Original Research Article

The relationship between workload, job stress, nutritional status, and shift work the night with the fatigue of nurses working in hospitals Aceh Singkil 2020

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ABSTRACT

Background: Work fatigue is a subjective feeling accompanied by a decrease in efficiency and a need for work. In the initial survey at RSUD Aceh Singkil 40% nurses with heavy workloads and 60% with moderate workloads, 80% with heavy stress and 20% with moderate stress, 20% nurses with good nutrition and 80% of the people are not well, 80% of nurses are tired and 20% are not tired, 70% of nurses are tired and 30% are moderate. The aim of the study was to identify the relationship between workload, work stress, nutritional status, and night shifts with the work fatigue of nurses at RSUD Aceh Singkil.
Methods: The type of research used was quantitative research using an analytical approach and a cross sectional study design. The population in this study were all nurses in the inpatient installation who served in the Aceh Singkil Regional Hospital and were not structural nurses.
Results: Determination of the sample using a total sampling technique, where the sample taken is all nurses who served in the inpatient installation of RSUD Aceh Singkil, namely 170 nurses. In the results obtained by Chi square analysis, the relationship between workload and work fatigue with a p value of 0, 000<α, then H0 was rejected, which means that there was a relationship between variables, work stress and work fatigue p value 0, 000<α, then H0 was rejected, which means there was a relationship. Between variables, nutritional status and work fatigue p value 0.000<α, so H0 was rejected, which means there was a relationship between variables, night work shift and work fatigue p value 0.000 <α then H0 was rejected, which means there is a relationship between variables.
Conclusions: From the results, it can be concluded that there is a significant relationship between workload, work stress, nutritional status, and night work shifts with the work fatigue of nurses at RSUD Aceh Singkil.

Keywords: Aceh Singkil Regional hospital, Nurses, Work stress, Nutritional status, Night shift work, Work fatigue

INTRODUCTION

A hospital is a health care institution to provide health services in a plenary-individuals who provide inpatient services, outpatient, and emergency room.[1] As the organizer of the health services, the hospital must provide the best service both for the patient and for the patient's family. The health service itself requires a profesionalias, especially for health workers such as nurses which is a benchmark in determining the quality of health services in the Hospital.[2]

Based on Legislation RI No. 36 year 2014, about power health on article 62 it is said that the nurse has the authority

to perform nursing care independently and comprehensively as well as the actions of the collaboration of nursing with other Health professionals in accordance with their qualifications. Furthermore, from the data obtained by the agency for the Development and Empowerment of Human Resources for Health Ministry of health RI Tahun 2016 obtained data on the number of whole health workers based on the registration certificate (STR) is the amount 219.654 with the profession of nursing is a profession most namely 91.797 or 41, 83% of the overall total. The purpose of nursing services itself, is to help individuals achieve optimal health and functional level maximum may be achieved by any individual. The role of the nurse aims to improve health and prevent the onset of disease, the role of the nurse as a care giver that is where these services directly perceived by the patients treated. Patient satisfaction obtained after the patient compare it with what he hoped. New patients will be satisfied if the performance of health services obtained equals or exceeds than expected.[3]

The task and role of the nurse which have direct contact most often with the patient makes the nurses are prone to fatigue. Exhausted medical personnel, especially nurses are a threat to patient safety. Job burnout is a variety of the circumstances that accompanied the decline efensiensi and resilience in work and will lower the effectiveness of the work and add an error rate of work. Job burnout show the manifestations are different but all have an effect on the reduction of working capacity and resistance of the body.[4] Job burnout is essentially an important issue that needs to be addressed by both the causes can cause a variety of problems such as loss of efficiency in the work, decreased productivity and work capacity as well as declining health and the body's defensive abilities that can lead to workplace accidents. Fatigue itself is a major cause of accidents at work and will affect the productivity of labor.[5] Fatigue is a process that resulted in a decline in well-being, decrease in efficiency, performance, and physical endurance of the body. Accidents can occur because of several things such as human errors, work stress, and occupational diseases. In addition, accidents can also occur as a result of the decreasing concentration, preparedness, vigilance, and mood.[6]

RSUD Aceh Singkil has been established since 2008 and obtained the Permit Regional General Hospital with the name of the General Hospital of Aceh Singkil in accordance with the SK Minister of health RI Nomor: HK.07.06/III/575/08, and the determination of the class of General Hospital Aceh Singkil with class C in accordance with the Decree of the Minister of health of republic of Indonesia number: 369/Menkes/SK/IV/2008. RSUD District Aceh Singkil as a Technical Institution in the field of health services and the only general hospital belonging to the Government of Aceh Singkil Regency has a strategic role in improving the health through the efforts of the health services provided to the community, especially in the region of Aceh Singkil in accordance with the main tasks and functions.

