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ORIGINAL RESEARCH

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FATIGUE AND WORK SATISFACTION OF EMERGENCY NURSES IN BANDUNG, WEST JAVA, INDONESIA

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Abstract

Background: Emergency nurses are required to always carry out their roles in a variety of situations and conditions. Nursing services in the emergency unit must be done quickly and accurately. Data showed that the number of patient visits in the Emergency Unit of Hasan Sadikin Hospital in August 2017 was 3,059 (73% of patients with category III) with an average visit of 99 people per day. This causes overcrowding in the emergency unit, which lead to fatigue and influence work satisfaction.

Aim: The aim of this study was to determine fatigue and job satisfaction of emergency nurses in Hasan Sadikin Hospital in Bandung, West Java, Indonesia.

Methods: This was a quantitative descriptive study, which involved 55 respondents. Fatigue was measured using Individual Strength Checklist Instrument of 20-self-reported questionnaire (CIS20R), and job satisfaction was measured using McCloskey / Mueller Satisfaction Scale (MMSS).

Results: The mean value of work fatigue was 3.4 with the highest value at the sub variable of physical activity. In general, the mean value of nurse work satisfaction was 2.66.

Conclusion: Emergency nurses in the emergency unit of Hasan Sadikin hospital has high level of fatigue and low work satisfaction. The hospital management is suggested to provide better work schedule for better interaction among nurses, provide opportunities for all staff to be involved in research or other scientific work, and schedule family gatherings regularly to improve togetherness between staff and their families.

Keywords: emergency department; fatigue; job satisfaction; emergency nurses

INTRODUCTION

Emergency Department (ED) is a leading hospital service unit that provides first service to patients with death and disability, threats in an integrated manner and involves various levels of profession ([Ministry of Health, 2009](#)). The increase in various diseases including infectious diseases, acute degenerative diseases, traffic accidents, work

accidents and disasters, as well as other events will have an impact on the increasing needs (demand) of hospital services, one of which is emergency room service ([Paul, Reddy, & DeFlitch, 2010](#)). The increase in ED services will have a negative impact if it is not anticipated properly. Study said that the phenomenon of overcrowding is caused by an

imbalance between supply and demand ([Asplin et al., 2003](#)). And factors that influence overcrowding in the ED are human factors, infrastructure, procedures and environment ([Paul et al., 2010](#)).

Overcrowding has an impact on the high workload, staff fatigue, patient anxiety, medical error, inefficiency, neglect of patient safety and stunted service ([The College of Emergency Medicine 2014](#)). Overcrowding in ED can also result in reduced efficiency and quality of care services ([Forero, McCarthy, & Hillman, 2011](#)). Overcrowding is directly proportional to the high workload and has an impact on performance degradation. Emergency nurses are required to always carry out their roles in a variety of situations and conditions that include professional patient rescue measures, especially handling emergency patients.

Nursing services in the ED must be done quickly and accurately. Nurses should have adequate experience and knowledge because they must be skilled in assessment and must be able to cope with complex and stressful situations so that it requires professional maturity to tolerate the stresses that occur in making decisions related to the acute condition of the patient and facing the patient's family ([Elliott, Aitken, & Chaboyer, 2011](#)). However, the condition of overcrowding in the ED makes the nurses do not have enough time to rest and leads to fatigue.

Fatigue is a condition of a nurse whose energy is depleted due to excessive saturation of the work itself, it occurs due to a lack of rest time from the nurse ([Ritonga, 2016](#)). Fatigue is also defined as a feeling of excessive stress, fatigue / exhaustion, and burnout quickly and continuously that occur in the work environment ([Brown, 2016](#)). Fatigue conditions can cause changes in performance and appearance, and also influence the process of interaction with family, colleagues and the environment. Continuous fatigue can cause high rates of morbidity and failure in work ([Beurskens et al., 2000](#)). Signs and symptoms of a person experiencing fatigue are divided

into 3 categories ([Hendy, 2016](#)), namely: (1) mild symptoms include weakness (weakness), fatigue, and headache; (2) moderate symptoms include anxiety, loss of appetite, insomnia, and decreased work performance, and (3) severe symptoms include loss of patience, lack of concentration, and lack of empathy.

