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Demographic Factors Influencing Work Fatigue Among Medical Personnel at Kartini Hospital, South Jakarta

Josafat Pondang¹, Kosasih², Ayu Laili Rahmiyati³

¹Sangga Buana YPKP University, Bandung, Indonesia, realjosafatsinaga@gmail.com

²Sangga Buana YPKP University, Bandung, Indonesia, kosasih@usbypkp.ac.id

³Sangga Buana YPKP University, Bandung, Indonesia.

Corresponding Author: realjosafatsinaga@gmail.com¹

Abstract: Fatigue is a common occurrence in the workplace, especially in workplaces that require physical ability and a high level of focus. This condition, which affects workers and can reduce their vitality and productivity, is called occupational fatigue. This study aims to determine the demographic factors (age, gender, length of service, marital status, and education level) that influence occupational fatigue and anxiety among medical personnel at Kartini General Hospital, South Jakarta. The number of respondents taken was 82 medical personnel at Kartini General Hospital using inclusion and exclusion criteria. The research instrument used was the IFRC Questionnaire to assess occupational fatigue. and some demographic data entry using Google Form and tested using the chi-square test The research results showed that factors influencing work fatigue among medical personnel at Kartini Hospital were gender, marital status, and number of shifts. Age, education level, and length of service do not affect work fatigue. Medical personnel with more shifts will experience higher work fatigue. Female medical personnel have higher work fatigue than male medical personnel, and married medical personnel have lower work fatigue than unmarried ones. Gender as a determinant of work fatigue is associated with hormonal and psychological factors, psychological factors, and social factors. Marital status is a determinant factor associated with the role and support of the family towards the individual. A greater number of shifts will increase the workload and is associated with increased work fatigue.

Keywords: Work Fatigue, Demographic Factors, Medical Personnel

INTRODUCTION

Fatigue is a common occurrence in the workplace, especially in jobs that require physical strength and high levels of focus. Types of fatigue vary, from mild, affecting only one worker, to severe, potentially harmful conditions for employees and the work environment. The level of fatigue that can be experienced by each person is inherently inconsistent and varies depending on the characteristics of the individuals working in the workplace. Furthermore, workload influences worker fatigue levels, which naturally vary across units within an institution. To prevent workplace accidents that harm both workers and the company itself, workers and the company's HR department must pay attention to fatigue (Hasibuan, 2020).

Feelings of tiredness, decreased attention, and an individual's overall response to psychosocial stress over a period of time are referred to as fatigue. Fatigue tends to lead to decreased employee performance, motivation, and productivity. Fatigue cannot be explicitly defined, but it can be felt. Therefore, it can be difficult to determine whether a worker is fatigued based on an employee's feelings. Workplace injuries can occur due to work-related fatigue. (Wibowo, 2024).

A condition that affects workers and can reduce their vitality and productivity is called work-related fatigue. The general feeling of tiredness experienced by workers, characterized by slow reactions and feelings of exhaustion, is called work fatigue. Fatigue usually refers to conditions that vary from person to person, but ultimately leads to a loss of effective endurance. Conditions that accumulate in the body and cause fatigue are the effects of the conditions that cause fatigue. Workers may stop working if they become too exhausted. This is because workers who perform physical work can quickly tire, stop working, or fall. (Ghufron, 2020).

The description of work fatigue of medical personnel was previously studied by Clara (2021) in her research at the X Maternity Hospital. Based on the results of her research, it can be seen that from a total of 21 respondents, the highest proportion was found in the low fatigue category, as many as 9 respondents with a percentage of 42.9% and the lowest proportion was shown in the very high fatigue category, as many as 1 respondent with a percentage of 4.8%. Another study by Kirana Dwiyanti (2017) found that from the results of measuring work stress in 26 nurses, it was found that 18 (69.2%) nurses experienced stress at a normal level. Meanwhile, at a very severe level of stress, only 1 (3.8%) nurse experienced it. The fatigue measurement was carried out using the IFRC questionnaire method which consisted of 30 questions regarding weakening activities, weakening motivation, and descriptions of physical fatigue.

