

The relationship of daily income, marital status, nutritional status and anemia with work-related fatigue among *wanita tukang suun* in the heritage area of Badung Market post the COVID-19 pandemic

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Abstract

Purpose: The COVID-19 pandemic has affected all aspects of life. The socio-economic aspect is one of the affected aspects. This study aimed to determine the relationship between income, marital status, nutritional status, and anemia status with work fatigue among *wanita tukang suun* at the Badung Market Heritage area after the COVID-19 Pandemic. **Methods:** The type of research used in this research is observational analytic with a cross-sectional research design. This research was conducted in the Badung Market Heritage area. The sample of this study was taken by total sampling and obtained 107 respondents. The exclusion criteria in this study were *wanita tukang suun* who were under 18 years of age and had jobs other than as *wanita tukang suun*. The data in this study were collected using several instruments. **Results:** *Wanita tukang suun* mostly are earn more than IDR 50.000 per day with total of 75 respondents (70,1%), married with a total of 96 respondents (89,7%), have a normal BMI with a total of 56 respondents (52.3%), have mild anemia with a total of 92 respondents (86.0%), experience light fatigue with a total of 92 respondents (86.0%). **Conclusion:** The results of this study indicate that there is a relationship between anemia status and nutritional status with work fatigue. Variables of daily income and marital status are not related to the incidence of work burnout among *wanita tukang suun*.

Keywords: anemia; daily income; marital status; nutritional status; work-related fatigue

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INTRODUCTION

The COVID-19 pandemic has affected all aspects of life. The socio-economic aspect is one of the affected aspects. Restrictions on public places brought economic activity to a halt and several community businesses closed, increasing the number of unemployment and a decline in industry. In addition, the decline in economic conditions also impacted the decline in business and daily income of the community. The decrease in people's income affects the ability of the community to meet their nutritional needs [1].

This decline in income is still being felt after the COVID-19 pandemic by some workers, one of which is *wanita tukang suun*. *Wanita tukang suun* is one of the workers who earn an uncertain daily income. The work done by the *wanita tukang suun* is to offer transportation services in traditional markets. As an informal worker with a high level of physical activity, *wanita tukang suun* often experience health problems. One of the health problems experienced is work fatigue.

Work fatigue is one of the common complaints experienced by groups of workers. Work fatigue is generally characterized by a decrease in work performance and motivation. The causes of work fatigue include mental and physical workload and health status such as nutritional status and anemia status [2]. Another factor suspected of causing work burnout is marital status. Marital status contributes to a person's burden of responsibility. Married workers are responsible and have the burden of taking care of their household in addition to completing their work, thereby increasing the risk of experiencing work burnout [3]. Daily income is a determinant of the ability of workers to meet their daily needs. Workers with higher wages will be better able to meet the necessities of life, including being able to buy food to support their health status. On the other hand, daily income determines the amount of effort that must be made by workers to be able to obtain sufficient income to meet the needs of their families. Workers with low wages will try to work harder to earn sufficient income, thereby increasing the risk of experiencing work burnout [4]. Different research results were obtained in research conducted on nurses which showed that marital status did not have a significant relationship with the incidence of work fatigue [5]. The results of research on construction workers showed that there was no relationship between food security caused by insufficient income and work fatigue which could support work productivity [6].

After the COVID-19 pandemic, the economy has not recovered well. This condition also affects the

income of *wanita tukang suun* who support their family needs. The daily income earned by *wanita tukang suun* after the pandemic has decreased, so that they have to work harder to meet the needs of their families, especially for *wanita tukang suun* whose married status with a greater burden of responsibility. Hard effort and self-imposed in work can increase the risk of work-related fatigue. On the other hand, women who have poor nutritional status and anemia status have a higher risk of experiencing work fatigue. For this reason, this study was conducted to determine the relationship between income, marital status, nutritional status, and anemia status with work fatigue among *wanita tukang suun* at the Badung Market Heritage Area after the COVID-19 Pandemic.

METHODS

The type of research used in this research is observational analytic with a cross-sectional research design. This research was conducted in the Badung Market Heritage Area. The sample of this study was taken by total sampling and obtained 107 respondents. The exclusion criteria in this study were *wanita tukang suun* who were under 18 years of age and had jobs other than as *wanita tukang suun*.

