The Affecting Factors of Nurse Fatigue in The ICU and ER of Bhayangkara HS. Samsoeri Mertojoso Hospital

Faktor yang Berhubungan dengan Kelelahan Perawat di Ruang ICU dan UGD RS Bhayangkara HS. Samsoeri Mertojoso

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ABSTRACT

Introduction: Nurses have a very stressful job because they are required to deal with the needs of patients. Nurses are responsible for contacting and observing patients 24 hours a day. The nurse fatigue is associated with stress at work, workload, and the level of conflicts that occurs in the work environment. This research aims to analyze the relationship between the individual characteristics and fatigue of nurses' performance in the ICU and ER. **Methods:** This research is observational research with a cross-sectional design and the analysis used in this study is a descriptive analysis conducted in the form of frequency tables and cross tabulations. The research data were obtained from filling in identity data sheets, IFRS work fatigue measurement questionnaires, and calorimeter measurements. To analyze the relationship between two variables with ordinal and nominal data scales including non-parametric statistics and due to the total population in this study, to find out how strong the relationship value is the Cramer V value in the Chi Square Test. The sample used was 25 nurses who work in the ICU and ER. **Results:** There is a relationship on the characteristics of nurses in the study which includes age, sex, length of service, education level, marital status, nutritional status, length of work, workload with subjective fatigue in ICU and ER nurses. **Conclusion:** In the test results obtained varying results from strong to weak relationship. In conclusion, individual characteristics cause subjective fatigue in ICU and ER nurses.

Keywords: emergency room, intensive care unit, nurses, subjective fatigue

ABSTRAK

Pendahuluan: *Perawat disebut memiliki pekerjaan yang sangat stress karena mengharuskan mereka menghadapi pelayanan kebutuhan pasien. Para perawat bertanggungjawab melakukan kontak dan observasi pada pasien selama 24 jam. Kelelahan kerja perawat juga berhubungan dengan stress kerja, beban kerja, dan tingkat konflik yang terjadi di lingkungan kerjanya. Tujuan dari penelitian untuk menganalisis hubungan karakteristik individu dengan gambaran kelelahan subyektif pada perawat yang bertugas di ICU dan UGD.* ***Metode:*** *Jenis penelitian ini adalah penelitian observasi dengan rancang bangun cross sectional dan analisis yang digunakan pada penelitian ini adalah analisis deskriptif yang dilakukan dalam bentuk tabel frekuensi dan tabulasi silang. Data penelitian diperoleh dari pengisian lembar data identitas, kuesioner pengukuran kelelahan kerja IFRS, dan pengukuran kalorimeter. Untuk menganalisis hubungan antara dua variabel dengan skala data ordinal dan nominal termasuk statistik non-parametrik dan dikarenakan total populasi dalam penelitian ini maka untuk mengetahui seberapa kuat hubungan maka yang dilihat adalah nilai Cramer V dalam Uji Chi Square. Sampel dalam penelitian ini adalah seluruh perawat yang bekerja di ICU dan UGD sebanyak 25 perawat.* ***Hasil:*** *Ada hubungan pada karakteristik perawat pada penelitian yang meliputi umur, jenis kelamin masa kerja, tingkat pendidikan, status perkawinan, status gizi, lama kerja, beban kerja dengan kelelahan subyektif pada perawat ICU dan UGD.* ***Simpulan:*** *Pada hasil uji didapatkan hasil yang bervariasi dari hubungan kuat ke lemah. Kesimpulannya, karakteristik individu menyebabkan kelelahan subjektif pada perawat ICU dan UGD.*

Kata kunci*: intensive care unit, kelelahan subyektif, perawat, unit gawat darurat*

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INTRODUCTION

Nurses are a resource with an important role in hospitals. Nurses are responsible for contacting and observing patients in 24 hours a day (Nursalam, 2011). Nurses are said to have very stressful jobs because the job requires them to deal with patient needs, long durations, and inter-professional and inter-personal conflicts (Khamisa et al., 2017). Therefore, human resource management for nurses is really needed to be managed properly (Nursalam, 2011).