Because of the limitations and difficulties in interacting a result of the pandemic COVID-19, then at the initial survey month of July 2020 in RSUD Aceh Singkil only done in 10 nurses on duty in the wards inpatient specialized division of a questionnaire and the results obtained where 40% of nurses with a heavy workload and 60% of workload was. Furthermore, related to work stress, 80% with severe stress and 20% with the stress of being. Related nutritional status using BMI obtained 20% of a nurse with good nutrition and 80% of people again not good. In connection with the work shift, 80% of nurses are tired and 20% are not tired. Furthermore, associated with job burnout of nurses, obtained 70% of the nurses are tired and 30% were.

Job burnout

Work fatigue is a subjective feeling which is accompanied by a decrease in the efficiency and needs in the work. Job burnout is very at risk to be able to result in a crash of work which will have a direct impact on the level of work productivity.[5]
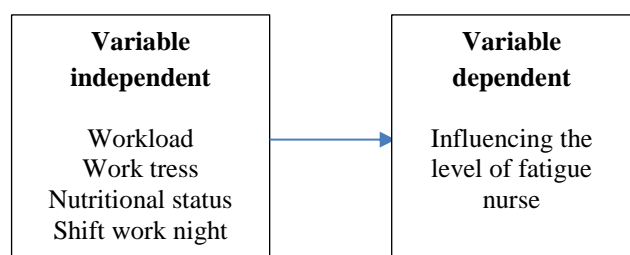
Workload

The workload is the body's ability to accept the job. The workload can be in the form of the burden of physical or psychological burden. Examples of workloads in physical work such as lifting, pushing, or taking care of. While the burden of psychological work can be in the form of demands expertise among individuals with one another.[2]

Work stress

Job stress is a condition where there is tension which affects a person's emotions, thought process as well as the condition.[7]

Nutritional status

A good nutritional status is obtained when the body is obtaining enough nutrients that can be used efficiently to allow physical growth, brain development, improvement of work ability, as well as improved health status. Nutritional status are less well occurred if the body is experiencing a shortage of one or more nutrients essential oils. Nutritional status is occurring when the body is getting the nutrients in excessive amounts, which can then be menyebabkam toxic effects that can harm the body.[8]

Variable independent		**Variable dependent**
Workload Work tress Nutritional status Shift work night	→	Influencing the level of fatigue nurse

Figure 1: Conceptual framework.

Hypothesis

Based on the background research and the relationship between variables, then the research hypothesis:

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(a) there is a relationship between workload with job burnout of nurses in Hospitals Aceh Singkil 2020; (b) there is a relationship between job stress with job burnout of nurses in Hospitals Aceh Singkil 2020; (c) there is a relationship between nutritional status with the fatigue of nurses working in Hospitals Aceh Singkil 2020; and (d) there is a relationship between work shift night with job burnout of nurses in Hospitals Aceh Singkil 2020.

H0

(a) there is no relationship between workload with job burnout of nurses in Hospitals Aceh Singkil 2020; (b) there is no relationship between job stress with job burnout of nurses in Hospitals Aceh Singkil 2020; (c) there is no relationship between nutritional status with the fatigue of nurses working in Hospitals Aceh Singkil 2020; and (d) There is no relationship between work shift night with the fatigue of nurses working in Hospitals Aceh Singkil 2020.

METHODS

The research used was quantitative research with the use of the analytic approach and a cross-sectional design study on a variable workload, job stress, and shift work night and qualitative research approaches observational analytic for the variable nutritional status. In this case the measurement of the independent variable and the dependent variable are performed simultaneously or at the time of that together. Each variable observed at once at the same time.[9] Population is the whole object to be studied.[9] The population in this study were all nurses in the inpatient who served in RSUD Aceh Singkil and is not a nurse of the structural, which amounted to a total of 170 nurses.

The sample is part of population taken in a certain way, so that it can represent the characteristics of the population.[9] To get the number of samples, the researchers used total sampling technique, where the sample is taken is all the nurses who served in the inpatient Hospital Aceh Singkil 170 nurses. with univariate, bivariate and multivariate data analysis methods.

Data collection method used is primary data and secondary data. The primary data obtained through the data collection techniques using a questionnaire or questionnaire on the variable workload, job stress, and shift work night as well as by measurement of IMT in the variable of nutrition. Secondary data in the form data on the number of nurses in the inpatient Hospital Aceh Singkil obtained, as well as information from a variety of literature such as journals, books, and other support.