The data in this study were collected using several instruments. Daily income and marital status data were collected using the respondent's self-identity questionnaire. Height data was measured using a height-measuring device. Body weight data was measured using a weight scale. Anemia data was measured by measuring hemoglobin easy touch GcHb and work fatigue data was measured using a questionnaire measuring feelings of work fatigue (KAUPK2) which had been tested for validity and reliability. Furthermore, the data that has been collected was analyzed univariately and bivariately.

This study received ethical approval under number 1995/UN14.2.2.VII.14/LT/2022. Data confidentiality is strictly maintained, with only authorized research staff having access to the raw data.

RESULTS

Table 1. shows that the majority *wanita tukang suun* earn more than IDR 50.000 per day with total of 75 respondents (70,1%) compared to *wanita tukang suun* who make a daily income of less than IDR 50,000 per day. There are more *wanita tukang suun* who are married with a total of 96 respondents (89,7%) compared to those who are not married with a total of 11 respondents (10,3%).

Table 1. Univariate analysis result

Variable	Frequently	Percentage (%)
Daily income		
< IDR 50.000	32	29,9
>IDR 50.000	75	70,1
Marital status		
Unmarried	11	10,3
Married	96	89,7
Nutritional status		
Normal	56	52,3
Abnormal	51	47,7
Anemia		
Mild	92	86,0
Severe	15	14,0
Work-related fatigue		
Mild	92	86,0
Severe	15	14,0

Furthermore, for the variable nutritional status based on body mass index (BMI), it can be seen that *wanita tukang suun* are more who have a normal BMI with a total of 56 respondents (52.3%) compared to an abnormal BMI with a total of 51 respondents (47.7%). There are more *wanita tukang suun* have mild anemia with a total of 92 respondents (86.0%) compared to moderate to severe anemia with a total of 15 respondents (14.0%). Based on the work fatigue variable, it can be seen that there are more *wanita tukang suun* who experience light fatigue with a total of 92 respondents (86.0%) compared to those who experience moderate to severe fatigue with a total of 15 respondents (14.0%).

Furthermore, the data were analyzed bivariately, where the results of the analysis can be explained in **Table 2** below.

Table 2. Bivariate analysis results

Variable	Work-related fatigue						p-value
	Mild		Severe		Total		
	N	%	N	%	N	%	
Daily income							
< IDR 50.000	26	81,3	6	18,8	32	100	0,357
> IDR 50.000	66	88,0	9	12,0	75	100	
Marital status							
Unmarried	10	90,9	1	9,1	11	100	0,619
Married	82	85,4	14	14,6	96	100	
Anemia							
Mild	92	86,0	0	0	92	100	0,000
Severe	0	0	15,0	14,0	15	100	
Nutritional status							
Normal	44	78,6	12	21,4	56	100	0,021
Abnormal	48	94,1	3	5,9	51	100	

The results of the bivariate analysis showed in **Table 2** that *wanita tukang suun* who earned a daily income of less than IDR 50,000 per day experienced more light work fatigue with a total of 26 respondents (81,3%), as well as women who made a daily income of more than IDR 50,000. - per day more people experience light work fatigue with a total of 66 respondents (88,0%). Based on the p-value (0.357> 0.05) it can be concluded that there is no significant relationship between daily income and the incidence of work fatigue in *wanita tukang suun*. Unmarried *wanita tukang suun* experienced more light work fatigue with a total of 10 respondents (90,9%), the same results were obtained in married *wanita tukang suun* who experienced more light work fatigue with a total of 82 respondents (85,4%). Based on the p-value (0.619> 0.05)

it can be concluded that there is no significant relationship between marital status and the incidence of work fatigue in *wanita tukang suun*. All of the *wanita tukang suun* had moderate anemia experienced severe moderate fatigue complaints as many as 15 respondents (100%). Meanwhile, the *wanita tukang suun* from mild anemia experienced complaints of mild fatigue as many as 92 respondents (100%). Based on the p-value (0.000 < 0.05) it can be concluded that there is a significant relationship between anemia status and the incidence of work fatigue in *wanita tukang suun*. According to the nutritional status variables assessed from BMI, it is known that women who have an abnormal BMI tend to experience complaints of mild fatigue with a total of 48 respondents (94.1%) compared to women who have an abnormal BMI who complain of moderate to severe fatigue as much as 3

respondents (5.9%). Similar results were also obtained by women who have a normal BMI tend to experience mild fatigue by as many as 44 respondents (78.6%) compared to experiencing moderate to severe fatigue by as many as 12 respondents (21.4%). Based on the p-value ($0.021 < 0.05$) it can be concluded that there is a significant relationship between nutritional status and the incidence of work fatigue in women who prepare food vendors.