Bhayangkara Hospital HS. Samsoeri Mertojoso as the technical implementation unit below and is responsible to the East Java Regional Police which is part of the National Police Indonesia. The hospital organizes health services for members of the National Police, State Civil Apparatuses and the general public and provides health support for the operational duties of the National Police in enforcing the law and maintaining security within the Indonesian State. Hospital management needed to know and identify nurse fatigue with the largest proportion, namely nurses. There is still no research to analyze nurses fatigue in this hospital as a reason to conduct research that can be useful for management. Therefore, researchers want to know affecting factors related to fatigue of nurses working in ICU and ER Bhayangkara HS. Samsoeri Mertojoso Hospital.

Nurses have monotonous activities or care that bears repeated without any variation which is a factor influencing work fatigue, monotonous activities in nursing care can cause boredom, boredom, and fatigue(Perwitasari and Tualeka, 2014). Several studies of fatigue in nurses often show mild, moderate, to severe categories of work fatigue in intensive care (Kumalasari, 2017; Pratiwi and Setyawan, 2017). Symptoms of fatigue shown by nurses include drowsiness, difficulty concentrating, physical fatigue (headaches, stiff shoulders, feeling thirsty, hoarseness, dizziness, and tired eyes, tendency to forget things, lack of confidence, anxiety, anxiety, unable to straighten body posture , and impatient (Pratiwi and Setyawan, 2017).

Hospitals that have intensive care units (ICU) and Emergency Room (ER) assign the health workers such as nurses to provide nursing services to patients. Nurses that has a duty at the ICU are required to have more abilities compared with the nurses who serve patients in other units, with

the productive age can maximize the capabilities possessed (Arifin and Wahyuningsih, 2018). Emergency patient services are services that require immediate services, which are fast, precise, and careful to prevent death and disability. Emergency care services play a very important role (time saving is life saving) that time is life. One of the indicators of service quality is in the form of response time (response time), which is, it is an indicator of the process for achieving outcome indicators, namely survival. This service is provided to patients who have physical and mental limitations, knowledge and lack of progress towards the ability to carry out daily activities (Departemen Kesehatan RI, 2004).

Each unit in the ICU and ER relatively provides nursing services that require a high level of skill, especially in the very severe conditions and emergencies. The high workload of nurses in both units clearly describes the stressful conditions faced by nurses (Hammad, Rizani and Agisti, 2018b). Moreover, nurses are required to work optimally that resulting in stress and fatigue in nurses in intensive care units and emergency departments compared to other units (Yana, 2014; Hammad, Rizani and Agisti, 2018b). Research by Khamisa et al. (2017) showed that there was an influence of individual stress on fatigue in nurses such as financial difficulties, employee problems, lack of confidence, low job satisfaction, anxiety, and insomnia.

Several studies have shown that most nurses in the ER experience fatigue in the moderate and severe categories (Cahyanti, Suwondo and Widjasena, 2015; Mulyadi and S.Hamel, 2018), while some nurses who work in ICU also experience fatigue in the mild to severe categories (Pratiwi and Setyawan, 2017). Another study also showed fatigue conditions in nurses in ICU and ER in research by Pratiwi and Setyawan (2017) as many as 63% with moderate fatigue, Maghfiroh and Miftabakhuddin (2015) as much as 67.6% with mild fatigue, and Hammad, Rizani and Agisti (2018) as many as 50% of nurses experience moderate physical fatigue. Studies from Cyprus, Greece also found mild fatigue in nurses on duty at the ICU (Raftopoulos, Charalambous and Talias, 2012).

Fatigue that occurs in nurses can be caused by several factors. The fatigue factors include workload factors, monotonous work characteristics, high work intensity, high mental and physical endurance, lighting, noise, inadequate work environment, psychological factors, sense of responsibility, tension, conflict, health, nutrition, and body rhythm

(Setyawati, 2010). Nurse fatigue is also associated with work stress, workload, and the level of conflict that occurs in the work environment (Haryono, Suryani and Wulandari, 2014).