Another study by Tin Murtini (2021) found that the distribution of respondents who appeared to experience work fatigue was 71 people (65%), while those who did not experience fatigue were 38 people (35%). Another study found that there were 6 nurses (16.7%) in the less fatigued category, for work fatigue in the tired category 18 (50%) and as many as 12 (33.3%) nurses with a very tired level of work fatigue. (Ekaputri, 2022). A preliminary survey conducted at Kartini Hospital, South Jakarta to measure work fatigue used KAUPK2 (Questionnaire for Measuring Feelings of Work Fatigue). The questionnaire contained 20 questions related to work fatigue (Yassierli, 2019). From the results of the survey recapitulation, it was found that very tired conditions were experienced by 2 people (13%), tired conditions were experienced by 7 people (47%), and less tired conditions were experienced by 6 people (40%).

METHOD

This study aims to determine demographic factors (age, gender, length of service, marital status, last education) that influence work fatigue in medical personnel at Kartini Hospital. The number of respondents taken was medical personnel at Kartini Hospital with a total of 82 people. Respondents were selected according to the research objectives with the specified inclusion criteria being: 1) Medical personnel who have a SIP at Kartini Hospital 2) Medical personnel who are permanent employees at Kartini Hospital 3) Medical personnel with a minimum of 5 shifts per week, while the exclusion criteria are: 1) Medical personnel who are still interns / on probation who practice at Kartini Hospital 2) Medical personnel with a number of shifts less than 5 shifts per week 3) Medical personnel who do not work with a shift system. Determination of the number of samples using the slovin method. (Sugiyono, 2022).

The research instrument used in this study was a questionnaire to assess work fatigue, namely the IFRC Questionnaire, and several individual data entries regarding demographic data using Google Forms and tested using the chi-square test. The purpose of the IFRC questionnaire, which consists of 30 questions, is to find out all the unpleasant feelings experienced by employees who experience work fatigue. One of the advantages of the IFRC

questionnaire method is that the questions are structured based on the symptoms of work fatigue, namely decreased activity, decreased motivation to work, and physical fatigue (Tarwaka, 2017).

The questionnaire contains a list of 30 questions, the first 10 as a tool for activity weakness, the next 10 as a tool for work motivation weakness, and the next 10 questions as a tool for work weakness, consisting of several sections such as physical fatigue or body fatigue. By using a four-point Likert scale, the basis is made as a scoring of the answers from the questionnaire, which are then collected and combined into a total individual score. The lowest score, which is 30, and the highest score, which is 120, are scores for the level of fatigue. According to the IFRC questionnaire, the response categories are as follows: Score 4 indicates Very Often (SS), Score 3 indicates Often, Score 2 indicates Sometimes, and Score 1 indicates Never (TP). (Pramono, 2025). After that, data quality tests, data reliability tests and classical assumption tests were carried out which include normality tests, autocorrelation tests, heteroscedasticity tests and multicollinearity tests. (Tresiana, 2018).

RESULTS AND DISCUSSION

Table 1. Results of the Demographic Factor Test with Work Fatigue and Anxiety (n=82)

Variable	Category	f	%	P Value* Work fatigue
Age	<26 years	10	12,2	0,436
	26-35 years	48	58,5	
	36-45 years	15	18,3	
	46-55 years	6	7,3	
	> 55 years	3	3,7	
Gender	Male	17	20,7	0,026
	Female	65	79,3	
Marital Status	Not Married	34	41,5	0,004
	Married	48	58,5	
Year of Service	1-3 years	27	32,9	0,730
	4-7 years	39	47,6	
	8-10 years	9	11,0	
	11-15 years	1	1,2	
	>15 years	6	7,3	
Highest Education	D III	59	72,0	0,205
	D IV	10	12,2	
	S1	12	14,6	
	S2	1	1,2	
Number of Shifts	5 Shift	34	41,5	0,001
	6 Shift	48	58,5	

*Chi-Square Test

Table 1. From all demographic data, it was found that the factors influencing work fatigue among medical personnel at Kartini Hospital were gender, marital status, and number of shifts. Other factors had no effect on work fatigue.