RESULTS

Bivariate analysis

The relationship of workload with job burnout

Table 1 shows that 4 respondents with the workload, the overall feels fatigue of the working medium (100%). Then on the respondents with the workload of being exhausted working majority was in the category long (87.6 percent) and the rest in the medium category (12,4%).

For respondents with a heavy workload, fatigue does it work overall was in the category of long (100%). On the results of bivariate analysis was to use the Chi square test with a significance of 95% (α=0.05) and obtained p=0, 000 (<α), which means that H0 was rejected (there was a relationship between two variables).

The relationship of job stress with job burnout

Table 2 shows that 20 respondents with work stress, the majority of the fatigue in works was in the category of a long (60%) and the rest are on kategoti medium (40%). Then on 150 respondents with job stress, fatigue, heaviness, working the majority is in the category long (93, 3%) and the rest in the medium category (6, 7%). On the results of bivariate analysis was to use the Chi square test with a significance of 95% (α=0.05) and obtained p=0, 000 (<α), which means that H0 was rejected (there was a relationship between two variables).

Table 1: The relationship of workload with job burnout of nurses in hospitals Aceh Singkil.

Workload	Job burnout						Total		P value
	Not tired		Medium		Tired				
	N	%	N	%	N	%	N	%	
Lightweight	-	-	4	100	-	-	4	100	
Medium	-	-	14	12. 4	99	87. 6	113	100	0.000
Weight	-	-	-	-	53	100	53	100	
Total	-	-	18	10. 6	152	89. 4	170	100	

Table 2: Relationship of job stress with job burnout of nurses in hospitals Aceh Singkil.

Work stress	Job burnout						Total		P value
	Not tired		Medium		Tired				
	N	%	N	%	N	%	N	%	
Lightweight	-	-	-	-	-	-	-	-	
Medium	-	-	8	40	12	60	20	100	0.000
Weight	-	-	10	6.7	140	93.3	150	100	
Total	-	-	18	10.6	152	89.4	170	100	

Table 3: Relationship of nutritional status with the fatigue of nurses working in hospitals Aceh Singkil.

Nutritional status	Job burnout						Total		P value
	Not tired		Medium		Tired				
	N	%	N	%	N	%	N	%	
Good	-	-	18	29.5	43	70.5	61	100	
Not good	-	-	-	-	109	100	109	100	0.000
Total	-	-	18	10.6	152	89.4	170	100	

Table 4: Relationship of shift work night with job burnout of nurses in hospitals Aceh Singkil.

Shift work night	Job burnout						Total		P value
	Not tired		Medium		Tired				
	N	%	N	%	N	%	N	%	
Not tired	-	-	10	47.6	11	52.4	21	100	
Tired	-	-	8	5.4	141	94.6	149	100	0.000
Total	-	-	18	10.6	152	89.4	170	100	

The relationship of nutritional status with job burnout

Table 3 shows that 61 respondents with good nutritional status, the majority of the fatigue it works was in the category long (70, 5%) and the rest are on kategoti medium (29, 5%).

Then on the 109 respondents with nutritional status is not good, the fatigue of the whole work is in the category of long (100%). On the results of bivariate analysis is to use the Chi square test with a significance of 95% (α=0.05) and obtained p=0, 000 (<α), which means that H0 was rejected (there was a relationship between two variables).

The relationship of the work shift night with job burnout

Table 4 shows that 21 respondents with a sense of tired when the night shift, the majority of overexertion work was in the category long (52, 4%) and the category of being (47, 6%). Then on the 149 respondents who answered a long time the night shift, it turns out that the fatigue of the work of the majority is in the category long (94,6%) and the rest in the category of not a long (5.4 percent). On the results of bivariate analysis was to use the Chi square test with a significance of 95% (α=0.05) and obtained p=0, 000 (<α), which means that H0 was rejected (there was a relationship between two variables).

Multivariate analysis

Table 5 shows that all of the variables that most affect the level of fatigue of a nurse is in the variable nutritional status.

Table 5: The results of logistic regression of factors associated with job burnout in nurses in hospitals Aceh Singkil.

