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Work Stress Among Nurses in a Private Hospital in Lumajang Indonesia

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Abstract

The issue of nurses' turnover is rising worldwide as it causes instability of nursing workforce. In fact, a hospital needs a sustainable and highly committed nursing workforce to provide high-quality patient care. Work stress is a crucial factor influencing nurses' performance, organizational commitment, and one of the key turnover predictors. Thus, knowing the current level of nurses' work stress and its influencing factors will be imperative. This study aims to determine the level of work stress of nursing personnel in a private hospital in Lumajang Indonesia and identify factors that influence the stress. This study used a cross-sectional research design. A questionnaire was used to collect data from 40 nurses in a private hospital in Lumajang Indonesia. Respondents were asked to rate their perception of work stress and aspects of working conditions using a five-point Likert scale. All items in the instrument have passed the validity and reliability test. Data were analyzed using descriptive statistics and multiple linear regression. The results of this study show that around two-fifth of the nurses experience moderate to high level of work stress. Of the research variables, pay, management, and health and safety were found to have a significant influence statistically on the work stress. Among those three variables, hospital health and safety variable are considered as the most dominant factor. The findings are in line with previous research about factors influencing work stress, but in addition, this study identifies hospital health and safety as the most dominant factor. This result could be useful for the hospital manager in prioritizing improvement on the problematic aspects of nurses' working condition to reduce nurses' work stress.

Keywords: work stress, nurse, working conditions

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1. Introduction

Nursing turnover becomes a problem worldwide as it causes instability of nursing personnel. In hospitals, nurse turnover results in nursing shortage and vacant positions for a period of time [1–3]. Private hospitals in Indonesia experience a worse condition of nursing shortages as they commonly have limited resources. Replacing nurses

becomes a challenging task as the process to find a suitable employee to replace the nurse who had quit requires a long and costly process [4]. Therefore, the hospital cannot immediately replace the resigned nurses, and it causes a nursing shortage and disrupts the stability of nursing staff at the hospital.

However, a hospital needs stable and highly committed nursing personnel to provide high-quality patient care[5, 6]. The high rate of nurse turnover rate causes insufficient nursing personnel, and it increases nurses' workload, reduces their performance, and disturbs the nursing care service. Unfortunately, the presence of newly recruited nurses does not necessarily lessen the nurses' workload as newly employed nurses still need adaptation process and senior nurses' support. Ultimately, the existing nurse is burdened with the additional task of nurturing new nurses. These conditions commonly lower the morale of existing nurses and also trigger another turnover [7].

Work stress might trigger burnout which results in lowering performance, weakening commitment, and increasing nurses' attrition [1, 2, 8]. In nature, nurses' jobs are stressful [1]. Further Freeney and Tiernan mention that 25% of European nurses experience burnout [9], one of which is caused by high levels of stress. Therefore, knowing the current level of nurse work stress and its influencing factors become strategically imperative.

Several studies in Indonesia show that nurses experience moderate to high level of stress [10, 11], which is triggered by several causes including workload, shift work, individual factors and leader support. In line with those previous studies, some international literature suggests that work stress is also influenced by many aspects of working conditions [2, 12, 13]. Therefore, hospital managers should pay more attention to nurse's working condition to reduce nurses' stress level. Before deciding to perform actions to reduce nurses' stress, hospital managers should know the level of stress and have a complete understanding of nurse's perception of the working conditions at the hospital. Therefore, this study aims to describe the nurse's perception of working conditions and the level of work stress in a private hospital in Lumajang Indonesia and to identify factors that affect their stress. The results of this study are expected to be used as a basis for determining the priority improving working conditions in hospitals to reduce the nurses' work stress.

2. Methods

This study used cross-sectional research design and was conducted in a private hospital in Lumajang with all nurses in this hospital as the population. A total of 40 respondents agreed to participate in this research.

Data was gathered from respondent using questionnaire. The questionnaire in this study consists of two parts, first part contains 6 items of respondent's demographic characteristics and the second part contains 43 items that used to measure the nurse's perception of job stress (9 items) and aspects of their working conditions (34 items distributed in 7 variables, that is, communication, pay and benefit, appraisal performance, management, colleagues, professional development, and hospital health and safety). The questionnaire is the translation and modification of the Quality of Working Life questionnaire by Funnel [14]. Modifications are performed to adjust with the Indonesian context. Several parts of the Funnel's instrument were not used in this study because of the context and number of items [14]. The items in the questionnaire were measured using a 5-level Likert Scale start from the score of 1 (strongly disagree) to 5 (strongly agree). The validity and reliability test results show that all items in the questionnaire have validity values above 3.12 (r-table value for 40 samples with 5% significance) and Cronbach's Alpha value above 0.60 which means all items in the questionnaire are valid and reliable.