Table 2. Occupational Fatigue in Medical Personnel at Kartini Hospital, South Jakarta (n=82)

Job Fatigue	f	%
High	7	8,5
Mild-Moderate	29	35,3
Low	46	56,2

The Relationship Between Age and Occupational Fatigue

This study found no relationship between age and occupational fatigue among medical personnel at Kartini General Hospital. This means that older medical personnel do not necessarily increase their occupational fatigue. This finding is similar to that found by Fitri (2021) in her research at Abdul Moeloek Regional Hospital, Lampung. Other research confirming similar findings was conducted by Sari Bunga (2021). However, other studies contradicting this finding, such as those by Rizki (2020), Hotmaria (2019), and Tenggor (2019).

Hotmaria (2019) in his research in Kalideres found that there was a significant relationship with a p-value of 0.029 and a prevalence ratio value of 1.562 which means that health workers aged ≥ 29 years were 1.562 times more at risk of experiencing work fatigue compared to officers aged < 29 years. Tenggor (2019) in his research found that age was related to work fatigue in nurses with a p-value of 0.022 with fatigue at the age of > 26 years being more common than those aged < 26 years. Meanwhile, Rizki (2020) in his research found that respondents aged ≥ 35 (at risk) years were more likely to experience work fatigue, namely 40 people (62.4%). Based on the chi-square test, it was found that the p value (0.000) $< \alpha$ (0.05), this means that there is a significant relationship between age and work fatigue, so the conclusion is that the age factor is related to work fatigue, the older a person is, the lower their physical strength will be.

With age, organs degenerate, meaning their capacity decreases. As organ capacity declines, younger workers experience fatigue. Physical ability also generally declines with age. Reduced work capacity results from changes in bodily functions, the cardiovascular system, and the hormonal system with age. With age, many physical abilities, such as reaction time, hearing, and vision, decline. The older a person is, the more difficult it is to adapt and the more fatigued they become. Similarly, people sleep less and have more difficulty staying asleep (Suma'mur 2014).

Most studies show a positive correlation between age and work fatigue; older workers tend to experience fatigue more frequently due to decreased muscle strength and other changes in their bodies. However, other factors, such as the number of hours worked and the amount of time spent working, also contribute to fatigue.

How Fatigue Affects Muscle Tension:

- a. As we age, muscles become weaker and are replaced by connective tissue.
- b. Physical changes: As we age, functions such as lung volume and capacity, vision, and hearing decline, which can lead to increased fatigue at work.

This study found no correlation between age and work fatigue. Researchers believe this occurs because older medical personnel have more experience in performing their duties and are in better health because they have adapted well to the work environment, thus reducing the risk of disease. Furthermore, at Kartini Hospital, older medical personnel experience workload adjustments so that they have a lighter workload than younger ones. Older medical personnel also usually hold positions as ward heads and team leaders, so automatically the frequency of medical procedures is minimal and they carry out more administrative tasks than younger ones, thus reducing work fatigue. Psychologically, older workers are less likely to face complaints from patients, which also reduces the psychological burden that also affects the risk of work fatigue.

The Relationship Between Gender and Occupational Fatigue

This study found a relationship between gender and occupational fatigue among medical personnel at Kartini General Hospital. This means that female medical personnel experienced higher levels of occupational fatigue than male personnel. Although the workload was higher for male medical personnel, the opposite was found for occupational fatigue. However, the results of this study may also be influenced by the significantly different sample size between female and male medical personnel. In addition to the significant difference in sample size, female medical personnel are more likely to experience occupational fatigue due to several factors, such as hormonal factors. Women experience monthly biological cycles within their bodies, which can affect their physical condition and performance.

Research shows that women, on average, report higher levels of job burnout than men, primarily due to a combination of social, psychological, and physiological factors. While the exact mechanisms are complex and not fully understood, they include: a disproportionate burden of household and caregiving duties, persistent workplace inequities, and differences in stress responses.