Variables	Sig	Exp (B)
Workload	0.996	453964898, 739
Work stress	0.995	370477514, 119
Nutritional status	0.994	5949163777049786, 000
Shift work night	0.999	16675412, 754

DISCUSSION

Workload with job burnout

The workload of nurses was the whole of activities or the activities performed by nurses during a stint in a service nursing. As for some of the factors that can affect the workload of a nurse can include many of the small number of patients entering each unit, the level of dependence of the patient, the average length of day care, the type of action nursing care that is required, the frequency of each action is needed, as well as the average time required to

give the act of nursing itself.[10] From the results of the research shows that respondents with work load is light, then the category of fatigue it works is moderate (100%). Then on the respondents with the workload being, job burnout of the majority is in the category long (87.6 percent) and the rest in the medium category (12, 4%). For respondents with a heavy workload, fatigue does it work overall is in the category of long (100%). This suggests that the severity of the workload of a nurse then it will also have an impact on the level of fatigue, it is seen in the results of the bivariate analysis which showed that the presence of a meaningful relationship between the load of work with the fatigue of work in accordance of the results of the p value 0.000 <0.5.

From these results the researchers assume that the workload does have a significant relationship to the occurrence of increased numbers of job burnout, where the weight and the number of the workload of a nurse, it will cause the nurses to be quick to experience fatigue due to continuous work due to the amount of work that overload the nurse the

research coincide done by Maharja et al 2015 in his research about the analysis of the level of job burnout based on the physical workload of nurses.[11] In the inpatient RSU Haji Surabaya and get the results that the presence of a direct relationship and strong between physical workload and fatigue work indicates that the high physical workload, then the higher the level of job burnout that will be experienced.[11] This was supported by research conducted by Manuho et al 2015 about the relationship of the workload with the performance of nurses in the provision of nursing care in the inpatient C1 RSUP Prof. Dr. R. D. Kandou Manado, where it was concluded that the relationship between workload with the performance of nurses in the provision of nursing care.[2]

Job stress with job burnout

Stress is a response adoptif to a situation that is perceived by the body as a challenge or threat to a person's health are the factors that can cause stress include internal factors and external factors. Internal factors include personality, ability, and cultural values. While external factors can be derived from the organizational/work and none of the organization/outside work. Work stress is a dynamic condition that is faced with an opportunity, demand, or resource related to the desire of the person then the result is considered uncertain and important.[12]

From the results of the study shows that the respondents with the level of work stress is the majority of the fatigue it works is in the category of a long (60%) and the rest are on kategoti medium (40%). Then on to the respondents with job stress, fatigue, heaviness, working the majority is in the category long (93, 3%) and the rest in the medium category (6, 7%). This shows that the high level of work stress a nurse then it will also have an impact on the level of fatigue, it is seen in the results of the bivariate analysis

which showed that the presence of a meaningful relationship between job stress with job burnout in accordance of the results of the p value 0.000 <0, 5. Researchers assume that stress can lead to job burnout caused nurses under stress will interfere with his mind and not focus on his job, causing the nurse requires more power to work and then cause the nurses will quickly experience fatigue.

Related to this, the Kirana et al 2017 in his research about the relationship of job stress with fatigue in nurses with the method of measurement of DASS 21 and the IFRC results obtained where there is a meaningful relationship between job stress with the fatigue level.[13] Similar results obtained by Widyastuti 2017 in his research about the relationship of job stress with job burnout in the area of workshop construction box truck and showed that there is a significant relationship between job stress with the level of job burnout.[14]

Nutritional status with job burnout

Proper nutrition and physical conditions that would adequately give a very important influence on the effect of fatigue, especially in the work. In general, the nutrition has 3 functions, namely as a source of energy, growth regulator and also as a substance builder. To be able to work a person requires energy derived from the nutrients in the food or drink. Nutrition fulfillment to be able to work well not only must be met in quantitative, but also must be balanced with the nutritional quality of food consumed (Maghfiroh and Mifbakhuddin, 2015).

On the results of the study shows that respondents with a good nutritional status, the majority of the fatigue it works is in the category long (70, 5%) and the rest are in the medium category (29, 5%). Then on the respondents nutritional status is not good, the fatigue of the whole work is in the category of long (100%). This shows that the good nutritional status of a nurse then it will also have an impact on the decrease in the level of fatigue, it is seen in the results of the bivariate analysis which showed that the presence of a meaningful relationship between nutritional status with the fatigue of work in accordance of the results of the p value 0.000 <0, 5. Researchers assume that nutritional status can affect level of fatigue caused due to nutritional status that is not good will cause the nurse does not have good stamina so it will quickly experience fatigue while working or while doing nursing care. In a study conducted by Retnosari et al 2017 about the relationship between workload and nutritional status with complaints of job burnout on nurse outpatient installation in RSI Jemursari, obtained the existence of a strong relationship between nutritional status with fatigue nurse.[8] This was supported by Natizatun et al 2018 in his research about the relationship of nutritional status and nutrient intake with the fatigue of work on the industrial workers in household industry, aluminium smelting metal Kingdom Indramayu 2018 where to get the results that the relationship between nutritional status with the level of fatigue.[15]