In addition to fatigue, overcrowding also has the potential to the working stress of emergency nurses. According to literature, one of the causes of work stress is excessive workload ([Hariyono, Suryani, & Wulandari, 2012](#)). Job stress also not only has a negative effect on physical and emotional health, but also affects the high turnover and increased absence of work ([Brown, 2016](#)). The working environment does not only affect stress, but decrease job satisfaction and increase turnover rates ([Brown, 2016](#)). In addition, study stated that there is a significant relationship between fatigue and job satisfaction with medication errors. The effects of work fatigue can have an impact on the quality of the nurse's service quality to the patient ([Bolandianbafghi, Salimi, Rassouli, Faraji, & Sarebanhassanabadi, 2017](#)).

Job satisfaction refers to how much someone likes his job ([Brown, 2016](#)). Job satisfaction involves psychological and multidimensional aspects such as cognitive, affective, and behavioral components ([Brown, 2016](#)). Nurse job satisfaction is one of the most important factors in determining an individual's intention to stay or leave a health care organization ([Caricati et al., 2014](#)).

Hasan Sadikin Hospital is a type A hospital, which is a referral center hospital in West Java and also as a teaching hospital with 3000 employees, 395 specialist doctors and subspecialists. The data showed that the number of patient visits in ED in August 2017 was 3,059 (73% of patients with category III) with an average visit of 99 people per day. This causes overcrowding in the ED. Emergency nurses at Hasan Sadikin hospital underwent various roles as patient nurses and as a receptor for nursing students. In addition, the patient's condition is crowded and internal

conflicts with other professions cause a high workload, stress, and have an impact on fatigue and job satisfaction.

As there is a lack of information regarding fatigue and job satisfaction level in ED, this study aimed to identify the fatigue and job satisfaction of emergency nurses at the Emergency Department of Hasan Sadikin Hospital Bandung.

METHODS

Study design

This was a quantitative descriptive study at Hasan Sadikin Hospital, Bandung from 13 April 2018 to 13 May 2018 with 55 emergency nurses selected using total sampling.

Instrument

The Individual Strength Checklist with 20 self-reported questionnaires (CIS20R) was used to measure fatigue, which consisted of four domains: (1) complaints of fatigue, (2) ability to concentrate at work, (3) work motivation, and (4) daily physical activities daily. The instrument used a Likert scale consisting of 20 questions with a score range of 1 – 7 ([Schlesiger, 2015](#)). The instrument has been translated into Indonesian language with validity value of ≥ 0.6319 and Cronbach's alpha reliability value of 0.950.

Nurse job satisfaction was measured using McCloskey/ Mueller Satisfaction Scale (MMSS) ([Tourangeau, Hall, Doran, & Petch, 2006](#)). The MMSS consists of eight domains: (1) Family / work balance, (2) Extrinsic award, (3) Scheduling satisfaction, (4) Professional opportunities, (5) Control/ responsibilities, (6) Praise/recognition, (7) Co-workers, and (8) Interaction. The instrument format uses a Likert scale consisting of 31 questions with a score range of 1 – 5. The instrument has been translated into Indonesian language with Cronbach's alpha reliability value of 0.969.

Statistical analysis

Data that have been entered into the frequency distribution table were tested for normality. Kolmogorov Smirnov test showed that the data were normally distributed, both for satisfaction variables (Z scores ≥ 1.357) and for fatigue variables (Z scores ≥ 1.110). Therefore, the analysis in categorizing fatigue and satisfaction used the mean value. For fatigue, the higher the mean value, the higher the level of fatigue, and the lower the mean value, the lower the level of fatigue. For satisfaction, the higher the mean value, the more satisfied respondents are, and the lower the mean value, the more dissatisfied the respondents are.

