many patients find complaints that come from the performance of health personnel such as nurses. Therefore, hospitals need to focus on service quality issues on nurse performance (Mulyono et al., 2013).

Human resources for medical staff (medical and non medical) are very important because they are an important asset in the health system. The performance of nurses depends on knowledge, skills and motivation (Awases et al., 2013).

There are several factors that influence the performance of nurses, including motivation, competence, compensation, system/ procedure, leader and leadership, corporate culture and environment, communication (Edison et al., 2016). Saleh et al. (2016) states that job satisfaction affects the performance of nurses. In addition to job satisfaction, other factors that affect the performance are the work environment, and leadership.

Performance is influenced by satisfaction, work environment, and compensation.
Platis et al., (2015) study suggest that satisfaction affects performance. The most important component of satisfaction is the satisfaction of managers that is administrative satisfaction, how to work, recognition and job security. While for self-satisfaction, they are productivity, initiative, target work, and satisfaction to quality improvement.

Job satisfaction can affect performance, especially related to salary, supervision, promotion and working conditions. Some factors contribute to performance, such as supervision, promotion, payment, working conditions. In addition to that, there are also organizational commitment, satisfaction and experience. But the level of education, satisfaction with work, and relationships in the workplace have no effect on performance (Al-Ahmadi, 2009).

SUBJECTS AND METHOD

1. Study Design
This was an analytic observational study with a cross sectional design. The study was conducted at PKU Muhammadiyah hospital, Yogyakarta.

2. Population and Samples
The target population in this study was all nurses, while the source population in this study was inpatient nurses at PKU Muhammadiyah hospital in Yogyakarta Special Region. A sample 203 study subjects was selected for this study by total sampling.

3. Study Variables
The dependent variable is the performance of the nurse. The independent variables include education, length of work, training, satisfaction, motivation, leadership, skills, and job descriptions.

4. Operational Definition of Variables
Work performance was defined as the work of the inpatient nurses in carrying out their work. The data were collected by questionnaire. The measurement scale was continuous, nut for the purpose of data analysis, it was transformed into dichotomous, coded 0 for poor and 1 for good.

Tenure was defined as the time span taken by the nurses in carrying out duties and functions that describe the experience of nurses in mastering the field of duty. The data were collected by questionnaire. The measurement scale was continuous, nut for the purpose of data analysis, it was transformed into dichotomous, coded 0 for <5 years and 1 for ≥5 years.

Skill was defined as the nurse's ability to apply knowledge into action. The data were collected by questionnaire. The measurement scale was continuous, nut for the purpose of data analysis, it was transformed into dichotomous, coded 0 for weak and 1 for strong.

Motivation was defined as the work impulse that arises in the nurse in achieving optimal performance. The data were collected by questionnaire. The measurement scale was continuous, nut for the purpose of data analysis, it was transformed into dichotomous, coded 0 for low and 1 for high.

5. Data Analysis
The data were analyzed by univariate, bivariate, and path analysis, run on Stata 13. Path analysis aims to examine the direct and indirect relationship between independent variables and dependent variable.

6. Research Ethics
The research ethics include informed consent, anonymity, confidentiality and ethical clearance. The ethical clearance in this study was conducted in Dr. Moewardi
hospital, Surakarta, and declared worthy of ethics based on decision letter number: 406 / IV / HREC / 2018.

RESULTS

1. Univariate Analysis
The results of univariate analysis are described in Table 1. Most of the study subjects had education diploma 50 (73.9%). Nurses with tenure ≥5 years as many as 119 (58.6%).

Nurse with poor performance was 73 (36.0%) and good performance was 130 (64.0%). Nurse with low satisfaction was 53 (26.1%) and high satisfaction was 150 (73.9%). Low motivation nurses were 78 nurses (38.4%), and nurses with high motivation were 125 nurses (61.6%). Nurse with poor skill was 69 (34.0%) and good skill was 134 (66.0%).

2. The Results of Path Analysis
Path analysis model in this study was depicted in Figure 1. The result of path analysis was described in Table 2.

