

## NURSES WORK FATIGUE IN THE INPATIENTS ROOM OF GENERAL HOSPITAL ABEPURA JAYAPURA

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### ABSTRACT

*Background : Work fatigue is a mechanism for protecting the body so that the body can avoid further damage resulting in recovery after a break. Abepura General Hospital Regional Jayapura is a type C Hospital that receives referrals from all public health centre (PHC) in the cities and regencies of Papua so that nurses have the potential to gain work fatigue. The purpose of this study is to find out the factors which is related to the work fatigue of nurses in the inpatient room of the Abepura General Hospital Regional of Jayapura. This research methode is a Quantitative Analytical study with Cross Sectional design . This research was carried out in the inpatient room of the Abepura General Hospital Regional Jayapura. The population in this study were 126 nurses, and the sample in this study was 56 nurses. Data analysis gaining by used bivariate analysis to determine the significant relationship between independent variables and dependent variables using the Chi-Square statistical test .*

*The results of the study using statistical tests showed that there's no relationship between years of work (  $p$ -value = 1,000 ), nutritional status (  $p$ -value = 0.298 ), workload (  $p$ -value = 0.326 ) with work fatigue, There was a long working relationship  $\geq 8$  hours with work fatigue (  $p$ -value = 0.032 )*

**Keywords :** *Work Fatiqu , Nurses, Inpatients Room*

### 1. PRELIMINARY

The hospital is one of the agencies that is sheltered in the health sector to meet all the needs of public health services in an area. A hospital will provide optimal service when supported by quality resources. Human resources are an important element because they are service and cannot be stored as inventory because human resources are the main asset in providing energy, potential, creativity and effort towards the progress of the hospital (Prihatini, 2008). Hospital is a health service facility that operates 24 hours. One of the resources needed by hospitals in the care of patients is nurses who are in the top ranks, especially inpatient rooms (Dian and Solikhah, 2012).

Work fatigue is a mechanism for protecting the body so that the body can avoid further damage resulting in recovery after rest (Tarwaka, 2010). Exhaustion of work will reduce performance and increase the level of work mistakes (Eko Nurmianto, 2003 ). Work fatigue that cannot be overcome will cause various work problems that are fatal and result in workplace accidents so that the hospital must know the level of performance

and things that can cause problems in work, one of which is work fatigue for nurses (Dian and Solikhah, 2012). There are several factors that cause workers to experience work fatigue namely mental and physical pressure, physical limitations, environmental disorders and *team work*, mental and physical stress , namely the condition of a nurse experiencing work fatigue because of excessive workload factors resulting in increased anxiety, confusion and anger.

Abepura Regional General Hospital is a type C Hospital that receives referrals from health centers in the Papua Province so that nurses have the potential to experience work fatigue. In addition, at the time of changing work *shifts* directly many other nurses who were absent or late were present so that the working nurse had to increase working hours to cover the nurses' working hours who were absent or too late to attend. T patient's complaints and complaints even the family of the patient contributes to the workload on nurses, so that nurses easily experience fatigue during work and can have an impact on the patient itself.

Based on preliminary data taken at the Abepura Regional General Hospital it is known that the average visit of inpatients every day ranges from 40-50 patients with various disease complaints with the number of beds which is 165 TT. The number of nurses who served in the inpatient room that provided nursing care services amounted to 126 nurses which were divided into 6 rooms, 35 people delivery room, 23 women room, 18 children room, 12 people male room, 23 people operating room, and 15 classrooms / VIP.

The purpose of the study was to find out the relationship between the period of work of nurses, the length of work of nurses, the nutritional status of nurses, the workload of nurses with work fatigue in nurses in the inpatient ward of the Abepura General Hospital in Jayapura City 2017

## 2. METHOD

**Type of Research** used in this study is observational analytic with a *cross sectional* study approach

### Place and time of research

This research was conducted in June 2017 in the Inpatient Room of the Abepura Regional General Hospital in Jayapura City.

### Population and Samples

all nurses who served in the inpatient ward of Abepura Regional Hospital were 126 nurses and samples using Slovin formula with a total of 56 samples with a *simple random sampling technique*.

