

THE RELATIONSHIP BETWEEN NUTRITIONAL STATUS AND BREAKFAST HABITS ON WORK FATIGUE IN NURSES IN THE EMERGENCY ROOM OF I.A. MOEIS HOSPITAL SAMARINDA

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Abstract:

Introduction: Occupational fatigue is a common problem among nurses who have a heavy workload. Fatigue can be influenced by various factors, such as nutritional status and breakfast habits. This study aims to determine the relationship between nutritional status and breakfast habits on work fatigue of nurses in the emergency room of RSUD I.A. Moeis Samarinda. Methods: Analytical survey research with cross sectional method, using a sample of all nurses in the ER room totaling 39 people. Data were collected using work fatigue questionnaire, breakfast habits, and anthropometric tools. Data were analyzed using the chi-square test. Results: The results of the analysis of the relationship between nutritional status on work fatigue obtained p-value = 0.989 OR = 0.989, there is no relationship between nutritional status on work fatigue. Breakfast habits on work fatigue obtained p-value = 0.217 OR = 2.286, there is no relationship between breakfast habits on work fatigue. Conclusion: There is no significant relationship between nutritional status and breakfast habits on work fatigue among nurses in the emergency room of RSUD I.A. Moeis Samarinda.

Keywords: Nutritional Status, Breakfast Habits, Work Fatigue

INTRODUCTION

Work fatigue is one of the problems that needs to be addressed appropriately because fatigue experienced by workers can cause various problems such as chronic work fatigue, lack of efficiency at work, decreased health, and increased risk of work accidents (Innah et al., 2021). Other literature mentions the problem of work fatigue must always exist in every workplace. This can lead to a high chance of work errors that contribute significantly to the incidence of work accidents (Herliani, 2012).

Fatigue can affect a person's quality of life because it can reduce concentration while working which can then increase the risk of work accidents. The results of research in one company in Indonesia show that most workers experience fatigue with symptoms such as headaches, back pain, dizziness, and stiffness in the shoulders (Innah et al., 2021).

The World Health Organization (WHO) estimates that psychological disorders such as severe fatigue that cause stress and depression will be the second most common disease after heart disease. This is based on a health model that will be created in 2020. According to International Labour Organization (ILO) data, fatigue causes nearly 2 million worker deaths annually (Narpati et al., 2019).

Data collected by the Manpower and Transmigration Agency (DISNAKERTRANS) shows that an average of 414 work accidents occur every day in Indonesia, with 27.8% of those caused by high fatigue. Other literature mentions the problem of work fatigue must always exist in every workplace. This can lead to a high chance of work errors that contribute significantly to the incidence of work accidents (Herliani, 2012).

Work fatigue is a problem in health facilities, especially hospitals, fatigue due to work is a problem that often occurs. This is especially true for nurses, who have a fairly significant heavy workload, although sometimes it is difficult to know because fatigue complaints are objective in each individual (Ilyas, 2004). Ilyas' 2011 research found that nurses who work more than 80% of the time can experience burnout due to heavy workloads. The nurse's own productive time is only about 80%. Moreover, the workload of nurses is considered too large and non-standard. Therefore, there may be a need to increase the nursing workforce or reduce their workload in other ways. (Hijri, 2017).

Based on Hidayat's research, (2020) conducted at Inche Abdoel Moeis Regional General Hospital Samarinda, found that most nurses at I.A. Moeis Hospital experienced physical, mental, and emotional fatigue in mild levels as many as 27 people or (46.1%) and in severe levels as many as 31 people or (53.9%).

Various factors can affect physical work fatigue, one of which is abnormal nutritional conditions. Whether it's less or more when combined with a high workload, it can interfere with work and reduce efficiency causing fatigue (Ariani, 2019). Based on Herliani's research, (2012) found that there is a significant relationship of nutritional status conditions with the incidence of work fatigue.

Another factor causing work fatigue is breakfast habits. One way to prevent workers from experiencing fatigue while working is to consume breakfast in the morning before work (Hafifah, 2022). Breakfast habits can affect fatigue conditions because of the role of breakfast which can produce energy to start all activities in the morning. Lack of energy intake in the morning before carrying out activities will result in weak body when working both physically and the ability to think (Oktariani et al., 2019), based on research by Retnani, (2010) conducted on workers there is a significant relationship of workers' breakfast habits to the incidence of work fatigue.

