**THE RELATIONSHIP BETWEEN DOUBLE BURDEN AND WORK FATIGUE IN FEMALE LECTURERS AND STAFFS AT FACULTY OF HEALTH SCIENCE UPNVJ IN 2020**

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***ABSTRACT***

Background: Fatigue is one of Occupational Health and Safety problems which can cause work accidents. Some factors that can affect fatigue such as work factors (double burden, work shift, work duration, work term and rest duration) individual factors (age, gender, nutritional status, health status and psychological condition) and environmental factors that will impact on decreasing productivity, quality of work and loss of working hours. The purpose of this study was to analyze the relationship between double burden and work fatigue in female lecturers and staffs in Faculty of Health Sciences UPNVJ.

Methods: This study was analytic quantitative research with a cross-sectional design. A total of 53 workers were recruited as samples by using a purposive sampling technique. The information was gathered through questionnaires Subjective Self Rating Test from Industrial Fatigue Research Comitte (IFRC) Jepang and questionnaires of double burden.

Result: The results of this study indicate that 40 of 53 workers (75,5%) feel high fatigued. Variables associated with fatigue are double burden (p = 0.0001), work term (p = 0.0001) and age (p = 0.022).

Conclusion:There **is** a relationship between double burden, work term, and age with fatigue.

**Keywords:** Fatigue, Double Burden, Female Worker

# INTRODUCTION

Part of one of the common problems in the workforce that often occurs or is often encountered is work fatigue. According to Tarwaka (2014) fatigue is a state of endurance at work accompanied by decreased efficiency. Based on the word 'fatigue' that shows different conditions, but all of which can result in a reduction in work strength and endurance. Besides workers can feel after work, workers can also feel when doing work even before working there can be fatigue due to work [2].

Data generated from International Labor Organization (2014) shows that work accidents can occur every year, one of which is due to fatigue, which causes about two million workers to die. According to the World Health Organization, the number two malignant or killer disease after heart disease is psychological disorders in the form of feelings of severe or high fatigue and can lead to depression. The Japanese Ministry of Manpower conducted a study on 12,000 agencies of which 16,000 workers in the country were randomly selected and the results obtained with the highest percentage were 65% of workers complaining of physical fatigue due to routine work, 28% of complaints of mental fatigue and complaints of severe stress. and feel left out about 7% [4].

In the United States, more than 20% of the working population experiences work fatigue each day, resulting in a yearly loss of productivity and health care of $ 136.4 billion [5]. Data carried out in the UK in the community that states that women complain of fatigue as much as 25% and men as much as 20%. Occurrence of occupational diseases and work accidents due to poor occupational health and safety [6]. Based on data from the Ministry of Manpower and Transmigration of the Republic of Indonesia, it shows that the number of work accident cases that occurred in 2017 was 123,000 cases and increased in 2018 by 157,313 cases. In Indonesia, more than 65% of the workforce comes with complaints or symptoms of work-related fatigue to company polyclinics [7].

In general, fatigue will experience symptoms, namely a reduced desire or willingness to work which can be caused by internal factors, such as gender, age, and nutritional status. Medianto (2017), then for external factors such as rest time, work duration, work shift, and workload [9][10]. Based on research conducted by Oesman and Simanjuntak (2014) with research results that show that the onset of work fatigue is influenced by workload and age factors. Working according to some adults is something that is so very important [12]. Growth and also developments in the economy that have occurred very rapidly / rapidly in several decades. So that in meeting household needs, this is certainly what encourages and motivates women to take part in this. Nowadays it is not so surprising that we often find many career women. Science as well as technology can develop very rapidly in the current era, which results in less and less barriers that can differentiate between women and men in careers and in work [13].

In Indonesia alone, for female workers each year can increase rapidly. The number of female workers is up to 50% higher than the number of male workers. In one sector / sector such as the social sector, the number of female workers is almost equal to that of male workers. In February 2018, there were 127.07 million people working and for the Labor Force Participation Rate for men as much as 83.01%, while for the Labor Force Participation Rate for women it was 55.44%. However, when compared to conditions in the previous year 2017, the Labor Force Participation Rate for women increased by 0.40% while the Labor Force Participation Rate for men decreased by 0.04% [14].