Further, the data were analyzed using descriptive statistics and multiple linear regression. Descriptive statistics aim to describe the nurse's perception of their working condition and to give a current picture of the nurse's stress condition in the hospital. Descriptive statistics were conducted by interpreting the frequency distribution and mean score every variable (or item). Before performing the interpretation process, mean scores were categorized using grouping guidance (Table 1). Afterward, multiple linear regression analysis was used to identify the aspect of working conditions in the hospital that have a significant effect on nurses work stress. The data has passed the classical assumption test and meets all the requirements that are free multicollinearity, heteroskedasticity, and normality.

TABLE 1: Categories for respondent's response on research variables.

No.	Mean Score	Category
1.	1.00–2.33	Low
2.	2.34–3.67	Moderate
3.	3.68–5.00	High
Source: Sugiyono 2010.		

TABLE 2: Respondent's characteristics.

Characteristics	Frequency	Percentage
Gender		
Male	9	22.5%
Female	30	75.0%
n/a	1	2.5%
Marital status		
Married	29	72.5%
Single	8	20.0%
n/a	3	7.5%
Education		
High School Nurses	1	2.5%
Diploma (3 years)	2	5.0%
Post Diploma (4 years)	29	72.5%
Bachelor's Degree	2	5.0%
Master Degree	4	10.0%
n/a	2	5.0%
Age		
< 25-year-old	13	32.5%
> 25 to 30-year-old	14	35.0%
> 30 to 35-year-old	10	25.0%
> 35 to 40-year-old	2	5.0%
n/a	1	2.5%
Tenure		
< 1 year	7	17.5%
> 1 to 5 years	14	35.0%
> 5 to 10 years	13	32.5%
> 10 years	5	12.5%
n/a	1	2.5%
Type of employment		
Permanent	15	37.5%
Contract	23	57.5%
n/a	2	5.0%

3. Results

3.1. Respondent characteristics

Respondents in this study are nurses in a private hospital in Lumajang who are mostly female (75%), are married (72.5%), and hold Post Diploma (72.5%). The youngest nurse age is 23 years old, and the oldest is 39 years old with the mean age of 28.51 ± 4.49 (mean $\pm$ SD). Almost all nurses are aged up to 35 years (92.5%). Most nurses have

TABLE 3: The mean scores of research variables.

Working Conditions	Mean	Std. Deviation	Category
Communication	3.76	0.70	High
Pay and benefit	3.28	0.84	Moderate
Performance appraisal	3.48	0.67	Moderate
Management	3.50	0.61	Moderate
Colleagues	3.88	0.60	High
Professional development	3.45	0.72	Moderate
Health and Safety	3.20	0.54	Moderate
Work Stress	2.49	0.70	Moderate

TABLE 4: The nurses' level of stress in a private hospital in Lumajang.

Stress level	Frequency	Percentage
Low	23	57.5
Moderate	14	35.0
High	3	7.5
Total	40	100.0

TABLE 5: Nurses' perception on work stress variable.

Item	STS		TS		R		S		SS		Re-rata
	F	%	F	%	F	%	F	%	F	%	
Too much work pressure	4	10.0	19	47.5	5	12.5	8	20.0	4	10.0	2.73
Personal lives is disturbed by their work	4	10.0	26	65.0	4	10.0	6	15.0	0	0.0	2.30
Under constant strain at work	5	12.5	20	50.0	6	15.0	8	20.0	1	2.5	2.50
Work pressure influences performance	4	10.0	23	57.5	8	20.0	5	12.5	0	0.0	2.35
Losing sleep over my work problems	4	10.0	22	55.0	9	22.5	4	10.0	1	2.5	2.40
Unable to cope the changing pace	3	7.5	18	45.0	12	30.0	7	17.5	0	0.0	2.58
Too fast pace of change	2	5.0	14	35.0	11	27.5	12	30.0	1	2.5	2.90
Emotionally drained	3	7.5	23	57.5	5	12.5	9	22.5	0	0.0	2.50
Burnout with the job	8	20.0	22	55.0	5	12.5	5	12.5	0	0.0	2.18
Mean Variable											2.49

worked in the hospital for 1 to10 years (67.5%), up to 1 year (17.5%) and over 10 years (12.5%). The contract nurses have a larger portion (57.5%). The detail characteristics of the respondents are presented in Table 2.