Based on the preliminary study conducted by the author, the results for the total number of nurses in the emergency room of RSUD I.A Moeis Samarinda amounted to 46 people, including the head of the room, from this number it was found that the prevalence of work fatigue in nurses in the emergency room was quite high, namely 54.3% included in the tired category and 17.4% in the very tired category, Furthermore, from the description of nutritional status, showing the prevalence of overweight weight levels of weight and light are quite high, then for the description of breakfast habits there are some who do not eat breakfast.

Based on the results of preliminary studies and literature studies behind this peelitian, the author is interested in conducting research on "The Relationship of Nutritional Status and Breakfast Habits to Work Fatigue in Nurses in the Emergency Room of I.A. Moeis Hospital Samarinda".

METHOD

A. Research Design

This research uses a type of quantitative research with a data collection process using an analytical survey approach, then a data analysis process using a cross sectional method. The survey approach used in this study was by distributing questionnaires on breakfast habits and work fatigue to respondents, by associating these variables to determine the relationship between the two.

B. Population and Sample

The population to be studied in this study is all nurses in the Emergency Room (ER) of RSUD I.A. Moeis Samarinda, based on the results of a preliminary study the total number of nurses working in the Emergency Room (ER) of RSUD I.A. Moeis Samarinda is as many as 45 implementing nurses.

The population taken in this study was respondents who fit the inclusion and exclusion criteria, from a total of 45 nurses obtained during the preliminary study, after being verified again, the number that matched the criteria, namely working as nurses, was only 39 respondents.

This study used the total sampling method, where the number of samples is equal to the number of populations that meet the criteria of 39 respondents, taking into account the following criteria, sampling is based on the author's own decision.:

1. Inclusion criteria

- a) Nurses who work in the emergency room of RSUD I.A. Moeis Samarinda
- b) Nurses in the emergency room of I.A. Moeis Hospital who are willing to be respondents
- c) Nurses who work as implementing nurses
- d) Nurses working in the morning shift

2. Exclusion criteria

- a) Nurses who are unable to attend the study
- b) Nurses who are pregnant or breastfeeding
- c) Nurses who are still in the process of studying at the hospital

C. Time and Place of Research

This research was conducted for 5 days, from May 4, 2023 to May 8, 2023 in the emergency room of I.A. Moeis Hospital Samarinda.

D. Research Variables

The variables studied in this study were divided into two groups, independent variables, namely nutritional status variables and habits in nurses, dependent variables, namely work fatigue in nurses.

RESULTS AND DISCUSSION

The author has collected data at I.A. Moeis Hospital Samarinda from May 4, 2023 to May 8, 2023. Based on the total sampling technique, data were obtained as many as 39 respondents in accordance with the criteria that had been made, which were then processed as a result of research and presented in the form of univariate and bivariate analysis results.

1. Overview of the Research Location

IA Hospital. Moeis Samarinda is a hospital owned by the city government of Samarinda, East Kalimantan. Located on Jalan H.A.M.M Rifadin, Kelurahan Harapan Baru, Samarinda Seberang

District, Samarinda City, East Kalimantan Province. On January 24, 2007, IA Hospital. Moeis Samarinda is officially opened. The building has an area of 12,175.06 square meters on 12.4 hectares of land. The hospital has several service units, including medical services, medical support, and non-medical support.

- a. Medical Services: Services such as medical check-ups, inpatient, emergency, central surgery, childbirth and perinatology, intensive care units, hemodialysis, and specialist polyclinics.
- b. Medical Support: Radiology services, clinical pathology laboratory and blood bank, anatomical pathology laboratory, medical rehabilitation, outpatient pharmacy and 24-hour inpatient, nutrition, and ambulance.
- c. Non-Medical Support: Medical records, liquid and solid waste, mortuary advice, sanitation, laundry, and hospital information system management administration.

IA Hospital. Moeis Samarinda is a government hospital that is committed to providing quality and quality health services for the community. Its vision is to become the flagship hospital of choice for the community, both at the regional and national levels. To realize this vision, RSUD IA. Moeis Samarinda has the following missions: Improve the quality and quantity of hospital resources, both human, financial, and technological resources; Improve hospital facilities and infrastructure, both physical, equipment, and other supporting facilities; Improve the hospital management system, both in terms of administration, accounting, and governance; Increase cooperation and coordination with various related parties, both internal and external, in order to improve the quality of health services.