*Double burden*/ multiple roles are two even more roles that can be carried out at the same time. A woman with a double role / double burden is a married woman who becomes a housewife and also works as a career woman who can be run at the same time [15]. Career women who are married and married will indirectly assume a double role / double burden, both in the role of a family as a housewife and in the work environment. So that a woman who can carry out and perform both roles tends to feel more tired because of the larger double burden and requires more energy [16]. The problem of work fatigue in female workers needs high attention because it will affect the productivity of workers in providing services due to the dual role or double burden. So thus, if the work fatigue of female workers is high, the performance of these female workers will be low and automatically this can reduce work productivity and the quality of the company will have an impact on decreasing the company's overall income [16].

Based on preliminary studies and initial interviews that researchers have conducted in the field, it was found that female lecturers and staff experience more work fatigue than male lecturers and staff because the majority are married and also have children so that they will have a double role or double burden at home or at home. work and must be able to manage time and energy resulting in excess overload. Therefore, it is necessary to conduct research related to the double burden relationship with work fatigue in female lecturers and staff at the Faculty of Health Sciences UPNVJ.

1. **METHODS**

The method used was quantitative analytic research using a cross sectional research design. The research was conducted in March-June 2020. The sampling technique used purposive sampling with a sample size of 53 workers. This research data collection usingSubjective Self Rating Test from the Japanese Industrial Fatigue Research Comitte (IFRC) with a double burden questionnaire.

1. **RESULTS**

The results of this study are the results of univariate and bivariate analysis. Univariate analysis described the frequency distribution of respondents based on occupational factors (double burden, length of work and rest time) and individual factors (age). While bivariate analysis was used to analyze the double burden relationship, length of service, rest time and age with fatigue in female lecturers and staff at the Faculty of Health Sciences UPNVJ 2020.

1. **Univariate Analysis**

Table 1 Feelings of Work Fatigue on

|  |  |  |  |
| --- | --- | --- | --- |
| **No.** | **Variable** | **Total** | **Percentage (%)** |
| 1. | **Fatigue** |  |  |
| Low fatigue | 13 | 24.5 |
| High fatigue | 40 | 75.5 |
| 2. | ***Double Burden*** |  |  |
| Are not double burdened (score ≤ 17) | 16 | 30.2 |
| Experienced double burden (score> 17) | 37 | 69.8 |
| 3. | **Years of service** |  |  |
| No risk (≤ 5 years) | 17 | 32.1 |
| At risk (> 5 years) | 36 | 67.9 |
| 4. | **Time off** |  |  |
| Not risky(≥ 30 minutes / 4 hours) | 13 | 24.5 |
| At risk (<30 minutes / 4 hours) | 40 | 75.5 |
| 5. | **Age** |  |  |
|  | No risk (≤ 40 years) | 18 | 37.7 |
|  | At risk (> 40 years) | 35 | 62.3 |

Lecturers and Female Staff at Answer category “often”.

|  |  |  |  |
| --- | --- | --- | --- |
| **No.** | **Feelings of Fatigue** | **Number of Sense** | **Percentage (%)** |
| 1. | The head feels heavy | 12 | 20.3 |
| 2. | The body feels tired | 23 | 39.0 |
| 3. | Feet feels heavy | 18 | 30.5 |
| 4. | Often yawn | 14 | 23.7 |
| 5. | The mind feels chaotic at work | 26 | 44.1 |
| 6. | Often sleepy | 17 | 28.8 |
| 7. | The eyes feel burdened | 19 | 32.2 |
| 8. | Movement feels stiff | 9 | 15.3 |
| 9. | Standing unbalanced | 11 | 18.6 |
| 10. | The desire to lie down | 17 | 28.8 |
| 11. | It's hard to think | 12 | 20.3 |
| 12. | Lazy in talking | 9 | 15.3 |
| 13. | Often nervous | 13 | 22.0 |
| 14. | It's hard to concentrate | 17 | 28.8 |
| 15. | Difficult to focus | 8 | 13.6 |
| 16. | Easy to forget | 19 | 32.2 |
| 17. | Decreased self-confidence | 7 | 11.9 |
| 18. | Often feel anxious | 12 | 20.3 |
| 19. | It is difficult to control attitudes | 12 | 22.6 |
| 20. | Not focused on work | 10 | 16.9 |
| 21. | The head feels pain | 10 | 16.9 |
| 22. | Shoulder pain | 21 | 35.6 |
| 23. | My back hurts | 19 | 32.2 |
| 24. | It's hard to breathe | 11 | 18.6 |
| 25. | Often feel thirsty | 33 | 55.9 |
| 26. | Endless sound | 11 | 18.6 |
| 27. | Dizziness in the head | 17 | 32.1 |
| 28. | The eyelids have difficulty blinking | 15 | 25.4 |
| 29. | Trembling limbs | 6 | 10.2 |
| 30. | Often feels unwell | 22 | 37.3 |