Ethical consideration

Ethical approval was obtained from the Hasan Sadikin Hospital (Reference No. LB.02.01/X.2.2.2/6795/2018) and the Faculty of Nursing, Universitas Padjadjaran Ethics Committee (No. 1030/ UN6.L1/ KM/ 2018). Informed consent has been done in each respondent to tell about the objective and procedure of the study.

RESULTS

Based on **Table 1**, it shows that more than half of respondents aged 36-45 years old, had a diploma education, had a service life of >10 years, and worked as civil servants. Majority of respondents were female, and almost all respondents were married.

Table 2 shows that the mean value of work fatigue was 3.4. The highest mean value in terms of the highest level of fatigue was in the sub variable of physical activity, followed by sub variables of concentration and subjective feeling of fatigue; while the lowest mean value was in the sub variable of motivation. While seen from the results of the mean per item statement in the domain in the **Table 3**, the highest mean values in the item statement were "I don't do a lot of things throughout the day" (5.22), "I can concentrate well" (5.1), and "I feel I can rest" (4.9).

Table 1 Distribution of Respondent Characteristics at ED Hasan Sadikin Hospital Bandung (n = 55)

Characteristics	f	%
Age		
26-35	23	41.82
36-45	31	56.36
46-65	1	1.82
Gender		
Male	15	27.27
Female	40	72.73
Education		
D III	36	65.45
S 1	18	32.73
S 2	1	1.82
Year of services		
1-5 year	2	3.64
5-10 year	15	27.27
>10 year	38	69.09
Marriage		
Yes	49	89.09
No	6	10.91
Employee status		
Civil servants	36	65.45
Non- civil servants	19	34.55

Table 2 Fatigue in Nurses in the Emergency Department of Hasan Sadikin Hospital Bandung (n = 55)

Fatigue and its sub variables	Mean	SD	Min	Max
Fatigue	3.4	0.79	1.7	5.15
Physical activity	4.34	1.22	1.33	7
Concentration	3.65	0.98	1.4	6.2
Subjective feeling of fatigue	3.12	0.74	1.75	5
Motivation	2.91	0.84	1.25	4.5

On the other hand, **Table 4** shows that, in general, the mean value on nurse job satisfaction (score range 1-5) was 2.66. The lowest mean value in terms of having a low level of satisfaction was in the family / work balance, followed by sub variables of extrinsic rewards, scheduling satisfaction, professional opportunities, control / responsibility, reinforcement, and team. The highest mean value was interaction, in the sense that respondents feel satisfied in sub variable interactions.

The results of the mean per item statement of job satisfaction in **Table 5** show that the lowest mean value was "weekend holidays every month" (1.75), "childcare facilities"

(1.75), and "holidays" (1.75). And the highest mean value of job satisfaction seen from statement items were "nurse colleagues (in working relationships)" (3.47), "recognition of your work from colleagues" (3.29), and "opportunities for social contact at work" (3.24).

Researchers in this study also conducted cross tabulations between the number of respondents with satisfaction and fatigue (see **Table 6**). The results show that the highest numbers of respondents are those with low level of fatigue and satisfaction, while the lowest were respondents who had low level of fatigue but were dissatisfied.

Table 3 Fatigue in Nurses Based on Mean Statement Items (n = 55)

Item	Statement	Mean
Physical activity		4.34
10	I don't do a lot of things throughout the day	5.22
7	I do enough things in a day	4
17	I have low output at work	3.8
Concentration		3.66
11	I can concentrate well	5.1
3	Thinking requires effort	3.8
13	I have problems concentrating	3.47
8	When I do something, I can concentrate quite well	3.45
19	My mind easily becomes not concentrated	2.5
Subjective feeling of fatigue		3.12
12	I feel I can rest	4.9
9	I feel weak	3.4
1	I feel tired	3.15
6	I feel fit	3.07
16	I became very tired	2.9
20	I feel physically good	2.7
4	I feel physically tired	2.4
14	I feel physically, I am in a bad condition	2.4
Motivation		2.91
2	I feel very active	2.98
18	I feel there is no desire to do anything	2.93
5	I feel like doing all kinds of work well	2.87
15	I am full of plans	2.87

Table 4 Nurse Job Satisfaction (n = 55)