Research variables include free variables : work period, length of work, nutritional status, workload and dependent variable: work fatigue

### Data collection technique

Data were collected by interview method using a questionnaire to assess the variable length of work, length of work, and work fatigue, to obtain nutritional status data through measurements of body mass index ( BMI), namely  $(BB / TB)^2$ , workload using *Stopwatch* tool, used to measure pulse. In measuring the pulse, researchers use the following formula :

$$\% CVL = \frac{100 \times (\text{working pulse} - \text{Resting pulse})}{\text{maximum pulse} - \text{Resting pulse}}$$

The measurement of the pulse was measured twice, namely the working pulse and resting pulse measured for 30 seconds.

### Data analysis

Using bivariate analysis with *chi-square* statistical tests to test hypotheses with a confidence level of 95% and  $\alpha$  value of 0.05.

## 3. RESULTS

### 1. Univariate Analysis

Table 1. Characteristic Distribution of Respondents

No.	Characteristics of Respondents	n	%
1	Age (years)		
	36 - 50	19	33.9
	21-35	37	66.1
2	Gender		
	Man	8	14.3
	Women	48	85.7
3	Education		
	High school	1	1.8
	Diploma	45	80.4
	Bachelor	10	17.9
4	Marital status		
	Married	30	53.6
	Single	26	46.4

5	Years of service		
	Old $\geq 6$ years	44	78.6
	Not <6years	12	21.4
6	Length of working		
	At risk of $\geq 8$ hours	29	51.8
	Does not contain <8 hours	27	48.2
7	Nutritional status		
	Abnormal	32	57.1
	Normal	24	42.9
8	Workload		
	Weight	7	12.5
	Light	49	87.5
9	Exhaustion of Work		
	Weight	10	17.9
	Light	46	82.1

From the table above, it can be seen that the distribution of respondents by age is the most aged 21-35 years, that is as many as 37 (66.1%), the most sexes are women, that is as many as 48 (85.7) respondents, distribution of respondents the most education is the Diploma, which is as many as 45 (80.4%) respondents, the distribution of respondents based on marital status is the most married, that is as many as 30 (53.6%) respondents,

## 2. Bivariate Analysis

51 working as many as 51 years (91 , 1%), respondents who worked for > 8 hours were 29 (51.8%) respondents, respondents who had abnormal nutritional status were 32 (57.1%), had a light workload of 49 (87.5%) respondents, and respondents who experienced heavy work fatigue as many as 10 (17.9) respondents while those who experienced light work fatigue as many as 46 (82.1) respondents

Table 2. Relationship of Work Period with Exhaustion of Work at Nurses in Inpatient Room Abepura Jayapura Hospital in 2017

No.	Years of service	Exhaustion of Work				Total	P Value	Rp	95% CI		
		Weight		Light					Lower	Upper	
		n	%	n	%						
1	Long > 6 years	11	19.6	40	71.4	51	91,1				
2	New $\leq 6$ years	1	1.8	4	7.1	5	6.9	1,000	1,078	0.173	6,719
total		12	21.4	44	78.6	56	100				

Based on the analysis by using the *Chi-Square* statistical test obtained the value of  $P\text{ value} = 1,000 > 0.05$  which indicates that there is no significant relationship between years of work and work fatigue. The results of the calculation of *Prevalence* (RP) obtained

from the value of 1.078 indicate that  $RP > 1$  and can be seen from the value of 95% CI (0.173-6.719) where the number 1 is between the *lower* and *upper* values so that the work period is not a risk factor for work fatigue in nurses.

Table 3. Relationship between Length of Work and Fatigue of Work at Nurses in the Inpatient Room of Abepura Jayapura Hospital in 2017

No.	Length of working	Exhaustion of Work				Total		P Value	Rp	95% CI	
		Weight		Light		n	%			Lower	Upper
		n	%	n	%						
1	At risk	10	17.9	19	33.9	29	51.8	0.032	4,655	1,120	19,352
2	Not at risk	2	3.6	25	44.6	27	48.2				
total		12	21.4	44	78.6	56	100				

Based on the analysis by using the *Chi-Square* statistical test, the value of *P value* = 0.032 < 0.05 showed that there was a significant relationship between the length of work and work fatigue. The calculation of *Ratio Prevalence* (RP)

obtained from the value of 4,655 shows that  $Rp > 1$  and can be seen from the value of 95% CI (1,120-18,008), where number 1 is not between the *lower* and *upper* values, so the length of work is a risk factor for fatigue work.