Table 2 Univariate Analysis on Female

Lecturers And Staff at Faculty of Health Sciences UPNVJ 2020

1. **Analisis Bivariat**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **No.** | **Variable** | **Fatigue** | | | | **Total** | | ***pvalue*** |
| **low** | | **high** | |
| **n** | **%** | **n** | **%** | **N** | **%** |  |
| **1.** | ***Double Burden*** |  |  |  |  |  |  | 0.0001 |
| Not experience | 12 | 75.0 | 4 | 25.0 | 14 | 100 |
| Experience | 1 | 2.7 | 36 | 97.3 | 37 | 100 |
| **2.** | **Years of service** |  |  |  |  |  |  | 0.0001 |
| Not risky | 12 | 70.6 | 5 | 29.4 | 17 | 100 |
| It's risky | 1 | 2.8 | 35 | 97.2 | 36 | 100 |
| **3.** | **Time off** |  |  |  |  |  |  | 0.061 |
| Not risky | 6 | 46.2 | 7 | 53.8 | 13 | 100 |
| It's risky | 7 | 17.5 | 33 | 82.5 | 40 | 100 |
| **4.** | **Age** |  |  |  |  |  |  | 0.022 |
| Not risky | 8 | 44.4 | 10 | 55.6 | 13 | 100 |
| It's risky | 5 | 14.3 | 30 | 85.7 | 40 | 100 |
| **TOTAL** | | 13 | 24.5 | 40 | 75.5 | 53 | 100 |  |

**4. DISCUSSIONS**

**Fatigue at work of female lecturers and staff at Faculty of Health Sciences UPNVJ 2020.**

According to Tarwaka (2014) fatigue is a state of endurance at work accompanied by decreased efficiency. Based on the word 'fatigue' that shows different conditions, but all of which can result in a reduction in work strength and endurance. Besides workers can feel after work, workers can also feel when doing work even before working there can be fatigue due to work [2]. A person who experiences fatigue will be accompanied by fatigue when speaking, difficulty in thinking, difficulty in concentrating on doing something, nervous about facing something, tends to forget, is unable to pay attention to something, is not enthusiastic in carrying out a job, lack of self-confidence, feeling uncomfortable at work, unable to work deftly, being slow in doing things, feeling tired throughout the body, decreasing thinking power and being anxious about something and feeling tired even before working [17]. Fatigue is characterized by a person feeling tired before, during, and after work, accompanied by decreased output and work performance and loss of working hours [18].

This research was conducted on 53 female workers (lecturers and staff) at the UPNVJ FIKES using a standard questionnaire, namely the Subjective Self Rating Test (SSRT) from the Japanese Industrial Fatigue Research Committee (IFRC) as an assessment of fatigue in workers subjectively. This IFRC is a subjective questionnaire that has a 30 item list of questions. Based on the results of the processed data, it was found that most of the workers experienced high fatigue due to work. The results in this study are consistent with the research carried out byDirgayudha (2014)that 60% of respondents feel tired based on the results of the Subjective Self Rating Test (SSRT) questionnaire from the Japanese Industrial Fatigue Research Committee (IFRC). Workers who feel tired are caused by several factors, namely individual factors such as age and work factors such as years of service, noise levels and also lighting levels.