Work shift night with job burnout

Shift work is an option in the organization of work to be able to maximize productivity in order to meet the demands of the patient. Although it provides benefits to patients, but shift work can actually give impact negatively on workers such as nurses, one of which is fatigue. Fatigue of such work if it can't be overcome with good will then be able to cause a variety of problems working fatal and can lead to workplace accidents.[16]

On the result of the research shows that respondents with a sense of tired when the night shift, the majority of overexertion it works is in the category long (52, 4%) and the category of being (47, 6%). Then on the respondents to answer a long time the night shift, it turns out that the fatigue of the work of the majority is in the category long (94, 6%) and the rest in the category of not a long (5.4 percent). This suggests that a nurse working on the night shift then it will be more susceptible to increased levels of fatigue, it is seen in the results of the bivariate analysis which showed that the presence of a meaningful relationship between work shift night with the fatigue of work in accordance of the results of the p value 0.000 <0.5.

Researchers assume that shift work can lead to a nurse become tired quickly because when undergoing the work shift night of course the nurse would not sleep so it will also drain power from the nurses because of the absence of resting or sleeping which leads to job burnout.

In a study conducted by Aini et al 2018 about the relationship of shift work with job burnout in nurses in the inpatient in a hospital Herna Medan, the results obtained that the presence of the relationship between work shift with job burnout in nurses where the level of fatigue that the most-high is contained in nurses with shift work night. This was supported by research Pratiwi et al in his research about the relationship of shift work with the fatigue of work on the worker part of the daily check in PT. Train operating area VI Yogyakarta Dipo Kereta Solo race with the result that the relationship between work shift with the level of fatigue, especially in shift work night.[17]

The nutritional status of variables as the dominant

As for the multivariate analysis was carried out to determine the independent variables which are the most dominant in conjunction with the level of fatigue the fatigue of nurses working in Hospitals Aceh Singkil, and from these results it appears nutritional status is the variable most dominant influence is seen from the value of Exp (B) the most high, where the higher the value of Exp (B), the higher its relationship with the independent variable.

Researchers assume that the nutritional status as the dominant factor because a person with good nutrition will affect the state of the physical and also the mental state of a person so that each pekerjaann will be more effective because the energy required issued in good and not overload the body such as in people with nutritional status is not good.

The importance of nutritional status based on the status of IMT and its relationship with the level of job burnout supported in a study conducted by Sari et al 2017, where in the research it was found that the less or least energy intake and increasingly distant figures of the IMT of the IMT good it will also increase the level of fatigue of the person.[18] The research was also in line with research conducted by Tasmi et al 2015 related to the nutritional status and energy intake against its influence with the fatigue of work and the results obtained that there is a relationship that is significant and meaningful between the nutritional status and energy intake with the level of fatigue of the working person.[19]

CONCLUSION

Based on the research objectives and the research results can be concluded as follows: (1) Based on the gender of the largest group are women (for 58.2%) and the smallest male (41,8%). Based on the life of which the largest is the age >25 years (80%) and the smallest age ≤25 years (20%). Based on the level of education, the largest of which is S1 Keperawatan (44,1%) and the smallest is D3 nursing (21, 2%). Based on the long period of work, most of it is long working period of ≤5 years (of 54.1%) and the smallest is long working period >5 years (45,9%); (2) On the work load factors category of being (113%) and the low was in the category of light weight (2.4 percent), on the distribution of job stress weight category (88, 2%) and low are in the medium category (11, 8%). On the distribution of the nutritional status of the category of no good (64, 1%) and low was in the good category (35, 9%). On the distribution of the work shift night the level of a long high (87.6 percent) and not tired (12, 4%). On the distribution of job burnout tags tired (of 89.4%) and the low are in the medium category (10,6%); (3) There was a relationship between workload with job burnout of nurses in hospitals Aceh Singkil 2020, with the value of <0.05 (p=0.000); (4) there was a relationship between job stress with job burnout of nurses in hospitals Aceh Singkil 2020, with the value of <0.05 (p=0.000); (5) There was a relationship between nutritional status with the fatigue of nurses working in hospitals Aceh Singkil 2020, with the value of <0.05 (p=0.000); (6) There was a relationship between work shift night with job burnout of nurses in hospitals Aceh Singkil 2020, with the value of <0.05 (p=0.000); (7) The most dominant variables affecting the fatigue of nurses working in accordance with the results of the multivariate test is the variable nutritional status

Recommendations

Need to do more research related to the factors that affect the level of job burnout is a nurse in the Hospital.

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