Table 4. Relationship between Nutritional Status and Fatigue of Work in Nurses in the Inpatient Room of Abepura Jayapura Hospital in 2017

No.	Nutritional status	Exhaustion of Work				Total		P Value	Rp	95% CI	
		Weight		Light		n	%			Lower	Upper
		n	%	n	%						
1	Abnormal	4	5.7	28	26.3	32	32.0	0.298	0.500	0.158	1,578
2	Normal	6	4.3	18	18.7	24	24.0				
total		12	21.4	44	78.6	56	100				

Based on the analysis using the *Chi-Square* statistical test obtained a value of *P value* = 1,000 > 0.05 which indicates that there is no significant relationship between nutritional status and work fatigue. The calculation of *Ratio*

*Prevalence* (RP) obtained from the value of 0.500 indicates that  $Rp < 1$  and can be seen from the value of 95% CI (0.158-1.578) where number 1 is between the *lower* and *upper* values means that nutritional status is not a risk factor for work fatigue in nurses.

Table 5. Relationship between Workload and Fatigue in Nurses in the Inpatient Room of Abepura Jayapura Hospital in 2017

No.	Workload	Exhaustion of Work				Total		P Value	Rp	95% CI	
		Weight		Light		n	%			Lower	Upper
		n	%	n	%						
1	Weight = 51-100	0	0	7	12.5	7	12.5	0.326	-	-	-
2	Light = 1-50	12	21.4	37	66.1	49	87.5				
total		12	21.4	44	78.6	56	100				

Based on the analysis using the *Chi-Square* statistical test, the *P value* = 0.326 > 0.05 showed that there was no significant relationship between workload and work fatigue. The

calculation of *Ratio Prevalence* (RP) obtained from the value 0 indicates that  $Rp < 1$  means that the workload is not a risk factor for work fatigue in nurses.

#### 4. DISCUSSION

##### a. The Relationship between Work Period and Fatigue Work

The work period is the accumulation of time in which the worker has held the job. Fatigue is related to the pressure that occurs during work which can come from work assignments. Constant pressure occurs with increasing years of service along with the process of adaptation. This fatigue leads to a reduction in psychological and physiological functions that can be eliminated by recovery efforts. During a decade of work, fatigue stemmed from decades of excess business and could be recovered by retirement, while for a period of years still exhausted came from several years of excess business that could be recovered with a vacation (Suma'mur, 2009) Nurses in the inpatient room of Abepura Jayapura Hospital have the longest working period of > 6 years as many as 44 (78.6%) respondents, where the period of work that has been classified as long influences the habits of respondents in working for years.

The absence of a relationship between the frequency of years of work and work fatigue is caused by the majority of respondents in this study having a working period of > 6 years (91.1%), which is a long enough time for workers to adapt and adjust to daily activities in workplace. A long working period will tend to make someone more feel at home in an organization because a worker who has worked for a long time has been able to adapt or adjust to the conditions and working conditions that make a worker comfortable. Another reason is also the existence of policies from agencies or companies regarding the guarantee of life in the old days (Siahaan.RB FB 2011). As with work time which describes the length of work someone on a working day, such as overtime at work which is at risk of the occurrence of work fatigue.

