

# The Influence of Workload and Work Stress to Patient Safety Attitude on Nurses

Qurratul Aini

Master of Hospital Management, Universitas Muhammadiyah Yogyakarta, Indonesia

E-mail : q.ainiumy@gmail.com

## Abstract

**Background:** Nurse is a health worker at health service areas whose role may reduce and avoid errors that are possible to happen in the hospital. Patient safety is one of the important components to increase the health service quality. Most of the errors done by nurses are caused by the high workload. Besides, nurses are also vulnerable toward stress. **Research objective:** To find out the influence of workload and work stress toward patient safety attitude on nurses in inpatient units. **Research method:** This research applies quantitative approach with correlational descriptive method. The independent variables are workload and work stress and the dependent variable is patient safety attitude. The population in this research is 149 nurses at inpatient unit in RSUD PanembahanSenopatiBantul. The sampling technique is total sampling with double linier regression analysis. **Finding and Discussion:** The significance value of workload is 0,000 ( $p < 0,05$ ) and work stress is 0,000 ( $p < 0,05$ ). F-test is 21,588 with significance value is 0,000 (Sig < 0,05). The coefficient value of Adjusted  $R^2$  in this research is 21.8%, while the rest is explained by other variables that are not being researched. **Conclusion:** 1) Workload influences the patient safety attitude on nurses, 2) Work stress influences the patient safety attitude on nurses, and 3) Workload and work stress simultaneously influences the patient safety attitude in the inpatient units at RSUD PanembahanSenopatiBantul.

**Keywords:** workload, work stress, patient safety attitude, nurses

## INTRODUCTION

In this globalization era, the science and technology have developed rapidly including medical science and technology. Many new medical tools are invented as do new medicine. Apparently, this development affects the health service in which in the past health service was given modestly, most of the time inefficient yet safer. Nowadays, the health service is very complex, it is more effective but when it is given less careful it will create higher risk for error to the health service. In US, 1 out of 200 patients faces the risk to receive health service error in the hospital—higher than the risk on airplane service which is only 1 out of 2,000,000 errors. It points out the risk to receive errors in health service is higher. WHO<sup>1</sup> states that in many services to the patients in inpatient unit, there are 3%-16% adverse events. During 2005 in Indonesia, the Ministry of Health received 200 case reports on service error in hospital<sup>2</sup>. This high risk forces the community to be more selective in choosing the health service. The errors in giving health service may be caused by various factors. Most errors (85%) is caused by human error and 15% is caused by tool errors. Human error is related to the limitation of health worker in terms of physical and mental ability. Human error may happen due to miss communication, work pressure, the demand of prompt service, busyness, tiredness and work environment<sup>3</sup>.

Hospital is required to provide a safer health service and harm free. This encourages the hospital to provide the best health service to the community. It is done through improving the service quality of the hospital. Based on Uduk<sup>4</sup>, there are 5 (five) dimensions of hospital quality service measurement, that are (1) tangible covering physical facilities, equipment, workers and communication materials; (2) reliability that is the ability to give prompt and satisfying service; (3) responsiveness that is a responsive and care workers to the patients; (4) assurance which covers the competence conveying the sense of safety, harm free and assurance which covers knowledge, politeness, and trustfulness; and (5) empathy that is a character and ability to give full attention to the patient, good communication and understand the need of patient individually. Seen from the 5 dimensions of service quality, patient safety is included in the assurance dimension that is the guarantee that the patient is harm free and possesses no injury risk. Patient safety is one of the important components in health service quality<sup>5</sup>.

The aim of patient safety is prevention and minimization of harm to patient<sup>6</sup>. An improvement on the awareness on patient safety is not only to know the errors but also to know what are needed to be done in the practice of health service<sup>7</sup>. There are more efforts done to improve patient safety and are clearly related to each level of health service covering the system, organization, unit, team and individual of the health worker. Some research agrees that patient safety is the key factor to decrease and prevent error<sup>8</sup>.

Some influential factors influencing health service and safety is organizational factor such as safety climate and moral, environment factor such as the organization of workers and managerial support, team factor such as teamwork and supervise, and staff factor such as self-trust and confidence<sup>9</sup>. Based on Rubiyanto<sup>10</sup>, patient safety has to be a holistic movement involving all parties related to the health service. It needs total involvement from all parties that are the management and health workers. The health workers in the hospital that

are directly involved to patient safety are nurses, doctors and professional workers and technicians such as therapists, radiologists, etc.

Nurses are the health workers who work as the front-liners in health service area. Most workers in a hospital are nurses (60%). Not only becoming the front-liners of health service in a hospital, nurses always exist in every hospital. Therefore, nurse has the potential to minimize and to prevent error to happen in the hospital<sup>11</sup>. It is reported that majority the error caused by nurse is due to the high workload. It is one of the latent failures in causing error which will decrease the patient safety. Most error (almost 70%) is caused by attitude factor<sup>12</sup>.