TABLE 6: Result of multiple linear regression: Influence of work conditions aspects on work stress.

Variables	Coefficients	Standardized Coefficients	T-statistic	Prob.
Constant	0.693		0.849	0.402
Communication	−0.156	−0.156	−1.018	0.316
Pay and benefit	−0.398	−0.481	−3.301	0.002
Performance appraisal	−0.033	−0.032	−0.206	0.838
Management	0.456	0.342	2.113	0.043
Colleagues	0.007	0.006	0.040	0.968
Professional development	0.166	0.171	1.076	0.290
Hospital Health and safety	0.811	0.627	4.035	0.000
F-statistic = 5.148		Prob. = 0.001		
R-squared = 0.530		Adj. R-squared = 0.427		

3.1.1. Descriptive statistics analysis results

The mean scores of all variables are presented in Table 3. The results show that most of the score could be categorized as moderate to medium (from 2.33 to 3.67) and high (from 3.68 to 5). Based on the scores, it can be seen that nurses feel that in general, their working conditions are quite good. Moreover, two variables obtain a high mean score which is colleagues (3.88) and communication (3.76). The high mean score of colleagues aspect shows that there is good relationship among nurses and nurses with other professions in this hospital, while the high mean score of communication aspect shows that the information for nurses in the hospital is properly available and updated. Although the score is in the moderate category, hospital health and safety and pay and benefit variables are two variables with the lowest mean score, which are 3.20 and 3.28, respectively. These results show that many nurses feel that their health and safety and pay and benefits are good enough. However, some nurses feel that both aspects are still not good.

Furthermore, Table 3 shows that mean score of nurses' work stress is in moderate category (2.49). The results of this study show that more than half of the nurses (57.5%) have a low level of stress (Table 4). However, the results also show that two of five nurses (42.5%) have moderate to high level of work stress. These results indicate that some nurses experience stress at the hospital.

In addition, the results of this study indicate that most of the work stress items can be categorized into moderate mean score although two items obtain a low mean score (Table 5). It indicates that nurses feel that their stress condition is good enough as can

be seen through the nurse's response that they do not feel burnout with their work and do not feel that their personal lives interfere with their work. However, the frequency of each item indicates that some nurses still feel under the job pressure (30%), feel high tense at work (22.5%), and feel emotionally drained at work (22.5%). Some nurses also feel that the change in the hospital is too fast (32.5%) so they feel overwhelmed following the change (17.5%). The portion of nurses' negative response on five work stress' item between 17.5% to 32.5% indicates that some nurses experience stress at work.

3.2. The influence of work conditions aspects on work stress

The result of multiple linear regression analysis is presented in Table 6. This section will describe the simultaneous influence of work conditions aspects on work stress, the partial influence of work conditions aspects on work stress, and the most dominant variable that influence work stress.

3.3. The simultaneous influence of work conditions aspects on nurses' work stress

The contribution of the independent variables, that is, communication, pay and benefit, appraisal performance, management, colleagues, professional development, and hospital health and safety on work stress as a dependent variable can be seen through the coefficient of determination (adj R2) that is equal to 0.427. It means that the variability of work stress can be explained by 42.7% independent variable, or in other words, the contribution of independent variable to work stress is 42.7%, while another 57.3% is contributed by other variables that are not discussed in this study.

The simultaneous influence test is used to determine the effect of communication, pay and benefit, appraisal, management, colleagues, professional development, and hospital health and safety on work stress. The test criteria state that if the value of F-count $\geq$ F-table or probability $<$ level of significance (α), it can be concluded that communication, pay and benefit, appraisal performance, management, colleagues, professional development, and hospital health and safety simultaneously influence of work stress. The simultaneous influence test yields a F-count of 5.148 with a probability of 0.000. The test results show the probability $<$ level of significance (α = 5%). Thus, it can be interpreted that communication, pay and benefit, appraisal performance,

management, colleagues, professional development, and hospital health and safety influence simultaneously effect on work stress.

