

## Conference Paper

# Factors Related to Fatigue among Nurses in Jambi Mental Hospital: A 2017 Study

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## Abstract

The Jambi Mental Hospital is a referral center for patients with mental disorders in the province of Jambi; therefore, it is crucial that this hospital be capable of providing good quality health services. The quality of the health services is affected by the human resources, especially nurses. The nursing profession plays an important role in developing the quality of health service in hospitals. The services were provided through the bio-psycho-social-spiritual approach that was carried out continuously for 24 hours. Nurses play a crucial role in health care and have a high workload, especially in the inpatient wards. One of the problems faced by nurses at work is fatigue, including mental and physical exhaustion that prevents an individual from being able to function normally. There are several causes of fatigue among nurses, both work-related and non-work-related factors. Every day, during every shift, nurses may experience mental, physical, or spiritual fatigue. Workload, work hours, work structures, and several other factors can indirectly or directly lead to fatigue. Fatigue among nurses can be harmful to the patients, organizations, and the nurses themselves. For example, a tired nurse may mistakenly record a healthcare provider's telephonic orders for continuing home medications on the wrong medical record. This study aimed to determine the factors related to fatigue among nurses in inpatient wards of Jambi Mental Hospital. This is a descriptive, cross-sectional study. The data were collected through both a literature review and field study in the form of observations and interviews of nurses in inpatient wards. The present results could provide recommendations for Jambi Mental Hospital about the factors related to fatigue among nurses in order to improve the quality of healthcare services.

**Keywords:** nurses, fatigue, work-related factors, non-work-related factors

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## 1. Introduction

Fatigue is a state of extreme tiredness, weariness, or sleepiness resulting from insufficient sleep, prolonged mental or physical work, or extended periods of stress or anxiety. Boring or repetitive tasks can intensify the feelings of fatigue. Fatigue can be described as either acute or chronic. Acute fatigue results from short-term sleep loss or short periods of heavy physical or mental work. The effects of acute fatigue are short-lived and can usually be reversed by sleep and relaxation. The chronic fatigue syndrome is defined as the constant, severe state of tiredness not relieved by rest (Canadian Centre for OHS). Fatigue has been linked to stress, safety, and performance decrements in numerous work environments [1].

Fatigue is regarded as having an impact on work performance. High fatigue levels reduce performance and productivity while increasing the risk of accidents and injuries. Fatigue also affects the ability to think clearly. Therefore, people who are fatigued are unable to gauge their own level of impairment. They are unaware that they are not functioning as well or safely as they would if they were not fatigued [2]. Government of Alberta, Labor, also reports that fatigue affects people differently; however, it can increase a worker's hazard exposure by reducing his/her mental and physical functioning, impairing judgment and concentration, lowering motivation, reducing reaction time, and increasing the risk-taking behavior.

Fatigue is commonly observed in nurses. Every day, during every shift, nurses may experience mental, physical, or spiritual fatigue. Workload, work hours, work structures, and several other factors can indirectly or directly cause and affect safety [3].

A nurse is expected to dedicate a considerable proportion of his/her time and emotional energy for patient care each day. While the nurse training prepares them well for this role, working so hard can cause exhaustion over time if self-care is not performed.

Jambi Mental Hospital is a government-owned hospital that became a referral center for patients with mental disorders in the province of Jambi. The existence of this certainly affects the high level of community's needs against the health service of Jambi Mental Hospital. It can be seen from increasing number of patients either outpatient and inpatient (bed occupancy ratio [BOR] > 100%).

The task of a nurse who cares for patients with psychiatric disorders is different from that of nurses who care for patients with a physical illness. Psych nursing is a field of specialist practice that applies the theory of human behavior. The practice of psych nursing occurs in a social and environmental context. The role of a nurse dealing with mental health patients is complex, including the dimensions of clinical

competency, family-patient advocacy, fiscal responsibility, interdisciplinary collaboration, social accountability, and legal as well as ethical issues [4]. While in terms of risk is the possibility of injury when facing the patient with amok and aggressive.

Based on a survey of the fatigue level using the Subjective Symptoms Test of the Industrial Fatigue Research Committee on 111 nurses in inpatient wards, more than half of the respondents experienced moderate to high level of fatigue. The purpose of this research was to identify the factors that can cause fatigue among nurses in the inpatient ward of Jambi Mental Hospital. The results of this study could provide a recommendation for the Jambi Mental Hospital regarding the factors related to fatigue among nurses that could in turn help improve the quality of health services.

## 2. Methods

This was a descriptive research with a cross-sectional design. The data were collected through both a literature review and a field study that used observations and interviews of the nurses in the inpatient wards.

### 2.1. Literature study

A literature review was conducted through a search of the original research focusing on factors related to fatigue among nurses. This study aimed to help identify the factors associated with fatigue among nurses based on previous research studies. We limited our search to research articles published in Indonesia and elsewhere from 2012-2017.