Job satisfaction	Mean	SD	Min	Max
Job satisfaction	2.66	0.58	1.38	3.77
Family / work balance	2.14	0.68	1	3.6
Extrinsic award	2.35	0.95	1	4.33
Scheduling satisfaction	2.37	0.67	1	3.75
Professional opportunities	2.68	0.70	1	4
Control/ responsibilities	2.85	0.83	1	4.25
Praise/recognition	3.00	0.83	1	4.5
Co-workers	3.10	0.68	1	4.33
Interaction	3.11	0.77	1	4.5

Table 5 Nurse Job Satisfaction based on statement mean items (n = 55)

Item	Statement	Mean
Family / work balance		2.14
8	Holidays on weekends every month	1.75
12	Childcare facilities	1.75
10	Compensation for work on weekends	1.89
9	Flexibility in scheduling weekend breaks	2.04
11	Maternity leave time	3.27
Extrinsic award		2.35
2	Holidays (Holiday program from the hospital)	1.75
1	Salary (income received in 1 month)	2.58
3	Other benefits (insurance, retirement)	2.71
Scheduling satisfaction		2.37
7	Opportunity to work part time (elsewhere)	2.02
6	Opportunities to work in a day without a break	2.35
5	Flexibility in scheduling your working hours	2.45
4	Number of hours you work	2.65

Professional opportunities		2.68
23	Opportunities for career development	2.47
21	The opportunity to become a department and institutional committee	2.51
28	Opportunity to write and publish	2.51
27	Opportunity to participate in nursing research	2.76
26	Amount of encouragement and positive feedback	2.87
16	Submission of treatment methods used in your unit (e.g. functional, team, primary)	2.96
Control / responsibility		2.85
31	Your participation in decision making	2.55
22	Control what happens at your workplace	2.62
29	The amount of your responsibility (at work)	3.11
30	Your control over working conditions	3.13
Praise / recognition		3.00
24	Recognition of your work from your supervisor	2.71
25	Recognition of your work from colleagues	3.29
Co-workers		3.10
15	The doctor who works with you	2.78
13	Directly supervise of your supervisor	3.05
14	Nurse colleagues (in working relationships)	3.47
Interaction		3.11
20	Opportunity to interact with nursing education institutions	2.82
19	The opportunity to interact professionally with other disciplines	3.15
18	The opportunity for social contact with colleagues after work	3.24
17	Opportunity for social contact at work	3.25

Table 6 Cross Tabulation Distribution of Fatigue and Job Satisfaction of Emergency Nurses (n = 55)

Job Satisfaction	Fatigue				Total
	High		Low		
	f	%	f	%	
Satisfied	13	46.4	17	63	30
Dissatisfied	15	53.6	10	37	25
Total	28	100	27	100	55

DISCUSSION

Fatigue

Based on the results of the study, the highest mean value in terms of the highest level of fatigue was in the sub variable of physical activity, followed by sub variables of concentration and subjective feeling of fatigue; and the lowest was in the sub variable of motivation. Nurses who experience fatigue can experience problems such as low activity and poor concentration and motivation. Fatigue in this study is the perception of fatigue or the subjective recognition of the respondent. But when viewed from changes in low physical activity, then subjective fatigue proves objectively that respondents experience fatigue.

Fatigue in this study may be the result of workload in related to overcrowding in the Emergency Department of Hasan Sadikin Hospital and nurses are not able to compensate with the situation. This certainly causes an imbalance between the workload and the work resistance. According to literature, causes of fatigue are heavy workloads, staff shortages, shift work, increased demands and expectations of patients, little time for professional development, decreased leadership, inadequate recovery time and personal factors ([Canadian Nurses Association, 2012](#)), occupational risk, work time, rest time, tension and stress level of work, and environmental factors ([Pratiwi, Karimah, & Marpaung, 2017](#)). However, when viewed from the results of the study, the difference in the number of nurses who experienced fatigue and those who did not

experience fatigue was small. Thus, further study is needed.