The impact of work fatigue on nurses who have a workload of more than 8 hours can affect the decline in hospital productivity and the quality of patient care (Khamisa et al., 2015; Watania, Mulyadi and Hamel, 2018). Fatigue also results in loss of efficiency, decreased work capacity, work-related stress, occupational diseases, and decreased endurance (Tarwaka, 2015). Other impacts are decreasing work performance, feeling unwell, work morale also decreasing, and decreasing work productivity (Setyawati, 2010).

This research aims to analyze the factors associated with fatigue of nurses working in the intensive care unit and the HS Bhayangkara emergency department. Samsoeri Mertojoso Hospital.

METHODS

This type of research is observational research with cross sectional design and the analysis used in this study is a descriptive analysis conducted in the form of frequency tables and cross tabulations. To analyze the relationship between the two variables with a scale of ordinal and nominal data, including non-parametric statistics and the test used is the Chi Square Test, and because of the total population, to see how strong the relationship values seen are Cramer's V values.

This research was conducted at the ICU and ER of Bhayangkara Hospital HS. Samsoeri Mertojoso Surabaya was held from August to November 2019. While the workload measurement using the heart rate watch calorimeter with the Ultimate Gear brand and data retrieval was carried out by the technical implementing unit of work safety and transmigration of the East Java Provincial Government.

This research received an ethics permit from the Airlangga University Faculty of Dentistry with the number : 396/ HRECC.FODM/VI/2019 with the title differences in nurse fatigue between the intensive care unit and the emergency department at the Bhayangkara Kindergarten II Samsoeri Mertojoso hospital on June 20, 2019. In this study the study population was all nurses working in the ICU and ER of Bhayangkara Hospital HS. Samsoeri Mertojoso. The sample size uses the total population of all nurses working in the ICU and ER

of Bhayangkara HS hospital. Samsoeri Mertojoso. There are 10 nurses in the ICU and 17 in the ER. The total population is 27 nurses, out of 27 nurses there are 2 people who do not meet the sample criteria, bringing the total to 25 respondents.

The inclusion criteria were nurses who served in ICU and Emergency rooms, that have been worked for at least 1 year and were willing to become respondents. Exclusion criteria are nurses who are taking a long leave. The characteristics of the individuals studied included: age, gender, education level, marital status, nutritional status, length of work, workload and subjective fatigue depiction. The data of this research were obtained from filling in the identity data sheets, monthly nurse picket lists, IFRS work fatigue measurement questionnaires, and calorimeter measurements for all nurses working in the ICU and ER of Bhayangkara Hospital HS. Samsoeri Mertojoso, after all data were obtained and collected then analyzed in the form of frequency tables and cross tabulations in SPSS and using the Chi Square Test to see the relationship on each individual characteristic with subjective fatigue.

RESULT

The Overview of Individual Characteristics

Table 1 Frequency distribution of respondent characteristics based on age, gender, years of service, education level, marital status, nutritional status, length of work and individual workload of ICU and ER nurses.

Table 1 shows that from the 25 nurses, there are 14 people (56%) aged between 20-30 years, namely 10 from the ER and 4 from the ICU and that the majority of nurses are female as many as 16 people (64.0%) which are 7 people from the ER and 9 people from the ICU.

The distribution table above also shows that most of the nurses who worked with a period of work ≤ 5 years (56%) were 10 people from the ER and 4 people from the ICU and also shows that a large part of the nurse's education level were D3 nursing as many as 20 people (80.0%) namely 13 people from the ER and 7 people from the ICU.

In the distribution table results above also show that nurses with marital status are 18 people (72.0%) namely 11 people from the ER and 7 people from ICU and nurses with normal nutritional status are 13 people (52.0%) namely 7 of ER and 6 from ICU. Based on the measurement of nutritional status. it

Table 1. Table Distribution of Individual Age Frequency, Gender, Working Period, Education Level, Marital Status, Nutrition Status, Length of Work and Individual Workload at Bhayangkara Hospital HS. Samsoeri Mertojoso, September 2019