##### b. Long work relationship with work fatigue

Nurses in the inpatient ward of Abepura Jayapura Hospital have a working time of > 8 hours as many as 29 (51.8%) which most of the respondents are female (85.7%), where extending work time is more than the ability to work long usually is not accompanied by efficiency, optimal work effectiveness and productivity, even usually seen a decrease in the quality and results of work and work with a prolonged period of time arises a tendency for fatigue, health problems, illness and accidents, so that the potential to experience work fatigue. the length of work of the respondents greatly influences work fatigue because many of

the respondents work > 8 hours. Most of them have to cover the working hours of workers who are absent or late to attend, so that working hours exceed normal limits resulting in the risk of work fatigue. The results of this study are in line with the research conducted by Vilia A., et al. (2013) which shows that  $P\text{ value} = 0.001$  ( $0,000 < 0,05$ ) means that there is a significant relationship between the length of work and work fatigue for nurses in the Inpatient Installation Dr. Hospital H. Abdul Moeloek Bandar Lampung

##### c. Relationship between Nutritional Status and Work exhaustion

Nutritional status is an important part of one's health, because nutritional status shows a state of self caused by consumption, absorption and use of nutrients from food for a long time. The uniformity of results with several other studies shows nutritional status is not a major factor in the causes of work losses. Because everyone has their own strengths in dealing with their nutritional problems such as weight and height. Although there are many nurses whose nutritional status is normal, they also must always control it regularly. Because the impact of the condition of nutritional status is not only on work fatigue but also on other health effects such as degenerative diseases.

Nurses in the inpatient ward of Abepura Jayapura Hospital have abnormal nutritional status as many as 32 (57.1%) respondents, more in need of greater physical abilities. Most of the respondents were women (85.7%) who had abnormal nutritional status. There is no relationship in this study because the ability of each respondent in carrying out a job is different, based on interviews between researchers and respondents most of the respondents in this study had breakfast before work beforehand, so that respondents did not experience work fatigue. In addition, respondents never felt a burden on the eyes, nervousness, reduced self-confidence, not diligent in the work and trembling. The results of this study are not in line with the research conducted by Dita Perwitasari and Abdul R. Tueleka (2014) which shows that there is a significant relationship between the nutritional status of respondents with the incidence of work fatigue  $P\text{ value} = 0,000$  ( $0,000 < 0,05$ ) felt by nurse at General hospital dr. Mohamad Soewandhie.

##### d. The Relationship between Workload with work fatigue

This research was conducted by measuring the work pulse and resting pulse in nurses in the

inpatient ward of Abepura General Hospital showed that nurses who worked in the inpatient ward experienced a light workload of 49 respondents, this was caused by the work done by nurses was not too heavy, because most patients treated in the inpatient room are accompanied by the patient's family, so the workload experienced by nurses is mild and does not experience work fatigue. The nurse always works on the patient's observation after hours and gives medication in a timely manner (intensively). This is because nurses must treat patients in critical patient conditions and nurses are required to make the right decisions at any time. Nurses in the room carry out nursing care for 24 hours and work in turns or *shifts* keep.

According to Jauhari's research (2005) that nurses' workload standards must always be in accordance with nursing care oriented to the needs of patients. In order to produce effective and efficient services, a match is made between the availability of nurses and the existing workload.

Nurses in the inpatient room of Abepura Jayapura Hospital have a heavy workload of 7 (12.5%) respondents, while the light workload is 49 (87.5%). according to Suma'mur (2009) the workload determines how long a person can work in accordance with his work capacity. Someone who works with a workload that is too heavy which is not proportional to his working capacity can cause fatigue. The energy that is needed will be more and more if the muscles contract more and more against the load that they get. The energy of recovery when relaxation is not comparable causes fatigue. It can be concluded that the capacity and ability of nurses work is not comparable to the workload so that most nurses who have a light workload experience work fatigue. In addition, respondents never felt a burden on the eyes, nervousness, reduced self-confidence, not diligent in the work and trembling. The results of this study are in line with the research conducted by Amin Trisno, et al (2015) which shows that there is no significant relationship between workload and work fatigue incidence  $P\text{value} = 0.958$  ( $0.958 > 0.05$ ) in nurses at IBS RSUD Saras Husada Purworejo Regency.

## 5. CONCLUSION

There is no significant relationship between years of work and work fatigue ( $P\text{value} = 1.000$ ), there is a significant relationship between length of work with work fatigue ( $P\text{value} = 0.032$ ), There is no significant relationship between nutritional status and work fatigue ( $P\text{value} = 0.298$ ), there is no significant relationship between workload and work exhaustion in the Inpatient

Room of the Abepura Regional General Hospital ( $P\text{value} = 0.326$ )

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