DISCUSSION

The results of the bivariate analysis in this study showed a p-value ($0.357 > 0.05$), so it can be concluded that there is no significant relationship between daily income and the incidence of work fatigue in *wanita tukang suun*. Similar results were obtained in a study on mental health nurses who found that income was not significantly associated with job burnout [7]. On the other hand, high income is generally accompanied by a high workload so it is believed to increase the risk of fatigue because workers force themselves to work [8]. *Wanita tukang suun* was involved who in this study did not set income targets. After the COVID-19 pandemic, *wanita tukang suun* adjusted their income to the conditions in the market, if the market conditions were quiet they chose to go home early to rest. This may affect them not to experience severe fatigue. Excessive work pressure can cause fatigue [9]. Rest is very important to allow the body to recover energy so that it can prevent excessive fatigue [10].

The marital status variable in this study was not significantly related to the incidence of work burnout in women as a dressmaker as indicated by the p-value ($0.619 > 0.05$). Similar results were obtained in a study of online motorcycle taxi drivers in Jakarta which showed that there was no significant relationship between marital status and work fatigue [11]. Different research results were obtained in research on company employees which showed there was a significant relationship between marital status and job burnout [12]. Most of the *wanita tukang suun* involved in this study were married, but most of them lived separately from their families. *Wanita tukang suun* lives in a rented house with other female cobblers, while her family lives in the village. This causes them not to have to take care of household chores after work and to have more adequate rest time, thereby minimizing the risk of experiencing work fatigue. Adequate rest time reduces the risk of work fatigue [13].

The results of the analysis in this study showed a p-value ($0.000 < 0.05$) so it can be concluded that there is a significant relationship between anemia status and the incidence of work fatigue in *wanita tukang suun*.

Similar results were obtained in the study of female employees at the hospital which found that there was a significant relationship between anemia status and work fatigue [14]. Different results were obtained in a study on female workers which showed that there was no significant relationship between Hb levels in the blood and work fatigue [15]. *Wanita tukang suun* involved in this study were all anemic, which predisposed them to tire more easily when working. Symptoms of anemia that they often complain about are dizziness, weakness, dizzy eyes, and cold sweats. So that when they must lift heavy loads and carry long distances, they will feel tired more easily [16]. Anemia is closely related to fatigue. Women who suffer from anemia will feel tired more easily. This is because anemia causes Hb levels in the blood to become low so that the oxygen supply to the muscles becomes disrupted and causes fatigue more quickly. The condition of anemia in women becomes worse due to the influence of the menstrual cycle and the birth process which is not accompanied by food intake that contains sufficient iron [17]. In our study, most of the *wanita tukang suun* experienced mild anemia. The health service through the local health center has implemented efforts to treat anemia by giving iron tablets to the women who sell it regularly, but this effort is still not optimal considering the difficulty of monitoring the compliance of the women who make it up in consuming the iron tablets that have been distributed. Based on this research, we suggest collaboration between community health centers and social foundations located in the Badung market and moving to shelter children whose mothers work as *wanita tukang suun* to help with the process of administering iron tablets, so that monitoring of iron tablet consumption is more optimal.

Based on the p-value ($0.021 < 0.05$) it can be concluded that there is a significant relationship between nutritional status and the incidence of work fatigue in *wanita tukang suun*. Similar results were obtained in a study involving nurses in South Lampung which found that there was a significant relationship between nutritional status and work fatigue [18]. Different research results were obtained in research on catering workers who obtained the results that there was no significant relationship between nutritional status and work fatigue [19]. *Wanita tukang suun* involved in this study were more likely to have abnormal nutritional status, both in the undernutrition and overnutrition categories. This unfavorable nutritional condition affects their decrease in body metabolism and physical fitness, on the other hand, during their work, *wanita tukang suun* relies more on physical strength [20]. This is what makes it easier for

women who work as housewives to experience fatigue. Workers who have good nutritional status will have better work capacity and are physically stronger than workers with abnormal nutritional status [21]. This makes it easier for *wanita tukang suun* to experience fatigue.

CONCLUSION

The results of this study indicate that there is a relationship between anemia status and nutritional status with work fatigue. Variables of daily income and marital status are not related to the incidence of work burnout among *wanita tukang suun*. Future research is expected to be able to provide an overview of how big the influence of each variable of anemia status and nutritional status on the incidence of work fatigue in *wanita tukang suun* in the Heritage Area of Badung Market.

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