Variable	ER		ICU		Total	
	n	%	n	%	N	%
Age (year)						
20-30	10	66.7	4	40.0	14	56.0
31-40	3	20.0	5	50.0	8	32.0
41-50	1	6.7	1	10.0	2	8.0
51-60	1	6.7	0	0.0	1	4.0
Gender						
Male	8	53.3	1	10.0	9	36.0
Female	7	46.	9	90.0	16	64.0
Work Period						
≤5 years	10	66.7	4	40.0	14	56.0
>5 years	5	33.3	6	60.0	11	44.0
Educational Level						
Nursing Diploma	13	86.7	7	70.0	20	80.0
Bachelor of Nursing	2	13.3	3	30.0	5	20.0
Marital Status						
Single	3	20.0	3	30.0	6	24.0
Marry	11	73.3	7	70.0	18	72.0
Divorced dead/ divorced alive	1	6.7	0	0.0	1	4.0
Nutritional status						
Underweight	1	6.7	0	0.0	1	4.0
Normal	7	46.7	6	60.0	13	52.0
Overweight	3	20.0	0	0.0	3	12.0
Obesity	4	26.6	4	40.0	8	32.0
Length of Work (hours / week)						
≤40	6	40.0	0	0.0	6	24.0
>40	9	60.0	10	100.0	19	76.0
Workload (kkal/ hours)						
Easy (100-200)	1	6.7	0	0.0	1	4.0
Medium (>200-350)	9	60.0	8	80.0	17	68.0
Heavy (>350-500)	5	33.3	2	20.0	7	28.0

was found that some respondents had a body mass index in the normal category (52%). The average BMI of respondents was 24.679 and included in the normal category. The nurses with underweight

Table 2. Subjective Fatigue Distribution Tables at Bhayangkara Hospital HS. Samsoeri Mertojoso, September 2019

Subjective Fatigue	ER		ICU		Total	
	n	%	n	%	N	%
Easy	10	66.7	4	40.0	14	56.0
Medium	5	33.3	6	60.0	11	44.0
Total	15	100.0	10	100.0	25	100.0

Table 3. Chi Square Test Results for the Analysis of the Relationship of Subjective Fatigue with Age, Sex, Education Level, Marital Status, Length of Work, Workload, and Nutritional Status at Bhayangkara Hospital HS. Samsoeri Mertojoso, September 2019

Variable	Cramer's Associate Coefficient V
Age	0.417
Gender	0.161
Work Period	0.188
Education level	0.040
Marital Status	0.299
Length of Work	0.498
Workload	0.284
Nutrition Status (IMT)	0.475

nutritional status (100%) and overweight (100%) only in the ER. Nurses with normal nutritional status were more prevalent in the ER (53.8%) than in the ICU (46.2%). Nurses with nutritional status of obesity were divided in half (50%) in the ICU and ER. The mean BMI of nurses in ICU was 24.4 while nurses in the ER had a mean BMI of 24.8.

The distribution table above also shows that nurses working hours> 40 hours per week are 19 people (76.0%) with 9 details from the ER and 10 from the ICU. And showed that nurses with moderate workload (> 200-350 kcal / hour) were 17 people (68.0%), 9 of whom were from the ER and 8 from the ICU.

Table 7 shows that nurses with work hours> 40 hours per week were 19 people (76.0%). 9 of them from the ER and 10 from the ICU. Table 8 shows that nurses with moderate workload (> 200-350 kcal/hour) were 17 people (68.0%) namely 9 people from the ER and 8 people from the ICU.

Description of Subjective Fatigue

In this study subjectively measuring fatigue using the Subjective self rating test Industrial Fatigue Research Committee (IFRC) questionnaire. the scores for the questionnaire were at intervals of 120-120. The 25 nurses who served in the ICU and ER of Bhayangkara Hospital HS. Samsoeri Mertojoso obtained that the low score in subjective fatigue with a score of 30-52 was 14 nurses. the score was in subjective fatigue with a score of 53-75 totaling 11 nurses and no one received a high or very high score. From the subjective fatigue. the data is categorized and the following results are obtained.

Table 2 shows that nurses with low subjective fatigue category were 14 people (56.0%) namely 10 people from ER and 4 people from ICU, moderate categories were 11 people (44.0%) namely 5 people from ER and 6 people from ICU.