The classification of the patients in inpatient unit, seen as the demand for health service, whenever treated carelessly by the head of the hospital especially the delegation of nurses both in terms of quantity and quality, will impose risk on the condition and workload. Besides workload, nurses are vulnerable to stress in doing the profession. Based on a survey in France<sup>13</sup>, there is 74% stress occurrence experienced by the nurses. Meanwhile, in Indonesia, based on the research done by Persatuan Perawat Nasional (National Nurse Association) on 2006, there was 50.9% nurses experienced work stress. While 74% nurses experienced stress which mostly caused by the work environment which require physical strength and skills.

Based on various indicators, the inpatient care in RSUD Panembahan Senopati Bantul shows that the BOR (Bed Occupancy Rate) increases from 75.79% to 79.86% (target: 75%-85%). This increase means that the service quality is better and because of the addition of the number of bed from 289 to be 300 beds. By the increase of inpatient care, the workload of the nurses is consequently increased. This condition requires more energy, time, and thoughts which may increase the stress as well. Therefore, the high workload and work stress faced by the nurses are influential to their service especially in regard to patient safety. It is in accordance to the research done by Susanto<sup>14</sup> which figures out that the number of BOR significantly influences the needs of nurses. This indicates that the appropriate number of nurses will increase the number of BOR. Overloaded workload, additional tasks that have to be done by the nurses will disturb their performance.

In order to support the patient safety programs, RSUD Panembahan Senopati Bantul has built patient safety team since 2009. With this patient safety team, it is expected that the patient safety in RSUD Panembahan Senopati Bantul will increase so that it will, in result, increase the quality of health service toward the patients. Besides, in 2013, RSUD Panembahan Senopati planned to join accreditation program version 2012. It is to fulfill the requirement of Act No.44 (2009) upon Hospital Issue that obliges all hospitals in Indonesia to increase their service quality through accreditation. One of the targets on the new standard accreditation is the target on patient safety. It is also one of the motivations for RSUD Panembahan Senopati to invigorate the programs of patient safety through patient safety that has been built before.

The result of preliminary study through interview on 12 May 2014 with the Head of Quality and Clinical Audit, it is found that there are 14 adverse events in RSUD Panembahan Senopati Bantul in 2012, and 23 cases during 2013. This increase will hinder the image of nurse service in the hospital which is closely related to the quality as well as the patient and family satisfaction.

## **MATERIAL AND METHOD**

This research uses quantitative with correlational descriptive method that is a method which aims to resolve actual problems existing in the present time through data collection, data processing and data analysis which then will be described. This research applies cross sectional approach that is the implementation of direct observation<sup>15</sup>. This research is done in the inpatient unit at RSUD Panembahan Senopati Bantul and the research subject is the nurses assigned in the inpatient unit.

The nurse population for inpatient care is 149 nurses in 8 inpatient units. The sampling technique used is total sampling. All sample (total sampling) is used because a great number of sampling tends to result in actual value to the real population, in other words, it poses smaller risk for error (deviation of population value)<sup>16</sup>.

The inclusion criteria in this research are: 1) Minimum education background is D3, 2) Nurse assigned in inpatient unit, 3) Permanent and temporary nurses, 4) Willing to be the respondents. While the exclusion criteria are: 1) Nurses who are having work-off, 2) Unwilling to be respondent, 3) Nurses who are doing their study.

Based on Sekaran<sup>17</sup>, the research variables are symbols of numbers or values or characteristics which may have various values. In this research, the variables used are dependent and independent variables. Independent variable is the causes. Dependent variable is the condition which needs to be described, hypothesized result which varies based on the changed or independent variables.

In this research, the variables consist on independent variable (X) and dependent variable (Y). The independent variables are workload and work stress of the nurse. The dependent variable is the patient safety attitude.

This research uses questionnaire as the research tool, which consist of:

### **Patient safety attitudes questionnaire**

The patient safety attitudes questionnaire is obtained from the journal of The Safety Attitudes Questionnaire

(SAQ) ICU version that is adapted and modified from Sexton et al<sup>18</sup> as well as adjusted with *SAQ generic version*<sup>19</sup> and *SAQ ambulatory version*<sup>20</sup>. Patient safety attitude consists of seven components that are teamwork climate, safety climate, perception on hospital management and unit, work satisfaction, work condition, and the awareness of stress. The questionnaire consists of 36 statements. The scoring is measured with likert scale from 1-4 (very disagree-very agree). The scale used is interval scale.

#### **Nurse Workload Questionnaire**

Nurse workload can be measured with nurse workload questionnaire adapted from Nursalam<sup>21</sup> which have been modified. It consists of 13 statements which are filled by the nurse assigned in the inpatient unit. The questionnaire of nurse workload has been modified<sup>21</sup>. The scoring is calculated by using likert scale from 1-4 (very disagree-very agree). The scale used is interval scale.

#### **Nurse work stress questionnaire**

Nurse work stress can be measured by using nurse work stress questionnaire which is adapted from Nursalam<sup>21</sup> which have been modified. The questionnaire consists of 15 statements which are filled by the nurse assigned in inpatient unit. The questionnaire of nurse workload has been modified<sup>21</sup>. The scoring is calculated by using likert scale from 1-4 (very disagree-very agree). The scale used is interval scale.