A) Social and workplace factors

- a. “Double shifts” of work and home: Many women bear a disproportionate share of unpaid housework and caregiving, even when they work full-time. This creates a “second shift” of domestic responsibilities that begins after work hours, resulting in less time for rest and personal activities.
- b. Workplace bias: Subtle bias and discrimination in the workplace add to women's stress. This can include having their skills questioned, taking on a larger share of "housework" without compensation, and facing skepticism about their commitment if they take advantage of flexible work options. Women who take on additional tasks are often undervalued compared to men who clock similar hours.
- c. Perceived control: Studies of female healthcare workers have found that they are more likely to report higher levels of mental exhaustion and burnout due to a lack of control over their workload and high demands.
- d. Work-family balance issues: In addition to "double shifts," women often face greater difficulties balancing work and family life, which significantly contributes to burnout. For men, burnout factors tend to focus more on time management, such as working long or unusual hours.

B) Psychological factors

- a. Stress response and emotion regulation: Some research suggests that women may experience or appraise the same stress differently than men. Women are also more likely to engage in repetitive negative thinking, which can exacerbate the effects of stress and lead to more severe fatigue.
- b. Underestimation of fatigue: One study found that women's reported fatigue was often underestimated by others, which may reflect societal expectations for women to appear warm and empathetic, regardless of their feelings. This can lead to women's health symptoms, including fatigue, being downplayed or ignored.
- c. Higher prevalence of stress: Across populations, women consistently report higher levels of stress and sleep disturbances, both of which are major contributors to overall fatigue.

C) Physiological factors

Although often less important than social and psychological factors, several physiological differences may play a role:

- a. Hormonal factors: Hormonal fluctuations and events such as pregnancy and perimenopause can affect energy levels.
- b. Circadian rhythm: Women's circadian rhythms may be slightly shorter than men's, potentially affecting sleep patterns.

- c. Certain medical conditions: Certain medical conditions that are more common in women, such as chronic fatigue syndrome and insomnia, may contribute to higher levels of fatigue.

The results found in this study are similar to those found by Rizki (2020) and Adelina (2013) but contradict the research conducted by Sari Bunga (2021). Hotmaria (2019) in her research at Kalideres Regional Hospital showed a significant relationship between the p-value of 0.010 and the PR value of 2.160, which indicates that female nurses have a 2.160 times greater risk of burnout compared to male nurses. The results of other studies also explain that there is a significant relationship between gender and work burnout in nurses with a p-value of 0.000 with a higher proportion of female nurses (52.8%) compared to male nurses (47.2%) (Fadly 2016).

The Relationship Between Marital Status and Work Fatigue

This study found a relationship between marital status and work fatigue, with married medical personnel experiencing lower work fatigue compared to unmarried nurses. This finding is similar to research conducted by Indah (2019). In Indah's (2019) study, unmarried medical personnel experienced 83.7% more work fatigue than married nurses. Marital status is a human need, and therefore a good predictor of how a person carries out normal activities. After marriage, a person tends to live happily and have a good quality of life. This is because after marriage, roles are shared with a partner, and household chores tend to decrease due to collaboration, maximizing the professional focus of medical personnel (Hardani, 2016).

Married medical personnel are better able to control emotions when facing problems when facing various problems, both internal and external. However, another study contradicts this finding, namely that conducted by Laode (2023), which found that those with a married marital status tend to be more tired than those with an unmarried marital status. Another study by Olivia (2017) also stated that the marital status "married" actually causes increased work fatigue, which is associated with increased responsibilities and dual roles, especially for female medical personnel.

Other studies have also stated that there is no relationship between marital status and work fatigue, such as the study by Muthia (2025). Her study found a chi-square test with a p-value of 0.720 (<0.05), indicating no relationship between marital status and work fatigue among healthcare workers at two community health centers in Malang City. This finding is supported by research by Astuti et al. (2018), which showed no relationship between marital status and work fatigue among nurses at Dr. Amino Gondohutomo Mental Hospital in Semarang. This is due to the fair and equitable distribution of workloads between married and unmarried nurses, thus not contributing to work fatigue.