Based on table 3 shows that there is a relationship value of fatigue with individual characteristics and the value of a strong relationship to fatigue in nurses is the length of work (0.498), Nutritional Status (0.475), and Age (0.417) then shows the value of a moderate relationship is marital status (0.299). work load (0.284) and show weak relationship value are work period (0.188), gender (0.161) and show very weak relation value to fatigue in ICU and ER nurses at Bhayangkara Hospital HS. Samsoeri Mertojoso Surabaya, Education level (0.040).

DISCUSSION

Individual Characteristics

Individual characteristics are characteristics that distinguish between one individual and another individual. The characteristics of each individual that are different such as age, gender, years of service, education level, marital status, nutritional status, length of work and individual workload are the backgrounds that individuals bring into the work environment and will affect each individual in doing their work, so that the level of performance of each individual will also differ in do a job.

Age

Based on the age category of workers the most are aged 20 to 30 years. Most respondents are classified as productive age, in theory ready to undergo work both psychologically and physically but if the number of activities carried out or has a physical or psychological burden will cause fatigue. The study is in line with the results of research at Sunan Kalijaga Hospital Demak in 2011 about differences in the level of fatigue of female nurses stating that fatigue is not due to a person's age. The number of activities carried out, can cause fatigue in the age group 21-34 years, although theoretically fatigue is more easily experienced by older age (Mayasari, 2011).

The older a person is, the greater the level of fatigue. Physiology functions of the body that can change due to age factors affect one's endurance and work capacity (Suma'mur, 2009). Someone who is young is considered to have more physical strength and energy reserves than someone who is old (Setyawati, 2010). The process of getting old is accompanied by a lack of work ability due to changes in body organs, cardiovascular system, hormonal (Suma'mur, 2009).

Workers who are 40-50 years old will suffer from fatigue faster than workers who are relatively younger. In addition, older workers will experience a decrease in muscle strength due to the accumulation of lactic acid in the muscles (Setyawati, 2010).

Gender

Based on the sex of the nurse. female nurses have a greater number than male nurses. Historically. nursing were emerged from the role of the perspective of women in a family. so it is considered natural that there are more female nurses than men (Rolinson. 2011). In terms of physical strength. men are more resistant to physical stress than women. Women will experience fatigue more quickly if they are given the same physical burden than men. The results of this study are supported by Raftopoulos, Charalambous and Talias, (2012) in Greece found that the prevalence of fatigue in female nurses is greater than male nurses.

Work period

Based on the results of the analysis, it was found that most of the nurses' working years in charge at Bhayangkara Hospital HS. Samsoeri Mertojoso who has ≤5 years of work.The data findings are supported by the results of research from Kumalasari (2017) which was stated in his research at PKU Muhammadiyah General Hospital that most nurses work with a period of work ≤5 years.

Based on the most work tenure at 0-5 years, the length of work is the length of time the nurse works as measured from the first day of work to date. Work

experience also determines one's performance. The longer the work period, the skills will be better because it has adjusted to the maintenance. The work period also determines how nurses carry out their daily functions. The longer a person works, the more skilled and experienced in carrying out the treatment (Sunardi, 2014).

Level of education

Based on the level of education most of the respondents graduating from D3 Nursing were 80%. Nurses who have higher education will usually be able to cope the stress better. if the stress management of each nurse is good. it will make the feeling of fatigue experienced become a little less. The person with higher education. it will make those person easier to thinks broadly. the higher the power of people's initiative.it will make the people easier to find efficient ways to complete their work well (Setyawati. 2010).

Marital Status

Based on the results of the analysis found that the marital status of nurses who served in the ICU and ER of Bhayangkara Hospital HS. Samsoeri Mertojoso Surabaya is mostly married. This is in line with research conducted by Pratiwi and Setyawan (2017) where it is known that nurses who have been married experience fatigue in the moderate category because they are not only required to fulfill care responsibilities but also household matters, so this married status makes nurses have an additional burden besides main burden of nursing care.

Based on the theory found by Setyawati (2010) it turns out that the subjects which have a number of family more than four people have increased rates of reaction time and feel more tired.