Based on the results of the researcher's interview, nurses in the emergency room of RSUD I.A. Moeis Samarinda were divided into 5 teams that worked in 3 shifts in 24 hours, the morning shift started from 7.30 to 14.30 WITA, then continued with the afternoon shift starting at 14.30 to 21.30 WITA then continued with the night shift starting at 21.30 to 7.30 WITA each team changed shifts every day. Services in the emergency room use the Australasian Triage Scale (ATS) system, which is an emergency triage consisting of five levels, using color to determine patient care priorities. The number of patients served ranges from 80-100 patients each week.

2. Univariate Analysis

a. Characteristics of Respondents

The respondents in this study were nurses in the emergency room of I.A. Moeis Hospital Samarinda totaling 39 people. Data on respondent characteristics collected in this study include age, gender, length of service and education level of respondents, can be seen in table 4.1.

Table 4. 1 Characteristics of respondents

Characteristic	Category	n	%
Age	19-29 Year	6	15.4
	30-49 Year	33	84.6
	Total	39	100.0
Gender	Man	8	20.5

The Relationship Between Nutritional Status And Breakfast Habits On Work Fatigue In Nurses In The
Emergency Room Of I.A. Moeis Hospital Samarinda

	Woman	31	79.5
	Total	39	100.0
Masa Kerja	Old \geq Mean (9 Year)	17	43.6
	New < Mean (9 Year)	22	56.4
	Total	39	100.0
Education Level	D3	28	71.8
	D4/S1	5	12.8
	Profession	6	15.4
	Total	39	100.0
Nutritional Status	That	2	5.1
	Normal	17	43.6
	Fat	6	15.4
	Obesity	14	35.9
	Total	39	100.0
Breakfast Habits	Breakfast	24	61.5
	No Breakfast	15	38.5
	Total	39	100.0
Work Fatigue	Low	23	59.0
	Tall	16	41.0
	Total	39	100.0

Source: Primary Data 2023

Based on Table 4.1, the age frequency of respondents in the 19-29 years category was 6 (15.4%) respondents while in the 30-49 years category there were 33 (84.6%) respondents.

The frequency of male respondents was 8 (20.5%) respondents while female respondents were 31 (79.5%) respondents.

The frequency of working period of respondents in the old category \geq the mean value (9 years) was 17 (43.6%) respondents while respondents in the new working period category < the mean value (9 years) were 22 (56.4%) respondents.

The frequency of education level of respondents with D3 education level was 28 (71.8%) respondents, while respondents with D4/S1 education level were 5 (12.8%), then respondents with Professional education level as many as 6 (15.4%) respondents.

The frequency of nutritional status of respondents in the normal nutritional status category was 17 (43.6%) respondents, while respondents in the category of obese nutritional status were 14 (35.9%) respondents.

The frequency of breakfast habits, respondents who did breakfast before work as many as 24 (61.5%) respondents, while respondents who did not carry out breakfast as many as 15 (38.5%) respondents.

The frequency of work fatigue of respondents who were included in the low fatigue level was 23 (59.0%) respondents, while respondents who were included in the high fatigue level were 16 (41.0%) respondents.

3. Bivariate Analysis

a. Relationship of Nutritional Status to Work Fatigue

Table 4. 2 Relationship of Nutritional Status to Work Fatigue

Nutritional Status	Work Fatigue				Total		<i>p-value</i>	<i>OR</i>
	Low		Tall		n	%		
	n	%	n	%				
Normal	10	59	7	41	17	100	0,987 ^a	0.989
Tidak Normal	13	59	9	41	22	100		

^a Uji *Chi-Square*

Based on table 4.2 shows as many as 10 people (59%) with normal nutritional status are in a low level of work fatigue and 7 people (41%) are in a high level of work fatigue. A total of 13 people (59%) with abnormal nutritional status were in low levels of work burnout and 9 people (41%) were in high levels of work burnout.