Due to the supportive role of family in the workplace, married healthcare workers have a better recovery rate from burnout (Tambun et al., 2022). During marriage, couples are more able to understand each other when there are differences of opinion. However, if there is a disagreement with their partner, they tend to lose enthusiasm for work. Couples who have been married for longer tend to be more adept at handling household issues, resulting in optimal family well-being and a harmonious and happy relationship (Setiawati & Nurhayati, 2020). Communication is the process of conveying messages to others. The goal of communication in marriage is to better understand each other.

In marriage, communication consists of three things: listening, speaking, and communicating well. Poor communication can lead to marital dissatisfaction (Jannah Wulandari, 2022). Researchers argue that married people are less likely to experience burnout. This is because they have responsibilities not only to work and themselves, but also to their families. Therefore, the role of a partner can reduce the risk of work burnout. To create a harmonious family, you can help your partner well, divide tasks fairly, and communicate well.

The Relationship Between Length of Service and Job Fatigue

This study found no relationship between length of service and job fatigue, meaning that longer or shorter work periods did not affect the level of job fatigue among medical personnel at Kartini General Hospital. This finding is similar to research by Tenggor (2019) and Setiadi (2013), which found no significant relationship between length of service and job fatigue. Tenggor (2019) explained that respondents were less likely to experience job fatigue if they had worked for less than five years. This could be due to several factors, such as age: some respondents had worked for more than five years but were still young, thus having physical strength and a strong body, preventing fatigue. Other factors, such as good energy intake and longer work experience, are thought to prevent or reduce the occurrence of job fatigue.

Another similar study was found by Rumengan (2025). The results showed no correlation between work hours and fatigue among medical personnel in the inpatient ward of Gunung Maria Hospital in Tomohon. The results of the squared correlation test showed a significance value (p-value) of 0.119, indicating that the two variables tested did not have a significant correlation, as the p-value was greater than 0.05. Kessi et al. (2024) conducted a study on nurses in the inpatient ward of Haji Makassar Regional Hospital and found no relationship between work period and fatigue. This indicates that work period does not impact nurses' work fatigue. The results of the statistical test, with a p-value of 0.052, greater than 0.05, also support this finding.

According to additional research on nurses at Dr. Soeroto Ngawi Regional Hospital, there was no correlation between work period and fatigue. The p-value of 0.211, greater than 0.05, demonstrates this reality. People working for a company have a strong motivation to prove their abilities and adapt to their work environment. Workers with less than five years of tenure typically have a strong motivation to adapt to their work environment, making them more open to change and able to adapt to any existing work method (Putra et al., 2020). Long-tenured workers are also more likely to experience greater work stress.

Another study with similar results was conducted by Bunga Sari (2021). A 2014 study at Haji Makassar Regional Hospital (RSUD Makassar) showed a p-value of 0.875, which showed that nurses' length of service was not associated with job burnout. Long-serving nurses have more experience than new hires because they are accustomed to the constant workload, can overcome difficulties, and become more familiar with the workflow. Monotonous tasks performed continuously for extended periods can lead to mental fatigue due to under- or overload. Tasks that are too demanding or uninteresting can lead to mental fatigue. Medical personnel with long service experience are assumed to have been doing their jobs for a long time, leading to boredom, which can lead to job burnout. (Bunga Sari, 2021).

However, according to the results of observations and observations of researchers, there is a culture of seniority that occurs in medical personnel with long service periods towards new medical personnel, so that often new medical personnel do excessive work due to senior instructions to help the work of old medical personnel, this also has an impact on fatigue that occurs in junior medical personnel. However, the results of the study stated that there was no relationship between work period and work fatigue in medical personnel, meaning that the work period factor is not a factor that is directly and significantly related to the occurrence of work fatigue experienced by medical personnel at Kartini Hospital.

However, this study is inconsistent with other studies that showed a significant relationship between length of service and the level of burnout in medical personnel with a p-value of 0.034 (Shafa, 2025). The results showed that medical personnel with a service period of ≥ 10 years experienced more mild fatigue (22.4%) than moderate fatigue (6.9%). Meanwhile, medical personnel with a service period of <10 years mostly also experienced mild fatigue (67.2%), but some still experienced moderate fatigue (4.2%). These findings indicate that length of service plays a role as a factor influencing the level of work burnout in medical personnel.