Nutritional Status

Based on the measurement of nutritional status. it was found that some respondents had a body mass index in the normal category. The average BMI of respondents was 24.679 and included in the normal category. Nurses with underweight and overweight status are only in the ED. Nurses with normal nutritional status are more in the ER than in the ICU. Nurses with nutritional status of obesity were divided into two in the ICU and the ER.

The results of Perwitasari and Tualeka, (2014) showed the majority nurses at RSUD dr. Mohamad Soewandhie that experiencing fatigue are nurses with normal nutritional status. However. nurses with more nutritional status were still found. The fatigue that experienced by most nurses in this case is a medium level of fatigue. The level of calorie needs of workers depends on several factors namely body size which includes height and weight. age. gender. daily activities and workload. certain conditions such as illness and climate and the temperature of the environment in which the worker is located. With the appropriate calorie fulfillment for each worker. it will get a good nutritional status which can directly affect the work productivity (Setyawati, 2010). Tarwaka (2015) also stated that health and nutritional status or nutritional conditions are closely related to each other and affect work productivity and efficiency. In doing some works. the body requires energy. if it suffers. both quantitatively and qualitatively. work capacity will be disrupted. There needs to be a balance between energy intake and output that must be spent. Adequate nutrition is not enough. but a healthy body is needed. so that nutrients can be digested and distributed by organs.

Length of working

Based on the length of work. it shows that nurses who served in the ICU and ER of Bhayangkara Hospital HS. Samsoeri Mertojoso Surabaya who served > 40 hours per week as many as 19 people from a total sampling of 25 people. On the Chi Square Test results for the analysis of the Subjective Fatigue Relationship with Work Time showed the highest Cramer V's Associate Coefficient of 0.498 compared to other variables. In fact. in the field qualitatively. there are still many workers who replace / exchange pickets in sequence. Thus. the potential for fatigue is quite high in the ICU and ER of Bhayangkara Hospital HS. Samsoeri Mertojoso Surabaya.

Nurses whose work hours are extended are reported to make mistakes more often and experience incidents of patients falling during their service (Julie Sochalski, 2004). Carayon and Gurses (2005) said that if the workload is too high it will cause poor communication between nurses and patients. the failure of nurse collaboration with doctors. the high drop out of nurse nurses / turn over and the sense of nurse job dissatisfaction. Dean, Scott and Rogers (2006) found that ICU nurses have a tendency to work longer than their work schedule. From 502 nurses. 86% of the 6017 nurses' work schedules illustrate the extension of work time. . Most nurses who work more than 40 hours / week make mistakes

than nurses who work less than 40 hours / week. Making a mistake in giving drugs, procedural errors and documentation This is reinforced by Rogers et al. (2004) stating tha the number of working hours over 40 hours / week and more 50 hours / week increases the risk of making mistakes.

Workload

Based on the results of the calorimeter measurement carried out by officers from the technical safety work unit of the East Java Provincial Government's workforce and transmigration service on 19-27 September 2019 on nurses serving in the ICU and ER of Bhayangkara Hospital HS. Samsoeri Mertojoso Surabaya found that the majority of nurses had a moderate workload and in the analysis of subjective fatigue between ICU nurses and the ER of Bhayangkara Hospital HS. Samsoeri Mertojoso experienced mild fatigue.

The results of the study of the workload relationship to nurse burnout in the inpatient installation room of Raden Mattaher Hospital and Abdul Manap Hospital in Jambi in 2017 showed that of 100 nurses with moderate workloads of 76 % experienced mild bournouts (Mawarti and Yusnilawati, 2018).

Workload is all activities or activities carried out by a nurse while serving in a nursing service unit (Kurniadi, 2013). Nurse workload is not static, but dynamic which can change at any time, depending on several factors. According to Kurniadi (2013) internal factors that can affect the workload of nurses are the number of patients treated per day or per month or even per year. Physical workload can be in the form of heavy work such as lifting, pushing, and caring. Whereas psychological workload can be in the form of the level of expertise and work achievement that individuals have with other individuals (Manuaba, 2000). If the workload to be borne by nurses exceeds their capacity, it will adversely affect the work productivity of these nurses (Manuaba, 2000).