Another possibility that can affect fatigue is that the results of the study showed that the majority of respondents were female (72.73%), married (89.09%) and had a working period of >10 years (69.09%). We assumed that work fatigue may be related to the gender and marital status of the respondents. Married female respondents are influenced by their business at home. Besides working in the hospital, they are also required to do homework and take care of their families. This certainly affects the physical resilience of the female respondents, so that the energy used to work in the hospital is residual energy; or otherwise, after exhausting work in the hospital, they run out of energy to take care of their families. This is consistent with the results of previous study ([Ismail, 2013](#)) revealed that the quality of work life is influenced by life at home or household.

In addition, most respondents subjectively said that they have rested but still often feel tired quickly. Researchers argue that even though the respondent has rested, the quality of the rest as expected did not occur. This causes the process of the body's mechanism to be disrupted and the energy produced is not optimal. Another possible factor is shift work. Nurses who get shift work will experience biorhythmic changes in the body, especially nurses who often work at the night shift will experience higher fatigue compared to other nurses. This is because they experience sleep deprivation, which cause poor quality of rest.

Satisfaction

In general, nurses' job satisfaction in our study was in the satisfied category, especially in the sub variables of interaction, co-workers, praise / appreciation, control and responsibility. Interestingly, in the sub variable of interaction, one of the items is the opportunity for social contact at work and colleagues after work. In the co-worker sub variables, the item "Nurse colleagues (in working relationships)" becomes the item with the highest mean in the sense of the most satisfied item. This shows that

although the condition of emergency department is too crowded, it does not mean the interaction and social contact with peers decreased. In fact, it makes them satisfied. Thus, better interaction and communication with peers increases nurse satisfaction. Previous study stated that job satisfaction has a relationship with satisfaction in communication ([Vermeir et al., 2017](#)). Good communication can improve interpersonal and collaborative communication at work as well as improve patient satisfaction with the services provided and ensure patient safety ([Keller, Eggenberger, Belkowitz, Sarsekeyeva, & Zito, 2013](#); [O'Daniel & Rosenstein, 2008](#)). Therefore, this condition must be maintained with continuity holding regular meetings both at work and outside the workplace.

The results of the study revealed that nurses were dissatisfied with family/work balance ("weekend holidays" and "childcare facilities"), extrinsic awards ("holiday"), and scheduling. This may be caused by conditions in the field, where scheduling and manpower are not met each other, especially for holidays in accordance with the wishes of the nurse. Weekend holidays can only be given in turns, and in some situations a holiday cannot be granted when an extraordinary event occurs in the emergency department. This is in line with previous research stated that job satisfaction has a significant relationship with scheduling ([Ebrahim & Ebrahim, 2017](#)).

In the family / work balance sub variable, flexibility in scheduling weekends is a matter that respondents complain about, so that most of their free time is spent at work. This is in accordance with study stated that after respondents were preoccupied with a high workload in the hospital, they were also required to take care of the household / family ([Ismail, 2013](#)). This is based on the number of married and female respondents.

The head nurses or related persons must be sensitive with "vacation", between regular vacation every year or vacation when is needed. As stated by previous study that one can increase employee job satisfaction by

providing fun routine activities to employees ([Brunges & Foley-Brinza, 2014](#)). Provision of childcare facilities can be considered for service providers to make it easier for employees to leave their children. Performance awards in the form of holidays, recognition and welfare programs, one of which is childcare facilities can increase job satisfaction ([Mohammad Noviar Jayanegara, 2017](#)).

Linkage of Satisfaction with Job Fatigue

The results showed that the majority of respondents were more than 36 years old, female, had diploma education, had a working period of >10 years, married and had employment status as civil servants. We assume that what can affect job satisfaction when viewed from the characteristics of respondents is age and tenure. At the age range of >36 years, family economic needs are increasing along with the task of family development. If salary or wages obtained do not meet the needs, dissatisfaction will arise so that the nurse will try to find additional work (part-time) elsewhere. But this condition certainly must consider the factor of fatigue. If the condition of his/her body does not experience fatigue, of course the nurse can do part-time work elsewhere.