Before the statements are used as research instrument, it has been tested for its validity and reliability. The validity is tested by product moment correlation formula while the reliability is tested by referring to the Cronbach Alpha value  $>0.60$ . The validity and reliability testing is given to 30 nurses who are assigned in Flamboyant inpatient unit and Nusa Indah RS.

In this research, the data is processed by using SPSS (Statistical Products and Solution Services ) 20 for Windows, while the data analysis consists of two testing which will be done that are assumption and hypothesis test. T-test is used to test the hypothesis to see the significance value of the independent variable which influences the dependent variable by assuming that the other variables are constant. It is then will be tested with F-test to know into what extent the independent variables simultaneously influence the dependent variables.

## **RESULT**

### **Validity and Reliability Test**

Based on the validity test result to all statements in the research, it shows that there are some statements in each variable that are invalid because the  $r$  value is smaller than  $r$  table (0.361), while based on the reliability test, it shows that the value of  $\text{cronbachalpha} > 0.60$ ; therefore the statements in each variable is reliable.

### **Respondent Characteristics**

Based on the gender, the respondents are imbalance in which female respondents are more than the male respondents. The research done by Al-Ahmadi<sup>22</sup> mentions that gender positively correlated to the work performance in which female workers tend to perform better compared to male workers in providing nursery care to the patients.

Based on *Ruang Bertugas*, the unit that becomes the sample in this research, there are 8 rooms with heterogeneous number of nurse. Most nurse is assigned in Perinatal room (28 nurses), while the least number of nurse is assigned in Alamanda room (9 nurses).

Based on the respondent age, the respondents are heterogeneous. Majority, the respondent is between 31-40 years old that is 62 respondents (41.6%). Meanwhile the least is between 41-50 years old that is 27 respondents (18.1%). This result shows that most working nurses are under productive age. As asserted by Siagian<sup>23</sup>, age is related to both the maturity in doing the work and the psychological maturity. The older the person, the more mature his or her psychological state and maturity in finishing the tasks is. Therefore, the older nurses generally are more responsible and more accurate than the younger ones. It is probably caused by the lack experiment of the young ages.

The education of the nurse is the least influential to the work performance because nurse job needs the knowledge of nursing method. The level of nurse education in this research is between DIII-S1 of Nursery Science. Most of the respondents are D III graduates that is 137 respondents (81.9%), while the least is D4 that is 2 respondents (1.3%). This result shows that majority the nurse education is needed to be improved in order to equip them with higher knowledge, at least S1 of Nursery Science. The higher of the nurse educational level, the higher it is to influence of patient safety improvement<sup>12</sup>.

Most of the respondents in this research have been working for 1-5 years that is 67 respondents (45.0%) while the least has been working for 6-10 years and more than 16 years (each is 22 respondents or 14.8%). Based on this result, it can be concluded that the experience of the nurses who become the sample is not yet enough because of their short work time. Nevertheless, this will also give additional value that is the possibility for the nurses to have high spirit. Based on the research done by Lin and Liang<sup>12</sup>, medication error has positive correlation with the lack of experience, stress, and tiredness.

## Description of Respondents' Responses on Workloads, Work Stress and Patient Safety Attitude Variables

Respondents' responses on the workload of nurses in performing their tasks are divided into three components, namely quantitative, qualitative, and combinations. The interpretation of the following results is the higher the value of percentage is, the lighter the workloads felt by the respondents will be.

The obtained results showed that the majority of the heaviest workloads was in the quantitative component (Rose, Cempaka, Perinatal, Jasmine, and Hyacinths Wards), while the rest which had a tendency of having heavy workloads was on the qualitative component (Orchid, Alamanda, and ICU Wards). These results suggested that quantitative workload is the major workload across all of the studied wards in the hospitals. It indicated that the workloads possessed by the nurses are quite heavy from the quantitative aspect.

From the cumulative calculation on the entire wards, the smallest percentage lied in the quantitative component which is 65.23%. It can be interpreted that the respondents in this study felt that they possessed burden quantitatively. Quantitative burden shows the amount of work that must be addressed in terms of the number of nurses.

Respondents' responses to stress in performing the work are divided into three components, namely the physical, behavioral, and psychological components. The interpretation of the results below is the higher the percentage is, the lower the stress level respondents have.

The obtained results showed that the three wards (Rose, Cempaka, Jasmine) obtained the smallest percentage on physical component. While the three wards (Alamanda, Orchid, and Lilium) obtained the lowest scores on psychological component. Perinatal inpatient ward obtained the lowest score on behavioral component, while the ICU ward had two components with the same score, namely physical and behavioral components.

Based on the cumulative calculation of the whole wards, the results showed that the majority of nurses in this study experienced stress on psychological component. Psychological symptoms which can arise for example anxiety, confusion, anger, silence, depression, boredom, and job dissatisfaction, decrease intellectual and lost concentration.