Fatigue Factor

Based on the results of the analysis it was found that the individual characteristics had the effect of subjective fatigue on nurses working in the ICU and emergency room, the impact given was different either strong or weak on each individual characteristic.

The strongest relationship analysis findings are age group. length of work and nutritional status that have an impact on the occurrence of fatigue. In ICU. most nurses were found with an age group above 31 years. Then. the length of work at the ICU found that all nurses had work hours above 40 hours per week. Whereas in the nutritional status obtained ICU, 8 nurses were in the medium category and 2 nurses are in the weight category.

This is appropriate with the results of research Fadriyanti and Suryarinilsih (2018), the results of the study shows that nurses 'working hours that are appropriate with the standard in working hours 51.4 hours / week do the goal implementation with less safety targets. while nurses' working hours are 39.5 hours / week do the goal implementation patient safety goals well. It will be seen that extended working hours will cause fatigue and stress that resulting in decreased alertness and will indirectly result in the application of patient safety goals. The length of time of someone thta works well in a day is generally 6-10 hours. The rest (14-18 hours) is used for life in the family and community. resting. sleeping. etc. The extending work time more than the ability to work long time is usually not accompanied by optimal efficiency. effectiveness and work productivity. in fact it is usually seen a decrease in quality and work results and in the work with prolonged time arises the tendency for fatigue. health problems. illness and accidents and dissatisfaction. Within a week a person can usually work well for 40-50 hours. More than that. there is a big possibility for the emergence of negative things for the worker concerned and the job itself. The longer the working time in a week. the greater the tendency for undesirable things to occur.

In fact, in the field qualitatively, it was found that there were still many nurses who replaced / exchanged pickets in sequence. Thus, the potential for fatigue is quite high in the ICU and ER of Bhayangkara Hospital HS. Samsoeri Mertojoso Surabaya.

Nurses whose work hours are extended are reported to make mistakes more often and experience incidents of patients falling during their service (Julie Sochalski, 2004). Carayon and Gurses (2005) said that if the workload is too high it will cause poor communication between nurses and patients, failure of nurse collaboration with doctors, high drop out of nurses / turn over and a sense of nurse job dissatisfaction.

The number of 40 hours (hours of work) in a week can be made five or four working days depending on various factors. but the fact shows working 5 days or 40 hours of work a week is a phenomin that is applicable and increasingly applied everywhere (Suma'mur P.K., 2013).

There is an influence of age on work fatigue in nurses who work in the emergency room of the RSP Unhas and RSUP dr. Wahidin Sudirohusodo Makassar (Hijriahni, 2017). Someone who is young is considered to have more physical strength and energy reserves than someone who is old (Setyawati, 2010). Workers aged 40-50 years will experience fatigue faster than workers who are younger (Oentoro, 2004).

The results of Perwitasari and Tualeka (2014) showed that nurses at RSUD dr. Mohamad Soewandhie has the majority of people that experiencing fatigue are nurses with normal nutritional status, but there are still nurses with more nutritional status who experience moderate fatigue that is experienced by most nurses. Clinically there is a relationship between a person's nutritional status with overall body performance ie people with poor or excessive nutritional conditions will be more easily experiencing work fatigue (Oentoro, 2004).

CONCLUSION

Based on the researchers who have done. it can be concluded that the factors associated with nurse fatigue in the intensive care unit and emergency room of RS Bhayangkara HS. Samsoeri Mertojoso Surabaya is as follows :

Most of the early adult nurses, most of the sexes were female, the period of work of nurses most under five years, the level of education of nurses were mostly D3 graduates, the marital status of nurses are mostly married, the highest moderate workload and subjective fatigue category is mild fatigue. There is a relationship between individual characteristics with subjective fatigue Length of work, nutritional status and age show a strong relationship with the level of subjective fatigue, marital status and workload are moderately related to subjective fatigue, length of service and gender show a weak relationship with subjective fatigue and education shows a very weak relationship with subjective fatigue.

ACKNOWLEDGEMENTS

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