For nurses who have worked for more than 10 years, little or more will experience work saturation. Routines that are always carried out every day with all the hustle and bustle in it certainly create a feeling of saturation. This certainly has an effect on the emergence of dissatisfaction at work. Previous research stated that there was no significant relationship between age, working period and job satisfaction ([Fritz, 2011](#)). Another study stated that there is a relationship between age and marital status with job satisfaction, and there is no relationship between gender, tenure and level of education with job satisfaction ([Setiawan, 2007](#)). Factors related to fatigue are age, sex, years of work and workload. In addition there is also a relationship between fatigue and nutritional status ([Perwitasari & Tualeka, 2014](#)).

Other research results related to job satisfaction can be seen in each sub variable. Dissatisfaction is identified in the compensation for work on weekends (sub variable of family / work balance), holidays (sub variable of extrinsic rewards), opportunities for part-time work (sub variable of scheduling satisfaction), opportunities for career advancement (sub variable of professional opportunities), opportunities for writing and publish (sub variable of professional opportunities), control over working conditions (sub variable of control / responsibility), job recognition from peers (sub variable of recognition / praise), direct supervisors (sub variable of colleagues), and opportunities for social contact with work after work (sub variable of interaction).

In regard to working time, respondents often find it difficult to get scheduling arrangements as desired because schedules are made to follow a routine rhythm or change cycle, and thereby they are not able to adjust the holiday time, which increase boredom and stress. Study said that work routines are identical or considered as work culture, which is very closely related to work stress ([Yuwono, 2014](#)).

Dissatisfaction is also found in the opportunity to develop careers and opportunities to write and publish. This problem is related to the self-actualization of the respondents. According to some respondents, career development is a hope to be able to grow and get out of a saturating routine. While the opportunity to write and publish is the respondent's efforts to explore themselves or their abilities so that their actualization can be channeled. According to literature, there is a significant negative relationship between the need for self-actualization and work stress. This means that the higher the fulfillment of self-actualization, the lower the level of work stress ([Rosiano, Hardjajani, & Yusuf, 2015](#)).

In addition, in regards to responsibility / control and recognition, respondents stated that they were not given full control or responsibility for working conditions because they were only given to certain people. While

the recognition of the work of colleagues is also less satisfying because most nurses are oriented to their respective duties. This affects the self-care of the nurse / respondent, thus creating a work environment that is not conducive and has an impact on unhealthy social interaction. According to study, self-esteem is obtained from oneself and others. Individuals will feel high self-esteem if they often experience success. Conversely, individuals will feel low self-esteem if they often experience failure, are not loved, or are not accepted by the environment ([Yusuf, Fitriyasari, & Nihayati, 2015](#)).

Dissatisfaction also occurs with co-workers, namely the direct supervisor. This relates to the style of leadership, policy, scheduling, style of communication from the boss that makes it uncomfortable for subordinates. This also relates to work stress from nurses / respondents. All of the above conditions are closely related to fatigue that occurs because the nurse experiences work stress. Study explained that fatigue is influenced by stress, trust in management, personal health, work / family conflict, burnout, and work commitment. Stress and work / family conflicts provide an important and significant picture of the emergence of fatigue from workers / staff. It is also concluded that psychosocial factors are good predictors of work-related fatigue ([Rahman, Abdul-Mumin, & Naing, 2016](#)).

CONCLUSIONS

It was concluded that the level of fatigue is in the high category, especially in the sub variables of physical activity, followed by concentration, subjective feeling of fatigue and motivation. While the level of job satisfaction of nurses is in the low category, particularly in the sub variable of family / work balance, followed by sub variables of extrinsic rewards, scheduling satisfaction, professional opportunities, control / responsibility, praise / recognition, and co-workers. And the highest satisfaction was in interaction sub variable. The hospital management is expected to rotate

the work schedule for better interaction among nurses, provide opportunities for all staff to be involved in research or other scientific work, and schedule family gatherings regularly to improve togetherness between staff and their families.

Declaration of Conflicting Interest

None declared.

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Author Contribution

All authors contributed equally in this study.

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