Based on the chi square statistical test, $p\text{-value} = 0.987$ ($\alpha < 0.05$) $OR = 0.989$ which means H_0 is accepted and H_a is rejected which means there is no significant relationship between nutritional status and work fatigue in nurses in the emergency room of I.A. Moeis Hospital Samarinda. Workers whose nutritional status was abnormally ill were 0.989 times more likely to experience high levels of work burnout, in contrast to workers whose nutritional status was normal, but this association was not statistically significant or significant.

b. The Relationship of Breakfast Habits to Work Fatigue

Table 4. 3 Relationship of Breakfast Habits to Work Fatigue

Breakfast Habits	Work Fatigue				Total		p-value	OR
	Low		Tall		n	%		
	n	%	n	%				
Breakfast	16	67	8	33	24	100	0,217 ^a	2.286
No Breakfast	7	47	8	53	15	100		

^a Uji Chi-Square

Table 4.3 shows that 16 people (67%) who ate breakfast were in a low level of work fatigue and 8 people (33%) were in a high level of work fatigue. A total of 7 people (47%) who did not eat breakfast were in low levels of work fatigue and 8 people (53%) were in high levels of work burnout.

Based on the results of the chi square statistical test, p-value = 0.217 (a < 0.05) OR = 2.286 which means Ho is accepted and Ha is rejected which means there is no significant relationship between breakfast habits and work fatigue in nurses in the emergency room of I.A. Moeis Hospital Samarinda. Workers who did not eat breakfast were 2,286 times more likely to experience high levels of work fatigue in contrast to workers who did breakfast, but this association was not significant or statistically meaningful.

B. Discussion

1. Bivariate Analysis

a. Relationship of Nutritional Status to Work Fatigue

The results of the chi square statistical test showed p-value = 0.987, with OR = 0.989 which means there is no significant relationship between nutritional status and work fatigue in nurses in the emergency room of RSUD I.A. Moeis Samarinda.

The results of this study are in line with research conducted by Maghfiroh & Mifbakhuddin, in 2015 with a p-value = 0.823 which means there is no significant relationship between nutritional status and work fatigue in nurses. This is due to the difference in workload between nurses in one shift with another shift which allows nurses with normal nutritional status to have a higher workload than nurses with abnormal nutritional status.

The results of this study are in line with research conducted by Dwienda & Ahmad Satria Efendi, in 2021 which found that the correlation between nutritional status and work fatigue getting p-value = 1,000 means that there is no significant relationship between nutritional status and nurse work fatigue. Nutritional status is not one of the causes of work fatigue in nurses, because nurses do not need to have a strong physique but tend to have a monotonous type of work.

The results of this study are also in line with research conducted by Demirdağ et al., in 2022 where nutritional status did not have a direct effect on work fatigue with p-value = 0.26, The findings showed that the level of fatigue was higher in the group that experienced sarcopenia as much as 20.8% and sarcopenic obesity (SO) as much as 17.2% compared to the group that was obese only affected the occurrence of fatigue by 5.5% from the total sample of 570 people in a Workers' groups in Europe.

The results of this study are also in line with research conducted by Curtis et al., in 2023 which found that nutritional status was not significantly related to muscle fatigue in workers with p -value = 0.64, in this study it was found that someone who has more nutritional status actually tends to be stronger in doing work and rarely experiences fatigue at work.

The results of this study are not in line with research conducted by Perwitasari & Tualeka, in 2018 which found that there is a significant relationship between nutritional status and fatigue felt by nurses with a p -value = 0.000, if nutritional status is associated with fatigue, less nutritional status tends to cause fatigue due to lack of balance or lack of nutritional reserves needed to convert it into energy during activity.

Abnormal nutritional status can be another cause of work fatigue (Azzolino et al., 2020). The age of respondents in this study is still classified as productive age so it is less likely to experience work fatigue. This is in accordance with the results of Salsabila & Mulyono's research, in 2021 where most workers are still in productive age and workers' physical abilities are still at their peak. Research conducted by Oktariani, in 2019 also stated that nutritional status does not affect the occurrence of work fatigue because most workers are productive age, namely between 20-40 years.

The author assumes that nutritional status is not the only variable that causes work fatigue, in this study respondents who have abnormal nutritional status tend to be in low rather than high levels of work fatigue, This can be influenced by respondents' characteristic factors, namely age factors. Given that age affects the physical and mental strength of workers and at a certain age a worker will experience changes in the ability to work physically.

b. The Relationship of Breakfast Habits to Work Fatigue

The results of the chi square statistical test showed p -value = 0.217, with OR = 2.286 which means there is no significant relationship between breakfast habits and work fatigue in nurses in the emergency room of RSUD I.A. Moeis Samarinda.