Patients safety attitude as a variable in the study was grouped into seven components: Teamwork, Safety Climate, Hospital Management, Management Unit, Job Satisfaction, Working Conditions, and Introduction to Stress. The interpretation of the results is the higher the percentage is, the higher the patient safety attitude will be, and vice versa.

The obtained results showed that the component of job satisfaction becomes the best component in terms of patient safety attitude. It was stated by the majority of the respondents in the four wards (Rose, Alamanda, Orchids, Lilium). It showed that satisfaction is the best condition compared to other aspects.

Based on the cumulative calculation of whole wards, it showed that job satisfaction is the component with the highest percentage, meaning that job satisfaction is in the best position in relation to patient safety attitude.

Job satisfaction is a positive outlook on work/work experience<sup>18</sup>. Components of job satisfaction contain a statement of appreciation towards the work place, a sense of belonging to the job, self-expectancy, and the sense of comforting to the workplace. According to Lin and Liang<sup>12</sup>, dissatisfaction of nurses to the workplace has a significant negative relationship which directly affects patient safety.

## Crosstab Results

Crosstab shows cross tabulations between the dependent and independent variables. The obtained results showed that the majority of patient safety attitude lied in the component of job satisfaction. It showed that nurses with the heaviest workloads with a quantitative component got the highest achievement of patient safety attitude on the aspects of job satisfaction. It showed that although a number of nurses feel heavy because they have quite a lot of work to do, they still get job satisfaction because this work is a desirable option for them.

Meanwhile, the majority of nurses who have job satisfaction as a part of the highest patient safety attitude have a working stress both physical and psychological. It showed that the commitment of nurses is always high although they are tired and their intellectual condition is declining because of the burden and stress of work. The spirit of job satisfaction should be maintained and enhanced to provide the best service to every treated patient.

## Classical Assumptions Test

### Data Normality Test

Data normality test is used to determine whether an individual variable is normal or not. In this study the normality test was performed with *One Sample Kolmogorof-Smirnov Test* using a significance level of 0.05. Data were regarded to have normal distribution if the significance is greater than 0.05 or 5%. The calculation analysis of Kolmogorof-Smirnov used SPSS 20 for Windows.

The result of normality test is that every studied variable obtained a  $\text{sig} > 0.05$ . So, it can concluded that the data obtained in this study have normal distribution

### **Multicollinearity Test**

Multicollinearity test was conducted to determine whether the studied independent variables have normal distribution or not. Good regression results require no multicollinearity therein.

The obtained results indicated that the tolerance value is greater than 0.1 and the obtained VIF value is less than 10. The two requirements of the normality test have been met; therefore, it can be concluded that the independent variables in this study do not contain multicollinearity.

### **Heteroscedasticity Test**

Heteroscedasticity test is a part of the classical assumption test which needs to be done to obtain good results of regression analysis. Heteroscedasticity test is performed to determine whether the regression model contain inequality in variance. A good regression model does not contain heteroscedasticity.

Test results have shown that significant value is greater than 0.05. Based on those results, we can conclude that there is no heteroscedasticity.

### **Hypothesis Testing**

Testing the hypothesis in this study used multiple linear regression analysis. Based on the tests performed, multiple linear regression equation may be formed as follows:

$$\text{Patient Safety} = 60.655 + 0.741\text{Workload} + 0.336\text{Work Stress}$$

The regression equation can be explained as follows:

- Constants obtained from the estimation is 60.665. It showed that if there is no contribution from the workload and work stress variables, the obtained patient safety is 60.665.
- The regression coefficient (b1) = 0.741 means that patient safety will be increased by 0.741 units for every 1 unit increase of the variable workload
- The regression coefficient (b2) = 0.336 means that patient safety will be increased by 0.336 for every 1 unit increase of work stress variables

Hypothesis testing performed in this study is described as follows:

#### **a. Partial Hypothesis testing (t test)**

To prove the hypothesis that nurses' workload and nurses' work stress variables have a partial effect on patient safety attitudes of nurses in inpatient wards in RSUD Panembahan Senopati Bantul, t test was used.

##### **1) Workloads on Patient Safety Attitudes**

Based on test results, it was found that the significance value of the workload variable is smaller than alpha (0.000 < 0.05). Based on these results, it can be concluded that the first hypothesis in this study is accepted, meaning that the workloads of nurses affect the patient safety attitudes in the inpatient wards of RSUD Panembahan Senopati Bantul.

##### **2) Job stress on Patient Safety Attitudes**

The results of the t test towards job stress variable got sig value which is smaller than alpha (0.009 < 0.05). Based on these results it can be concluded that the second hypothesis is accepted, meaning that nurses' work stress affects patient safety attitudes in the inpatient wards of RSUD Panembahan Senopati Bantul.

##### **3) Simultaneous Hypothesis Testing (Test F)**

F test in this study was used to conclude the third hypothesis in this study. The result of the F test showed that the F is 21.588 and the sig value is smaller than alpha (0.000 < 0.05). Based on these results, it can be concluded that the third hypothesis is accepted, which means the workload and stress of nurses affect patient safety attitudes in the inpatient wards of RSUD Panembahan Senopati Bantul.