Medical personnel with a longer service period, namely more than ten years, tend to have more experience facing various pressures related to their work.

This experience allows them to develop better ways to cope with stress, such as prioritizing their tasks and communicating with colleagues, and understanding the hospital's working systems. More experienced healthcare workers also typically have mastered the technical and non-technical skills necessary to complete tasks more efficiently, thus feeling less burdened. As a result, this group has lower levels of burnout and is better able to balance their physical and psychological demands with their work duties (Ferusgel et al., 2022).

However, healthcare workers with less than ten years of service tend to experience moderate burnout, although most remain at a mild level. The complex process of adapting to ever-changing workflows, demands, and workloads is a consequence of shorter working hours. The high workload and the work environment may not be fully understood. The risk of burnout may be increased due to a lack of experience dealing with these work pressures. Healthcare workers with short tenure often have greater physical and technical responsibilities than more senior healthcare workers, who may be more likely to organize or supervise work. Burnout can be exacerbated by this heavy physical workload and psychological issues such as pressure to meet expectations (Ferusgel et al., 2022).

Medical personnel with less than ten years of service face increasingly difficult and complex tasks, but they may not yet have achieved the physical and emotional stability achieved over a long period. Furthermore, this period can indicate a transitional period. Medical personnel become fatigued due to excessive responsibility and a lack of experience to handle it effectively. There is no guarantee that an employee will be more productive than their more senior colleagues in the company. A 2020 study by Rudyarti showed that long-term work can lead to burnout, even in individuals who are mature and possess considerable mental resilience and experience (Rudyarti, 2020).

The Relationship Between Highest Education and Job Fatigue

The results of this study indicate no relationship between highest education and job fatigue, meaning that higher or lower education levels have no effect on the level of job fatigue among medical personnel at Kartini General Hospital. These results are similar to those of Ariska (2023) and Piaster (2023). Piaster (2023) found that factors such as workload, duration of work, and stress levels experienced by individuals at each educational level may contribute to the level of fatigue experienced. In summary, the statistical analysis indicates that education level has no relationship with the level of fatigue experienced by medical personnel.

Referring to theoretical studies, the link between education and job fatigue can be explained as follows. The relationship between educational background and job fatigue is indirect, where higher education can increase work capacity and skills, making the workload feel lighter, thereby reducing the potential for fatigue. However, lower education does not necessarily mean someone will be more prone to fatigue; rather, they may face a relatively heavier workload due to limited skills and job opportunities in less demanding fields.

Higher education provides better knowledge and skills, enabling individuals to work more efficiently and have greater work capacity or endurance (Sumamur, 2014). Higher education also opens up opportunities to obtain jobs appropriate to their educational level, which often have different demands and workloads than those of lower-level education. With higher skills, the physical and mental workload can feel lighter and more manageable, reducing the likelihood of burnout, as in the case of library workers who already possess expertise in their field (Prakoso, 2020).

In this study, the relationship between education and work burnout was not significant because the sample size of respondents with a Diploma 3 education was significantly larger than other levels of education, making it impossible to draw conclusions. Furthermore, education level did not significantly influence workload, resulting in a low correlation with

work burnout. Higher education levels did not necessarily increase workload, and lower education levels did not necessarily decrease workload. In this study, the workload between medical personnel with higher levels of education was relatively balanced with medical personnel with lower levels of education.

The Relationship Between the Number of Shifts and Work Fatigue

One cause of work fatigue is workload, which is the task assigned to an individual. Workload, encompassing both physical and mental workload, must be commensurate with the employee's physical and mental abilities. Both internal and external factors influence workload. Internal factors originate from within the individual, while external factors include the work environment and the work itself. To achieve optimal work productivity, efforts must be made to align work capacity, workload, and the work environment so that each worker can work healthily without endangering the surrounding community. (Reppi, 2019)

The activity load of organizational units or the workload of each official or employee should be evenly distributed to avoid overcrowding and undercrowding. Similarly, overcrowding and undercrowding can be avoided. The impact of workload not only significantly impacts human resource performance but also negatively impacts the safety and health of workers. (Rambulangi, 2016).