Based on the results of filling out the questionnaire by 53 female workers in the Faculty of Health Sciences, workers who yawn frequently during and after work answer “often” to the questions that have been given. This is caused by too much sweat that comes out of the body due to high activity carried out by workers for a long enough time so that the body loses fluids [20]. If workers feel thirsty easily but don't consume enough drinking water, it will result in dehydration which causes the body to balance itself by taking water from the blood. This results in the blood becoming thick so that it can interfere with the work of the kidneys in filtering blood. If allowed to continue, it will result in damage to the kidneys, therefore one way to prevent dehydration is consuming adequate amounts of tasteless and colored drinking water [21].

**Double Burden's Relationship with Work Fatigue**

In this study, double burden variables were divided into those who experienced double burden and those who did not experience double burden. Based on the results of this study, it shows that some workers experience double burden or multiple roles and havea significant relationship between double burden and work fatigue. This is in accordance with the theory presented by Luthans (2001), someone will experience role conflict if they have two or more pressures that occur simultaneously and if they try to comply with one of them, then that person will experience difficulties. Women who work apart from taking up a lot of time also take up a lot of energy because they have to share their energy to work and also take care of their family. Conflicts that occur between work and family make workers unable to balance their time and energy, causing these workers to experience fatigue [22].

Sugiyono (2012)put forward a theory that is in accordance with this study, namely a woman who is married and has a family, so she demands that she work according to the rules and on time. Apart from that, it plays a role in being a good housewife for her family and there is another reason for a woman to become a worker outside her home, namely to increase the economy in meeting family needs. Based on the reality, double burden on women has a heavy effect because it can experience fatigue in a woman who must be able to carry out her responsibilities of being a wife for her husband, a mother for her child, and also a career woman. Where if the woman becomes a career woman it will be difficult to carry out her duties at home [23]**.**

The results of the research are in line with the research conducted by Supriatna (2012) it is known that double burden has a significant association with work fatigue, as well Herdianti et al. (2019) stated that there is a significant relationship between double burden and fatigue in female workers as well as research conducted by Alfi Sabella Rosyad (2017) that there is a significant relationship between double burden conflict and work stress because the higher the double burden conflict, the higher the level of work fatigue which will cause work stress.

**Period of Work Relationship with Work Fatigue**

In this study, the variable of tenureit is categorized into two, namely the non-risk working period where workers who work for less than 5 years and the risky working period for workers who work more than 5 years. Based on the results of this research shows that some workersthose who work> 5 years feel a high feeling of fatigue in female lecturers and staff at the UPNVJ FIKES and have a significant relationship between tenure and work fatigue. This is in accordance with the theory presented by Budiono (2003)that this tenure will have an impact on working people, namely it will have a positive impact as well as a negative impact. For a positive impact, it will be formed if the longer you work, the more professional you will be in carrying out the work. However, on the other hand, if the negative impact is formed if the length of time you work, the more it will have an impact on work fatigue and the growing feeling of boredom while working. Then, the longer they work so that more workers will be exposed to the dangers that will be generated by the surrounding work place. Meanwhile, according to Suma'mur (1996) with the limited body resistance of workers in work activities which will result in the formation of work fatigue. Work activities carried out on an ongoing basis will cause a decrease in the function of the digestive, circulatory, nervous and respiratory systems, and muscles..

This research is in line with the research conducted by Januar Atiqoh, (2014) with the test used is the Rank-Spearman test which has the results, namely There is a significant relationship between tenure and work fatigue felt by respondents and the research conducted by Ningsih and Nilamsari (2018) which shows that There is a significant relationship between tenure and work fatigue. However, this research is not in line with the research conducted by Mallapiang, Alam, & Suyuti (2014) which shows the result, namely there is no significant relationship between work tenure and work fatigue in nurses at Makassar Hospital because this condition can occur by several factors, for example age, there are some respondents who have a working period of> 5 years but their age is still relatively young, where both body and physically still have the strength to work so it is not easy to feel tired while working. As for other factors, such as the energy intake in their bodies is fairly good, and workers who have worked for a long time can have more experience so that workers know how to work comfortably for them which is likely to decrease fatigue.