##### **4) Coefficient of Determination**

The coefficient of determination ( $R^2$ ) was conducted to see how much the independent variables in the equation are able to explain the dependent variables. The test was done by seeing the value of R Square ( $R^2$ ). Coefficient of determination value is between 0 to 1. Furthermore, the small  $R^2$  value means the ability of the independent variables in explaining variation in the dependent variable is very limited. Value close to 1 means that the independent variables provide almost all the information needed to predict the variation of the dependent variables.

The value used in this study is the value of Adjusted  $R^2$  because this value can go up or down when the independent variable is added to the tested models. In addition, this value is more accurate to measure the contribution of the independent variable on the dependent variable.

Based on the tests performed, it was found that the value of Adjusted  $R^2$  is 0.218. Based on those results it can be concluded that the workload and workstress simultaneously can affect patient safety attitude by 21.8%. The remaining 78.2% of patient safety attitude is influenced by other factors not examined in this study.

## DISCUSSION

### **The Influence of Nurse' Workloads on Patient Safety Attitudes in Inpatient Wards of RSUD Panembahan Senopati Bantul**

The results of the first hypothesis testing in this study is accepted, meaning that the nurse' workloads affect patient safety attitudes in the inpatient wards of RSUD Panembahan Senopati Bantul. The given effect is in accordance with the beta coefficient which is positive, meaning that the higher the score obtained by the nurse's workload is, the higher the score of patient safety attitudes will be. The thing to keep in mind is that the higher the score of the nurses' workload is, the lighter the actual workload is and vice versa. The meaning of the acceptance of the hypothesis and the direction of the coefficients obtained in this study are: workloads affect patient safety attitude, the higher the score of the workload is (the workload is lighter), the higher the score of patient safety attitude will be (patients safety attitude is getting better).

Nurse is a key element to improve the quality of care because nurses are in the forefront of hospital services. The largest health workers are nurses totaling about 60% of the workforce in a hospital. In addition to becoming the spearhead of the health services in hospitals, nurses are also always there in every hospital. Therefore, nurses can play a role in minimizing and preventing errors that occur in hospital<sup>11</sup>. Most errors happened in hospitals, nearly 70%, are due to attitude factors, the rest is skill and knowledge<sup>12</sup>.

Workload according to Everly & Girdano<sup>24</sup> is a situation where the workers are faced with a task that must be accomplished within a certain time limit. The ability of the nurse to face workloads can be seen with the least complaints arising while doing his job. The workload which is excessive or too little can trigger stress. Quantitative workloads arise from too many tasks, while qualitative workloads occur if the worker feels unable to perform a task, or the task does not use skills or potential of the workforce. Another category of workload is a combination of excessive quantitative and qualitative workload.

An element which causes an excessive quantitative workload is working condition, i.e. each task is expected to be completed as quickly as possible accurately and carefully. At a certain moment it is the motivation and the achievements, but when time pressure causes many errors or causes a person's health condition is reduced, this is a reflection of the presence of excess burden quantitatively. The workload which is too little quantitatively can also affect a person's psychological well-being. In a simple job, a lot of repetition will make it boring and monotonous. Boredom in the working routines, as a result of too few tasks to be done, can result in reduced attention. This is potentially dangerous if workers fail to act appropriately in an emergency.

To estimate the workloads of nurses on a unit, a manager should know: (1) How many patients are treated every day, month and year, (2) the condition of patients in the unit, (3) the average length of patient to stay, (4) direct and indirect nursing actions needed by each patient, (5) The average time required for the implementation of each action<sup>25</sup>.

Meanwhile, according to Gillies<sup>26</sup>, some components which can conclude workloads are the number of patients treated per day, the number of patients with a medical diagnosis, the number of patients with nursing diagnosis, the number of patients based on the severity of the disease, the average of the day patients are treated, the number of nursing actions required by patients, and the average time required to perform nursing actions.

Hospital administrators should pay attention to the workloads on nurses because it can affect the health services provided, for example, in the case of classification of inpatient wards and the number of nurses per ward. If not managed properly by the leadership of the hospital, especially on the placement of nurses both in quantity and quality, it can result in the disruption of the conditions and workloads affecting on health services<sup>27</sup>.

It is also in-line with studies conducted by Susanto<sup>14</sup> which revealed that the excessive workload and the amount of additional work to be done by nurses can distort the performance of nurses. Negative effects on the number of additional tasks are the emergence of unexpected nurse's emotions and they adversely affect the productivity of nurses and patient safety.

The estimation results of the response to the workloads of each ward indicated that more nurses feel the burden quantitatively. The number of nurses and the amount of work carried are unsuitable or too much.

These results supported the conclusion of American Nurses Association in Lin and Liang<sup>12</sup> study which reported that the majority of errors committed by nurses was due to the high workload. High workload is one of the latent failures in the occurrence of errors that can lead to a decrease in patient safety.