### 2.2. Field study

At study initiation, a survey was conducted to identify the presence of fatigue among nurses in the inpatient wards of Jambi Mental Hospital in September 2011, using the Subjective Symptoms Test of the Industrial Fatigue Research Committee (Cronbach's alpha = 9.29) for 111 nurses in the inpatient wards, and samples were selected using total sampling from eight inpatient wards with a BOR > 100%. The problem was formulated based on the observations, personal communications, and review of the policies related to nurse fatigue.

## 3. Results

### 3.1. Literature study

Total 15 published studies that had assessed the factors related to fatigue in nurses were identified. Among these, 4 were descriptive studies, 10 were analytical studies, and 1 was an intervention study. Based on the literature review regarding the factors related to the work fatigue, we can conclude that the cause of fatigue among nurses can be categorized into the following two types: internal factors, such as the following:

1. Individual characteristics, such as age, sex, marital status, nutritional status, education, and health conditions
2. Job-related factors (workload, schedule/hours of work, and type of work)
3. Factors related to the working environment (heat and aroma unpleasant/smell)
4. Psychosocial factors

Moreover, external factors included social life, social conflict, as well as inadequate sleeping hours.

### 3.2. Field study

The survey of the fatigue levels conducted in 111 nurses in the inpatient wards showed that > 50% respondents experienced moderate- to high-level fatigue (52%). It showed in Table 1.

TABLE 1: Fatigue levels.

Variable	Category	Frequency	Percentage
Fatigue	Low	53	48%
	Moderate	46	41%
	High	12	11%

Table 2 identifies several characteristics of nurses and relates them to low, moderate, and high fatigue levels.

The fatigue experienced by these nurses affected their performance. Based on the observation and interview of the head of the ward and the team chief, it appeared that the nursing staff was not functioning optimally. For example, the task of documenting the nursing care tasks was incomplete. This is a crucial finding, considering that the documentation of nursing care is vital because it accounts for the nursing duties performed by the nursing staff and is a part of the code of ethics established

TABLE 2: Fatigue levels and nurse characteristics.

Characteristics	Fatigue Levels					
	Low		Moderate		High	
	N	(%)	n	(%)	N	(%)
<b>Age</b>						
20 – 35 Years	35	-32%	29	-26%	7	-6%
36 – 45 Years	17	-15%	12	-11%	4	-4%
> 45 Years	1	-1.00%	5	-4%	1	-1%
<b>Gender</b>						
Male	14	-13%	9	-8%	1	-1%
Female	39	-35%	37	-33%	11	-10%
<b>Marital Status</b>						
Single	9	-8%	5	-5%	1	-1%
Married	44	-39%	41	-37%	11	-10%
<b>Nursing Education</b>						
Nurses' School	1	-1%	3	-3%	3	-3%
Diploma	39	-35%	29	-26%	7	-6%
Bachelor	13	-12%	14	-12%	2	-2%
<b>Length of Work</b>						
0 – 5 Years	19	-17%	22	-20%	6	-5%
6 – 10 Years	28	-26%	15	-13%	4	-4%
> 10 Years	6	-5%	9	-8%	2	-2%
<b>Nutrition (by Body Mass Index)</b>						
Underweight	5	-5%	1	-1%	0	0%
Normal Range	36	-32%	30	-27%	4	-4%
Overweight	12	-11%	15	-13%	8	-7%

for patient safety. This limitation may have resulted from the high number of patients requiring care and so complex nursing care that must be documented while the number of nurses is limited.

The results of the interviews of nurses in the inpatient wards revealed that the nurses had certain complaints in terms of the physical and psychological aspects. The most common physical complaint was that of feeling tired and stressed; followed by the presence of muscle tension and soreness, mainly in the neck, arms, shoulders, and backs; and headaches/dizziness. In order to cope with the dizziness/headache and

soreness, they tended to taking medication (analgesics). In terms of the psychological complaints, the nurses reported feeling depressed and anxious because of the nature of the job; some nurses also complained about their emotional condition, when experiencing fatigue is often applied with a rugged attitude in patients, family or co-workers while exhausted. In addition, in terms of the working environment, the body odor of patients, sometime led to nausea and dizziness. We also found that the Jambi Mental Hospital did not have any established policies related to nurse fatigue.

## 4. Discussion

Nursing is a demanding profession wherein the nurse prioritizes the patient's needs above his/her own needs. With population aging that subsequently leads to greater number of patients, the nurses are required to work harder and longer to accomplish all the allocated tasks. Working in shifts can cause numerous health disorders. Fatigue is a health issue in nurses that the health care industry can potentially ameliorate. By standardizing the nurses' schedules, we can decrease the self-reported fatigue. Further research is necessary to improve the nurses' contentment with their work schedules, thus increasing their overall job satisfaction and happiness. The negative effects associated with shift work can cause unnecessary stress, and every effort should be made to reduce this stress [5].

Nurse fatigue is a subjective feeling of tiredness (experienced by nurses) that is physically and mentally penetrative. It ranges from tiredness to exhaustion, creating an unending overall condition that interferes with an individuals' physical and cognitive ability to function as per the normal capacity. It is multidimensional in both its causes and manifestations; it is influenced by several factors, such as physiological (e.g., circadian rhythms), psychological (e.g., stress, alertness, and sleepiness), behavioral (e.g., work and sleep patterns) and environmental (e.g., work demand) factors. Fatigue often involves a combination of physical (e.g., sleepiness) and psychological (e.g., compassion fatigue and emotional exhaustion) factors. It may significantly interfere with functioning and may persist despite rest periods [6].