The results show that simultaneously all aspects in work conditions in this study significantly influence work stress. This result supports several previous studies which reveal that in addition to individual factors, work conditions also affect work stress [2–4]. The value of the determination coefficient is considered big enough. It shows that the contribution of independent variables in this study has enough influence on work stress. Therefore, the hospital managers should consider on all aspects of work conditions in this study in reducing work stress.

3.4. The partial influence of work conditions aspects on nurses' work stress

Partial influence test is used to determine whether there is an influence of communication, pay and benefit, appraisal, management, colleagues, professional development, and hospital health and safety on work stress. The test criteria state that if the value of t-count $\geq t$-table or probability $<$ level of significance (α) then it can be interpreted that there is a significant influence of each independent variable to work stress.

The test results show that partially there are three aspects of work conditions that have significance value of $t < 0.05$ that is pay and benefit, management, and hospital health and safety, while other aspects have significance value $t > 0.05$. It means that these three aspects have a significant effect on work stress, while the other four aspects of communication, performance appraisal, colleagues, professional development have no significant effect on work stress. Further, Table 6 shows that hospital health and safety have the greatest coefficient value (0.811) so that this aspect becomes the most dominant variable affecting work stress.

4. Discussion

Pay and benefit is one of the three work conditions that significantly affect work stress. Pay and benefit in this study measures the overall satisfaction and fairness in rewarding employees. The results of this study indicate that pay and benefit becomes the variable that influences work stress. It supports previous research that revealed that unfair reward system and insufficient pay and benefit become one of the main causes of stress and contribute to the turnover [3, 5–7]. In addition, Weyers et al. reveal that psychosocial work stress is associated with self-rated health as measured by the

balance between effort and reward. High effort and low rewards cause a sustained sense of stress in work [8]). In this study pay and benefit is one of the aspects that get the lowest mean, although its score is still in the moderate category. Moderate category of mean score shows that although many nurses rate the pay and benefit aspects with a good score, still there are some nurses who feel that this aspect is not exactly good, and many nurses feel uncertain in giving their opinions whether this aspect is good or not. This provides an opportunity for hospital managers to reduce the nurse's stress level by improving the conditions of the pay and benefits aspect, such as considering performance and skill levels in deciding the suitable salaries or other forms of rewards. This aspect is important because, in addition to causing work stress, pay and benefit is also associated with nurse turnover.

The second aspect that has significant influence on work stress is management aspect. Based on the concept of quality of working life [9] as the basis for Funnel's instrument [10], management deals with aspects of relationships with immediate supervisors, such as feelings of support, assistance, and appreciation. Lack of management support is one of the main causes of stress in work [6]. The results of this study support the results of Demerouti et al. that revealed that the unit manager has a key role in creating a collegial and supportive atmosphere so that nurses feel appreciated [11]. In this study, nurses feel the management atmosphere is quite good with the mean score in the medium category. Nurses reveal that they have a good relationship with the unit manager and feel valued, although many nurses feel that the unit manager is less understanding of the nurses' lives (outside the work). By Demerouti et al., the unit manager successfully establishes good relationships with nurses and create a supportive atmosphere [11]. Although it is not directly related to work, a collegial atmosphere can be further enhanced by increasing the interest of unit manager on nurses' activities outside the work.

The third aspect that has a significant influence as well as being the most dominant variable affecting work stress is hospital health and safety. Work as a nurse is a stressful job [7] because nurses encounter pain, suffering, and death on daily basis [2, 12]. In addition, as a health worker in the hospital, nurses are exposed to safety risks, either the patient or the nurses themselves. Fatigue from work in shifts and high workload increases the risk of accidents [13–15]. Clarke and Cooper (2004) state employee perceptions of occupational safety and health can be stressful [16, 17]. The angst on occupational safety and health are likely to cause nurses' stress. In this study nurses rate, health and safety at the hospital entered in the moderate category. Nevertheless, this variable has the lowest mean score compared to other work condition

variables. Some aspects that are considered not good are the availability of tools and materials to perform well at work, orientation for unusual or new equipment, and the quality of tools used. Nurses may feel that with the given condition of improper tools and materials, they fear that it increases the risk of their safety and it causes stress. It seems to be the reason that makes this aspect to be the most dominant aspect in influencing work stress.

5. Conclusion

The results of this study support previous research on the factors affecting work stress, but in addition, this research reveals that health and safety aspects as factors that have the most dominant influence on work stress. This result can be used by hospital managers in prioritizing improvement on the problematic aspects of working conditions to reduce the stress of nurse work.

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