Furthermore, workload is also operationally defined based on variables such as job requirements or the effort required to complete them. According to Tarwaka (2017), workload is the number of activities that must be completed by an individual or group of people within a specific time period, which can cause tension and stress. Factors such as excessively high skill levels, excessively fast work pace, or excessive work volume are some examples of sources of workload. Workload is the number of activities that must be completed by an individual or group of people within a specific time period. (Sumamur, 2018)

This study found that the number of shifts is associated with work fatigue. Medical personnel with a higher number of shifts (6 shifts) experienced higher work fatigue than medical personnel working 5 shifts, and this was statistically significant. A higher number of shifts is associated with a higher workload, which also leads to higher work fatigue. The results of this study are similar to those found in Handayani's (2021) study, which found a significant relationship between work fatigue and workload among nurses at Kalideres Regional Hospital. Previous research which also found the same findings was conducted by Retnosari & Dwiyantri (2017).

Medical personnel with excessive workloads are 1.7 times more at risk of fatigue than medical personnel with normal workloads, according to a Prevalence Ratio (PR) of 1.708. Because each medical personnel performs different work activities, the risk of work fatigue varies based on workload. Due to the vastly different workloads and the number of patient visits, medical personnel's activities at any one time sometimes vary. These differences in work types lead to different physical workloads, which in turn cause work fatigue (Maharja, 2015). A burden derived from a person's work activities is called workload. According to Rentosari & Dwiyantri (2017), workload can be divided into physical and mental workload. A heavy workload will cause medical personnel fatigue because the many tasks that must be completed require considerable time and energy to complete them, thus making them tired (Pada et al., 2019). Repetitive routine tasks, which involve both muscular and emotional work, contribute to medical personnel work fatigue (M Ramdan & Nursan Fadly, 2016).

A study conducted by Krisdiana (2022) found that there is a relationship between workload and job fatigue, as shown that among health workers with low workloads, 5 (18.5%) experienced high job fatigue, while 22 respondents (81.5%) experienced high job fatigue. The P-value, which is a value smaller than $\alpha = 0.05$, indicates that the relationship between workload and job fatigue is significant. This indicates a significant relationship between workload and job fatigue of health workers, with an OR (Odds Ratio) value of 9.9. This indicates that health

workers with high levels of workload have a 9.9 times greater tendency to experience job fatigue.

The workload a person receives is a component related to work fatigue. Workload refers to the intensity of work assignments, meaning the accumulated amount of work a person performs over a given period of time (Inegbedion, 2020). Workload is related to each employee's ability to complete assigned tasks and responsibilities, the amount of work to be completed, the time required to complete it, and the employee's perception of the assigned work. High workloads can lead to fatigue, illness, and other problems such as poor performance. In addition to impacting decreased work productivity, workload is also influenced by the relationship between fulfillment of needs and challenges. According to Gibson et al. (2012), everyone experiences a state of heavy workload, also known as work overload, at some point. This situation arises when the work environment places excessive demands on an individual's abilities.

It is crucial to balance each person's workload with their abilities, one way of doing this is by considering the hours they are given. Working hours are a crucial component in determining decent work, as they provide a balance between a worker's personal life and their professional work. Workers often feel inadequately paid due to excessive working hours, which is a risk factor for mental and physical decline. To prevent excessive working hours, the ILO has adopted several regulations on working hours. ILO Conventions No. 1 and No. 30 set a threshold of 48 hours per week in Indonesia, but Manpower Law No. 13/2003 sets a threshold of 40 hours per week (Notoatmodjo, 2014).

The results of the study showed a significant relationship between the workload of healthcare workers and job fatigue. A similar study was conducted by Ihsan et al. (2020), who found a significant relationship between workload and job fatigue. A similar study was also conducted by Wahyuni and Indriyani (2019) on production workers, who found a significant relationship between workload and job fatigue. Excessive workload will cause physical and cognitive fatigue. Because there are not many tasks or tasks to be done each day, there is little movement and a feeling of monotony. Job fatigue, which if not addressed immediately and occurs repeatedly, causes a decline in physical and mental abilities and decreased work efficiency (Patrisia, 2018).