Fatigue, longer work hours in the same workplace, and working as a nursing technician were associated with decreased work ability, emphasizing the need for investment in health and quality of work-life. The present results demonstrated high rates of inadequate work ability and fatigue in the study population that comprised nurses from two inpatient hospital wards. The negative association between fatigue and work ability was independent of the other variables. Therefore, the need to invest in the

quality of work life is evident, including an improvement in the working conditions and monitoring the nursing workers' health to ensure that a satisfactory work ability level is maintained. This will aid illness prevention, reduce the number of sick leaves availed, and lower the early retirement rates, factors that compromise the country's economy and the quality of the care provided to its population [7].

Fatigue is not only a concern for bedside nurses who provide direct patient care; the workload and expectations placed on the nursing supervisors, nurse managers, and others involved in nursing administration should also be considered. With more hospitals re-organizing (like using a variety of shift lengths. For example, nurses working shifts longer than 10 hours in order to meet the needs of patient care, patient census and patient safety), nurse leaders are often required to work long hours under stressful conditions. They are expected to make critical decisions that may be affected by their fatigue [8].

Fatigue involves multiple domains of human experience triggered by prolonged professional burdens and a lack of support. In particular, those experiencing fatigue exhibit clear physical and emotional symptoms, resulting from consistently identified triggers. These triggers are related to workplace stressors, poor coping skills, a sense that no one cares or protects the nurse, and personal issues stemming from difficulty in maintaining a healthy work-life balance [9].

Work-related fatigue negatively affects the patient safety and the nurses' well-being while increasing employer costs. Preventing fatigue and minimizing its negative consequences require the knowledge of the contributing factors to enable the design and implementation of effective interventions [10].

Nurses commonly connected these attributes to smaller units wherein the layout and smaller community of nurses fostered awareness of other team members and teamwork. Nurses also perceived steady or fast-paced work flow as a factor that helped cope with fatigue because they felt it prevented sleepiness and realization of fatigue, especially during night shifts [11].

Based on these results, we can conclude that the factors causing fatigue among nurses at the Jambi Mental Hospital were age, sex, marital status, education, workload, and environment. The results of the field study showed that 36 percent of the nurses were aged > 35 years, 78 percent were women, and 84.5 percent were married. The workload of the nurses was very high, as seen from the number of patients exceeding the hospital's capacity (BOR > 100%) and the inadequate number of nurses.

## 5. Conclusion

Fatigue in nurses requires attention and serious management. The exhaustion experienced by the nursing staff affects not only their performance, but also patient safety. The survey showed that most nurses experienced fatigue.

Several factors, either related or unrelated to the job, can affect fatigue among nurses. Based on the field study, the factors that may have caused fatigue among nurses at the Jambi Mental Hospital were age, sex, marital status, education, workload, and environment. Further research on the factors affecting nurse fatigue at Jambi Mental Hospital is needed to confirm the findings, draw firm conclusions, and develop relevant solutions.

The Australian Nursing and Midwifery Federation identified workplace factors that contribute to fatigue including, *mental and physical demands of work* (job demands, concentrating on tasks for extended periods of time, excessive workload, and an inappropriate skills mix), *work scheduling and planning* (long work hours, inadequate time to recover from work between shifts or erratic roster patterns, and inability to take breaks), *working at night when individuals are biologically programmed to sleep*, *working in uncomfortable environmental conditions*, *interaction with other hazards* (cumulative effects of muscle fatigue, strains, and sprains), *work-related travel*, *factors outside of work* (caring responsibilities), and *workplace bullying* [12].

Any approach for addressing nurse fatigue must be implemented with the collaboration among hospital administration, nursing management, and nursing staff. An assessment of current staffing, scheduling, and nursing procedures is necessary to identify the potential risks for staff and patients. The recommendations for identifying and addressing fatigue-related risks include the following [13]:

1. Assess an organization's fatigue-related risks
2. Obtain information about staffing, consecutive shifts, off-shift hours, and hazards of fatigue as well as analyze the risks and implement measures to mitigate these risks
3. Develop an 'Alertness Management Program' that includes education, strategies, practices, and organizational policy support
4. Evaluate the patient hand-off processes for consistency and safety
5. Invite staff input while designing work schedules

6. Create and implement a fatigue management plan that includes strategies for fighting fatigue
7. Educate the staff regarding sleep hygiene as well as fatigue and its consequences
8. Provide non-punitive opportunities for the staff to express their concerns about fatigue
9. Encourage teamwork as a strategy to support staff who work long hours
10. Consider fatigue as a potential contributing factor when reviewing all adverse events
11. Provide a non-punitive fatigue reporting system for employees
12. Develop a system to monitor the fatigue levels among the nursing staff

Analyzing the prevalence of burnout and fatigue within a healthcare organization is an essential first step for organizations that plan to implement stress-reduction programs and establish positive work environments for their workers [14].

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