**The Relationship between Rest Time and Work Fatigue**

In this study, the variables of rest time were divided into non-risk and risky rest periods. Based on the results shown in this study, most of the workers with rest periods who are at risk of experiencing high fatigue and conclude that there is no significant relationship between the rest time workers have to work fatigue in accordance with the theory presented by Sarwo (2008) Break time needs to be given to the maximum extent possible to workers in order to avoid feeling tired, which in turn can have an impact on reduced physical and psychological strength and will lose productivity at work.

This is different from the research conducted by Narpati et al., (2019) which states that there is a significant relationship between rest time and work fatigue in laundry workers in Semarang. The feeling of fatigue due to work felt by female workers in this study was more dominant in the category of workers with risky rest periods. This is because even though the company provides rest periods that have met the standards set by Permenakertrans RI No. 4 of 2014however, there are 15.3% of workers who feel lazy when doing work, therefore the easy work will still feel heavy if the worker feels lazy. So that workers with less time to rest will experience more fatigue. In addition, with a break, workers can use their time to eat and make social contacts so that they don't feel bored and tired easily. Rest time is also needed as a reduction in the increased risk of injury and fatigue regarding the length of work applied in the company. It is better to rest briefly but often compared to resting for a long time but only for one time and for a long time. Time to rest will result in reduced boredom, sleepiness [18].

**Relationship between Age and Work Fatigue**

In this study, the age variable is categorized into two categories, namely age at risk and age at risk. Based on the results of this study, most workers over 40 years of age experience high fatigue and have a significant relationship with work fatigue. This is in line with the research conducted Throat (2019) who say that there is a significant relationship between age and work fatigue and other studies have a similarity done by Astuti, Ekawati, & Wahyuni ​​(2017) with pvalue = 0.019. But this is not in line with the research conducted by Mallapiang, Alam, & Suyuti (2014) because feeling tired is general and all workers can experience fatigue regardless of the age of the worker.

In this study, there is a significant relationship between age and work fatigue because it is in accordance with the theory presented by Atiqoh (2014) that in general, the older a person is, the less endurance in his body and the faster he can experience fatigue. Especially someone who has entered the age of 40 years, it is likely that they will experience a decrease in the ability of the organs which can make it easier for workers to feel fatigue due to the degeneration process of organ function. Someone who is> 40 years old is indeed classified as a profitable age, but for feelings of fatigue both physically and psychologically, those aged> 40 years have the ability to work can be reduced to 60-80% compared to the performance of workers who are <40 years old [35].

This study is in line with previous research which shows that workers who have old age and are still doing work will affect their performance because of a decrease in body endurance which makes these workers more susceptible to fatigue [38]. The theory is in accordance with the theory presented by Suma'mur (2009) states that workers who are <40 years old are able to work with tough jobs, whereas if those >40 years old have a performance with heavy work activities it can be reduced due to feeling quickly tired and not responsive at work, it will affect performance at work. However, this matter is not in line with the research conducted byKusgiyanto, Suroto, & Ekawati (2017) which shows that workers who are not at risk are more easily tired than those at risk.

**CONCLUSION**

Based on the results of research on female lecturers and staff at the UPNVJ FIKES, it can be concluded as follows:

1. Most of the female lecturers and staff at the UPNVJ Faculty of Health Sciences experienced high fatigue by 75.5%.
2. In the work factor, the number of female lecturers and staff who experience double burden is 69.8% with most of the workers having a risky working period (67.9%), and risky rest periods (75.5%).
3. For individual factors, most workers have a risky age, namely 62.5%.
4. Most of the female lecturers and staff at the UPNVJ Faculty of Health Sciences felt thirsty before and after work by 55.9%.
5. There is a double burden relationship (pvalue =0.0001); years of service (p value =0.0001); and age (p value =0.022) with fatigue, but there is a variable that has no relationship with work fatigue, namely rest time (p value =0.061).

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