Work performance among nurse was directly and positively affected by skill, motivation, and tenure. Better skill improved work performance (b=1.75; 95% CI= 1.07 to 2.41; p<0.001), tenure ≥5 years (b= 0.71; 95% CI= 0.07 to 1.35; p= 0.030), strong motivation (b= 0.62; 95% CI= -0.08 to 1.31; p= 0.079).

Work performance among nurse was indirectly affected by satisfaction. Strong motivation increased satisfaction (b= 0.98; 95% CI= 0.37 to 1.60; p= 0.002).

Table 1. Univariate Analysis

| Variable   | Frequency | %  |
|------------|-----------|----|
| Education  | Diploma   | 150 | 73.9 |
|            | Bachelor  | 53  | 26.1 |
| Tenure     | < 5 years | 84  | 41.1 |
|            | ≥5 years  | 119 | 58.6 |
| Performance| Poor      | 73  | 36.0 |
|            | Good      | 130 | 64.0 |
| Satisfaction| Low    | 53  | 26.1 |
|             | High      | 150 | 73.9 |
| Motivation  | Weak      | 78  | 38.4 |
|             | Strong    | 125 | 61.6 |
| Skill       | Poor      | 69  | 34.0 |
|             | Good      | 134 | 66.0 |

Figure 1. Path analysis structural model with estimation
Table 2. The results of path analysis

| Dependent Variable | Independent Variable | Path Coefficient (b) | 95% CI Lower Limit | 95% CI Upper Limit | p       |
|--------------------|----------------------|----------------------|-------------------|-------------------|---------|
| Direct Effect      | Skill                | 1.74                 | 1.07              | 2.41              | <0.001  |
| Performance        | Tenure               | 0.71                 | 0.07              | 1.35              | 0.030   |
| Performance        | Motivation           | 0.62                 | -0.08             | 1.31              | 0.079   |
| Indirect Effect    | Satisfaction         | 0.98                 | 0.37              | 1.60              | 0.002   |

N Observation = 203
Log likelihood = -245.65

DISCUSSIONS

1. The relationship between skill and nurses performance
   The result of analysis showed that skill was associated with nurse performance and it was statistically significant. Nurses with better skill increased better work performance by 1.74 times.

   The result of this study was in line with a study by Diana et al. (2014), which stated that skill was associated with performance. Nurses who have good skill would have good performance.

2. The relationship between tenure and nurses performance
   The result of path analysis showed that tenure was positively associated with nurse performance and it was statistically significant. Tenure ≥ 5 years increased nurse performance by 0.71 times.

   The result of this study was in line with a study by Faizin and Winarsih (2008) which stated that there was a relationship between tenure and nurses performance. The longer the tenure, the more the experiences, and it would improve the performance of the nurses.

3. The relationship between motivation and nurses performance
   The result of this study was in line with a study by Choon Hee et al. (2016), which stated that motivation has a positive and significant relationship with nurses performance. This motivation consisted of rewarding. Abd et al. (2016), stated that motivation has a significant and positive relationship with the performance of nurses.

   Highly motivated nurses would have good performance. Several factors that affected the motivation were workplace, characteristics, working conditions, personal characteristics, individual priority, and psychological condition (Toode et al., 2011).

4. The relationship between satisfaction and nurses performance
   The result of analysis showed that satisfaction has an effect on the work performance through motivation.

   The result of this study was in line with a study by Abd et al. (2016), which stated that there was a relationship between satisfaction and nurses motivation. The satisfaction and motivation would affect nurses performance. The satisfaction of the nurses on the performance assessment has a positive impact on their intrinsic motivation that would affect the work results or the performance of the nurses. A study by Singh and Tiwari (2011), mentioned that motivation has an effect on job satisfaction, and vice versa. Satisfaction would increased with the enhancement of motivation and vice versa.

   The performance would increase when the nurses were satisfied with the
results of their work. A study by Elarabi and Johari (2014), stated that work satisfaction could affect the performance. The performance of medical staff and the quality of medical services in hospitals can be improved when employees were satisfied and treated well.

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