### **The Influence of Nurse' Job Stress on Patient Safety Attitudes in the Inpatient Wards of RSUD Panembahan Senopati Bantul**

The second hypothesis in this study is accepted, meaning that nurse' work stress affects patient safety attitudes in the inpatient wards of RSUD Panembahan Senopati Bantul. The effect is in accordance with beta coefficient which is positive, meaning that the higher the score obtained by nurse's work stress is, the higher the score of patient safety attitudes will be. The thing to remember is that the higher the score of nurse work is, the lighter the actual work stress is and vice versa. The meaning of the acceptance of the hypothesis and the direction of the coefficients obtained in this study are: job stress affects patient safety attitude, the higher the score of job stress

is (work stress is getting lighter) the higher the score of patient safety attitude will be (patients safety attitude becomes better). Based on these results, the real existing conditions can be described as follows: if the job stress of nurses is getting lighter, the patient safety attitude will get better and vice versa.

Nurses in doing their profession is prone to stress. According to Beehr<sup>28</sup> work stress is an unpleasant condition of the interaction of workers with a job that makes the employee deviates from normal. This will lead to the emergence of three symptoms: psychological, physical and behavioral symptoms. Strong self-management related to stress is needed by nurses to perform their duties well.

Workers who are stressed will affect the quality of work and disrupt workers' health in form of chaos of management and working operation. Absence and unfinished jobs increase. Schuller<sup>29</sup> identified some negative behaviors which affect the labor organization, which are stress faced by workers in correlation with decreasing work performance, increased absenteeism and accident tendency.

The estimation results of the respondents' scores indicated that the majority of nurses in the studied wards experienced the highest stress on physical aspect. It means that nurses experience stress on physical aspects such as fatigue, sweating and muscle tension. This will result in less maximal performance so patient safety attitude was not optimal. Nurses who are physically stressed will have a decreasing ability to work. This is because workers no longer have enough energy to carry out activities relating to its responsibilities. It looked rather different from the estimation of all respondents who indicated that the psychological aspect had the highest stress vulnerability. This will make nurses not optimal in terms of mental and intellectual. This can only happen because the majority of nurses are nurses who do not have a long enough work experience, which is 1-5 years. It makes nurses unready psychologically which eventually triggers psychological stress. Special treatment, like encouragement given by the chief of the wards to encourage new nurses' mental and intellectual, is needed in this aspect.

According to a survey in France conducted by Fraser<sup>30</sup> it was found that the percentage of stress incidence undergone by nurses was approximately 74%. While in Indonesia, according to research conducted by the Indonesian National Nursing Association in 2006, there was 50.9% of nurses undergoing job stress

### **The Influence of Nurses' Workload And Work Stress Toward Patient Safety Attitudes In Inpatient Unit Of RSUD (Regional Hospital) Panembahan Senopati Bantul.**

The third hypothesis testing result shows that the third hypothesis is accepted, indicating workload and work stress to simultaneously give affect toward nurses safety attitudes in the inpatient unit of Panembahan Senopati Bantul Hospital.

Workload is one quite crucial thing and needs to be considered. An excessive burden may lead to a decline in the concentration of nurses that will furthermore impact on patient safety attitudes. Unresolved work stress can also attack the concentration resulted in the decrease of patient safety attitudes.

Nurses with uncontrolled stress will suffer decreases on their work performance, attention, and concentration in providing services to patients. Stress is generally referred to the body's reaction to situations that cause stress, changes, emotional tensions, etc<sup>32</sup>. According to Beehr<sup>28</sup>, work stress is an unpleasant condition of the interaction of workers with a job that makes the employee deviates from normal. Uncontrolled stress will lead to a decreasing of work productivity because intellectual and mental power will be disrupted by the stress experienced by nurses.

The estimation results of the workload of each space indicate that the majority of respondents felt the weight quantitatively according to the majority of the spaces which states physical stress. A person with an excessive work will certainly be overwhelmed physically, feeling more tired and having no sufficient energy to complete the job. However, from the overall respondents, it is known that the majority expressed quantitative workload as the majority and psychological stress as a majority. The majority of nurses are nurses with terms of service between 1-5 years. Therefore, it can be interpreted that the workload in the hospital is quite a lot in quantity. The years of service of nurses will affect the mental and intellectual conditions of nurses, the more workload they suffer the more mental and intellectual will be likely combining that would eventually reduce the level of patient safety. The mentality and intellectuality of depressed nurses would make their work performance less maximal and therefore resulting in deteriorate patient safety attitude; as well as the workload perceived by the nurses, the more workload they have the less maximal the patient safety attitude will be.

The results of the study also indicate that job satisfaction is the highest component of patient safety attitude. Job satisfaction is a positive outlook on the work or work experience<sup>18</sup>. According to Anoraga<sup>32</sup>, job satisfaction is a positive attitude regarding healthy adjustment of the employees of the conditions and work situations, including wages, social conditions, physical conditions and psychological conditions. According to As'ad<sup>33</sup> there are some factors that affect job satisfaction; namely psychological factors including interest, tranquility in the work, talent, and skills; Social factors including social interaction with co-workers; Physical factors including the physical condition of the workplace; and financial factors related to the welfare of employees. And referring to Lin and Liang<sup>12</sup>, dissatisfaction of nurses to the workplace has a significant negative

relation which directly affects patient safety.