The results of this study are also in line with research conducted by Pakpahan (2024), who in his study examined the relationship between nurse characteristics and workload with nurse work fatigue in the inpatient ward of Tanjungpinang City Hospital, showing that from the results of statistical tests with chi square, there was a significant relationship between workload and nurse work fatigue where the p-value was 0.009 ($p < 0.05$). One additional study conducted by Meilisa et al. (2023), analyzing the relationship between workload, work stress, and nutritional status with the level of nurse work fatigue, showed a significant relationship between workload and work fatigue (p-value 0.009).

Every job carries a burden on the individual performing it. The burden in question can be physical, mental, or social. Each employee has unique abilities suited to their tasks. Some are better suited to physical, mental, and social burdens. Even cases of work fatigue can result from excessive workload (Suma'mur, 2018). Workload arises from the interaction between task demands and the workplace environment, and is used as a benchmark to assess employee abilities, behavior, and perceptions of their work (Tarwaka, 2017). Each employee can only carry a certain amount of work, according to a general equation. There is even a specific workload that a person considers ideal.

The lightness of a workload can be used to determine how long they can complete a task according to their abilities or capacity. According to Tarwaka (2017), shorter work hours are associated with greater workloads. Work fatigue can occur due to two categories of workload: physical workload and mental workload. Physical workload alters the function of the body's organs and requires human muscles to provide power. which can be observed through oxygen

consumption, heart rate, air circulation in the lungs, body temperature, lactic acid concentration in the blood, chemical composition in blood and urine, and evaporation. (Lating, 2020).

A worker who experiences a relatively light physical workload experiences significant fatigue as a result of repetitive movements at work. Fatigue can occur if a person's workload does not match their capacity. This is because muscles require more energy during work, and they must work longer to cope with the pressure exerted. Consequently, muscles will fatigue if their recovery energy is not adjusted during relaxation. The intensity and duration of physical work performed by workers are among the factors influencing fatigue. Increasing the amount of physical work can lead to increased fatigue. Mental workload is the burden faced by workers to complete their work, which can involve mental activity, such as decision-making with greater responsibility, work in information technology, work using high technology, work with high alertness, and work that is monotonous (Rino, 2020).

Workload is the energy the human body must expend to perform a physical or mental task, and it must be perceived as commensurate with the employee's capabilities. Workers will tire quickly if the workload is not balanced with their capabilities. A person can become physically or mentally exhausted. Some symptoms of work fatigue include apathy, shouting, drowsiness, dizziness, difficulty thinking, poor concentration, lack of attention, decreased cognitive slowness, stiffness, decreased work enthusiasm, uncontrolled posture, and decreased physical and mental function. Discomfort, dissatisfaction, and decreased productivity can be caused by work-related fatigue. This is indicated by decreased productivity, increased error rates, and levels of discomfort while performing work (Kuswara, 2014).

Work fatigue and workload are closely related. Both occur because a person working endures the workload resulting from physical activity. Regular exercise can improve a person's strength, endurance, and work mechanisms, which can cause the body to tire more easily. A person's abilities and workload can affect their work duration. A person can experience fatigue at work when the workload exceeds their capabilities. This occurs because the amount of energy required to complete a larger task, which causes a decrease in energy (Agustinawati, 2019).

CONCLUSION

Based on this study, which examined demographic factors that influence work fatigue among medical personnel at Kartini Hospital, gender, marital status, and number of shifts were found to influence work fatigue. Medical personnel with more shifts will have higher work fatigue, female medical personnel have higher work fatigue than male medical personnel, and married medical personnel have lower work fatigue than unmarried ones. The factor causing gender to be a determinant of work fatigue is associated with hormonal and psychological factors, psychological factors, and social factors. Marital status is a determinant factor associated with the role and support of the family towards the individual. A greater number of shifts will increase the workload and is associated with increased work fatigue. Other factors such as age, last education, length of service in this study were not proven to influence work fatigue. As a suggestion for further research, other factors that can also influence work fatigue can be analyzed, such as salary/income, work unit of origin, health status, and previous work experience elsewhere.

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