The results of this study are in line with research conducted by Dewi et al., in 2022 which found that there was no significant relationship between breakfast habits on work fatigue with a p -value = 0.289 meaning that there was no significant relationship between breakfast habits and work fatigue, breakfast habits were not the only factor that influenced work fatigue. Variables such as working hours, health status, workload, and shift work can also affect work burnout.

The results of this study are in line with research conducted by Oktariani et al., in 2019 which found that there was no significant relationship between breakfast habits on work fatigue with a p -value = 0.669 which means there was no relationship between breakfast and work fatigue. This is because the majority of workers are still young and productive so they don't get tired easily. Age, length of work, attitude, and workload are some of the factors that can cause fatigue besides breakfast.

The results of this study are in line with research conducted by Ackuaku-Dogbe & Abaidoo, in 2014 conducted in Ghana, West Africa, found that there was no statistically significant relationship between the number of breakfasts performed per week and the level of fatigue with a p -value = 0.67. About 15% of respondents cited financial reasons for skipping breakfast. For most of them, breakfast is not a priority in their financial management.

The results of this study are in line with research conducted by Ferrer-Cascales et al., in 2018 which found that there was no statistically significant relationship between the number of breakfasts performed per week and the level of fatigue with a p -value = 0.143. Someone who

skips breakfast has physical and psychological fatigue and lower levels of depression, compared to people who do not skip breakfast, this happens because the breakfast consumed is of poor quality which actually increases fatigue physically and psychologically.

The results of this study are not in line with research conducted by Retnani, in 2010 which found that there is a significant relationship between breakfast habits on work fatigue with a p-value = 0.011 which means there is a relationship between breakfast and work fatigue. No food that goes in to burn sugar reserves in the liver can make workers feel tired, tired, and weak. This happens if you don't eat breakfast, so workers lack food to produce energy and experience work fatigue, if there are no food reserves, the body will seek energy by breaking down or extracting sugar reserves in the liver.

Research by Wulandari et al., (2022) found that there is a relationship between the composition of nutrients consumed at breakfast on the perception of comfort at work, Protein deficiency can cause the body to be tired and not eager to carry out activities. A worker who lacks fat intake, the formation of body energy will be reduced. This is because fat is one of the nutrients that produce energy. Lack of carbohydrates can cause the body to get less energy, which can affect the performance and productivity of workers.

The results of this study showed that the majority of respondents were female. Women are more sensitive to the environment and have high empathy, so easily affected by the mood of others, the hormone estrogen in women plays a role in increasing the stress response. A working mother experiences mental burnout, mainly due to the disproportionate burden of household responsibilities and professional work (Cox, 2021).

The author assumes that breakfast habits are not the only factor that affects work fatigue, in this study there were still respondents who experienced work fatigue even though they had done breakfast. This is influenced by the characteristic factors of respondents who are female. A woman tends to have multiple roles besides work, such as the burden of household responsibilities that make her fatigue level tend to be high, Women are also more sensitive to the environment and have high empathy, so it is easily affected by the mood of others, the hormone estrogen in women plays a role in increasing the stress response.

The composition of the food consumed by workers at breakfast also affects the fulfillment of energy needs for work, besides that energy needs also differ between the male and female sexes. Even though workers carry out breakfast every day, if their energy adequacy is not met, they will still be at risk of work fatigue.

C. Research Limitations

1. There is a change in the number of samples obtained from the results of the preliminary study with the samples obtained during the study, this is because there is a misperception in the data collection process during the preliminary study where respondents who do not work as nurses fill out questionnaires, after being verified by the author, the actual number of samples is 39 respondents.
2. Filling out questionnaires is carried out online using Google Form so that it is susceptible to bias or misperception in filling in respondent data as well as filling out questionnaires on breakfast habits and work fatigue.

CONCLUSION

Based on the results and discussion that has been compiled, the author concludes the results of this study in several points as follows:

1. There was no significant relationship between nutritional status and work fatigue in nurses in the emergency room of RSUD I.A. Moeis Samarinda, with p-value = 0.987, OR = 0.989.
2. There was no significant relationship between breakfast habits and work fatigue in nurses in the emergency room of RSUD I.A. Moeis Samarinda, with p-value = 0.217, OR = 2.286.

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