Based on these results, the nurses actually feel the work they performed is in accordance with their expected wishes. Nurses felt that in terms of the assignments, demands and rewards; those have already been in accordance with the wishes and therefore meet the nurses' satisfaction. This needs to be maintained and this has shown that the priority of working helping the recovery of patients is the cornerstone of the nurses' work performance.

## CONCLUSION

Based on the completed analysis, some conclusions can be drawn as follows:

1. The workload of nurses affects the patient safety attitudes in the inpatient unit of RSUD (Regional Hospital) Panembahan Senopati Bantul.
2. The work stress of nurses affects the patient safety attitudes in the inpatient unit of RSUD (Regional Hospital) Panembahan Senopati Bantul.
3. The workload and work stress of nurses simultaneously influence nurses' patient safety attitudes in the inpatient unit of RSUD (Regional Hospital) Panembahan Senopati Bantul.

## SUGGESTION

Based on the findings compiled from various occasions during the research conduct and from the obtained results, some suggestions are to be proposed:

- a. For Hospital
  1. The hospital needs to consider the ratio of the number of nurses and patients in a unit to anticipate an excessive workload and to avoid the work stress among nurses.
  2. Hospital needs to conduct recreational programs for nurses within a specified period of time, for example in 1-2 times a year. This can help nurses in conditioning their body as well as their mind to be more refreshed so that the psychological stress they perceived can be reduced and they would be able to work more optimally.
  3. To increase the concern of the nursing manager or the head of the unit toward the implementation of patient safety in ensuring the nurses' work performance to be consistently oriented to quality and patient safety. The concern may be applied on the nurse activity's monitoring which must comply with the SOP.
  4. The nursing manager can appreciate the nurses' work performance by means of promoting nurse with outstanding performance for a higher education or for occupying a higher position, therefore nurses' welfare may also increase.
  5. The patient safety team should optimize its work performance despite having an extra task in RSUD (Regional Hospital) Panembahan Senopati Bantul.
  6. The nursing manager must also consider the presence of burn-out that may arise as a result of the nurses' burden and stress, because burn-out may increase the occurrence of medication errors.
  7. The Head of Unit as well as senior nurses should provide assistance to the junior nurses to share experiences, knowledge or to have a discussion for the sake of optimizing health services.
  8. The head of unit should be able to provide guidance regarding the division of tasks within the unit to avoid different duty delegation between senior nurses and junior nurses, what usually happened is that senior nurses are busy dealing with managerial tasks, while the patients' treatments are then delegated to inexperienced junior nurses; or the shifting delegation of tasks from senior nurses to junior nurses.
  9. The head of unit should be able to evenly schedule shift between senior nurses and junior nurses.
- b. For further research  
To add some other factors that affect patient safety attitudes. It is possible to have other variables that will affect patient safety attitudes such as the knowledge of nurses, hospital conditions, and the leadership style of the head of unit.

## REFERENCES

1. World Health Organization. 2004. *World Alliance For Patient Safety: Forward Programme 2005*. WHO : France. Accessed from [www.who.int/patientsafety](http://www.who.int/patientsafety)
2. Department of Health R.I. 2005. *Menkes Canangkan Gerakan Moral Keselamatan Pasien Rumah Sakit*. Jakarta.
3. Cahyono, B. 2008. *Membangun Budaya Keselamatan Pasien dalam Praktik Kedokteran*. Yogyakarta : Published by Kanisius



4. Uduk, Emerentiana. 2008. *Quality Assurance / Menjaga Mutu Pelayanan Asuhan Keperawatan Di Ruang Rawat RSUD Atambua Kabupaten Belu*. Thesis. Yogyakarta :Medical Faculty of UGM. Unpublished.
5. Smits, M., Dingelhoff, I.C., Wagner, C., Van der Wal, G., Groenewegen, P.P. 2008. *The Psychometric Properties Of The Hospital Survey On Patient Safety Culture In Dutch Hospital*. BMC Health Services Research, 8 (230)
6. Erlen, J.A. 2007. *Patient Safety, Error Reduction And Ethical Practice*. Orthopedic Nursing, 26 (2), 130-133
7. Kohn, L.T., Corrigan, J.M., Donaldson, M.S. 2000. *To Err Is Human: Building A Safer Health System*. Institute of medicine: national Academy Press
8. Kline, T.J.B., Willness, C., Ghali, W.A. 2008. *Determinants of Adverse Events In Hospital The Potential Role Of Patient Safety Culture*. Journal for Healthcare Quality 30 (1), 11-17.
9. Vincent, Charles., Adams, S.T., Stanhope, N. 1998. *Framework For Analyzing Risk And Safety In Clinical Medicine*. British Medical Journal, 316
10. Rubiyanto, N. 2007. *Keselamatan Pasien Harus Menjadi Ruh Pelayanan*. Kompas. Accessed from <http://www.kompas.com/kompas-cetak/0705/30/jogja/1037923.htm>
11. Hamid, A.Y. 2001. *Rencana Strategik Keperawatan*. National Nurses Association of Indonesia
12. Lin, L., Liang, B.A. 2007. *Addressing the Nursing Work Environment To Promote Patient Safety*. Nursing forum, 42 (1)
13. Fraser, T. 1997. *Stress dan Kepuasan Kerja*. Jakarta : PT Pustaka Binawan Pressindo
14. Susanto. 2009. *Analisis Faktor-faktor yang Mempengaruhi Bed Occupancy Rate (BOR) Rumah Sakit Roemani Semarang*. Journal of Nursing and Public Health Cendekia UtamaVol 1 No. 11
15. Sugiyono. 2002. *Metode Penelitian Administrasi*. Bandung : Alfabeta
16. Arikunto, S. 2010. *Prosedur Penelitian Suatu Pendekatan Praktik*. Jakarta : PT Rineka Cipta
17. Sekaran, U. 2005. *Research Methods For Business 3th edition*. Singapore: John Wiley and Sons Inc
18. Sexton, J.B., Helmreich, R.L., Neilands, T.B., Rowan, K., Vella, K., Boyden, J., et al. 2006. *The Safety Attitudes Questionnaire: Psychometric Properties, Benchmarking Data, And Emerging Research*. BMC Health Services Research 6 (44).
19. Deilkas, E.T and Hoffos, D. 2008. *Psychometric Properties Of The Norwegian Version Of The Safety Attitudes Questionnaire (SAQ)*. BMC Health Services Research 8 (191)
20. Modak, I., Sexton, B., Lux, T.R., Helmreich, R.L., Thomas, E.J. 2007. *Measuring Safetu Culture In The Ambulatory Setting : The Safety Attitudes Questionnaire – Ambulatory Version*. Journal Of General Internal Medicine 22, 1-5
21. Nursalam. 2007. *Manajemen Keperawatan, Aplikasi dalam Praktek Keperawatan Profesional*. Jakarta : Salemba Medika
22. Al-Ahmadi, H. 2009. *Factors Affecting Performances of Hospital Nurses in Riyadh Region, Saudi Arabia*. International Journal of Health Care Quality Assurance, vol 22, no 2, pp 286-295.
23. Siagian, S. 2001. *Manajemen Sumber Daya Manusia*. Jakarta: BumiAksara.
24. Munandar, A.S. 2008. *Stress Dan Keselamatan Kerja Dalam Psikologi Industry Dan Organisasi*. Jakarta : Published by University of Indonesia
25. Purwanti, E. C. 2006. *Proses dan Hasil Implementasi Sistem Informasi Beban Kerja Perawat dan Jasa Keperawatan di Ruang Rawat Inap RS Panembahan Senopati Bantul*. Thesis. Yogyakarta : Universitas Gajah Mada
26. Gillies, A.D. 2000. *Nursing Management A System Approach*. Philadelphia WB Saunders Company
27. Ed Boenisch. 2004. *The Stres Owner's Manual, Meaning, Balance & Health In Your Life, Menggapai Keseimbangan Hidup* Jakarta : Gramedia
28. Rice, P.L. 1999. *Stress and Health 2<sup>nd</sup> edition*. California : Wadsworth Publishing Paperback
29. Schuller, Redall. 2002. *Penelitian Dampak Stres*. Jakarta : Team E-Psikologi
30. Fraser, T. 1997. *Stress dan Kepuasan Kerja*. Jakarta : PT Pustaka Binawan Pressindo
31. Sunaryo. 2002. *Psikologi Untuk Perawat*. Jakarta : EGC
32. Anoraga, Pandji. 2004. *Psikologi Kerja*. Jakarta : Rineka Cipta
33. As'ad, M. 2004. *Psikolog Industri Fourth Edition*. Yogyakarta : Liberty

The IISTE is a pioneer in the Open-Access hosting service and academic event management. The aim of the firm is Accelerating Global Knowledge Sharing.

More information about the firm can be found on the homepage:

<http://www.iiste.org>

## CALL FOR JOURNAL PAPERS

There are more than 30 peer-reviewed academic journals hosted under the hosting platform.

**Prospective authors of journals can find the submission instruction on the following page:** <http://www.iiste.org/journals/> All the journals articles are available online to the readers all over the world without financial, legal, or technical barriers other than those inseparable from gaining access to the internet itself. Paper version of the journals is also available upon request of readers and authors.

## MORE RESOURCES

Book publication information: <http://www.iiste.org/book/>

Academic conference: <http://www.iiste.org/conference/upcoming-conferences-call-for-paper/>

## IISTE Knowledge Sharing Partners

EBSCO, Index Copernicus, Ulrich's Periodicals Directory, JournalTOCS, PKP Open Archives Harvester, Bielefeld Academic Search Engine, Elektronische Zeitschriftenbibliothek EZB, Open J-Gate, OCLC WorldCat, Universe Digital Library, NewJour, Google Scholar

