



THE RELATIONSHIP BETWEEN FATIGUE LEVELS AND WORK-RELATED MUSCULOSKELETAL DISORDERS (WMSDs) COMPLAINTS ON YOGYAKARTA ONLINE TAXI BIKE

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Abstrack

Background: Transportation is something that people really need. An online motorcycle taxi application is one mode of transportation that can be used to make it easier for consumers to carry out various activities. Online motorcycle taxi drivers are one of the workers who are at risk of experiencing fatigue due to increased orders in online motorcycle taxi applications. **Method:** This study employed quantitative research design with a cross sectional design. The research sample was taken by purposive sampling technique with a sample size of 100 people. The research instrument used was a Nordic Body Map (NBM) questionnaire to measure musculoskeletal complaints and the Industrial Fatigue Research Committee (IFRC) to measure fatigue during work. Data analysis was done using Spearman correlation test. **Result:** As many as 80% of taxi bike drivers suffer from musculoskeletal disorders, particularly in the neck, back, and hands. As many as 74% of them reported feeling tired. The Spearman Rank correlation test results show a link between fatigue and complaints of Work-Related Musculoskeletal Disorders (WMSDs) on online taxi bike in Yogyakarta ($r = 0.264$, $p = 0.008$). **Conclusion:** There is a relationship between the level of fatigue and complaints of Work-Related Musculoskeletal Disorders (WMSDs) on online motorcycle taxis in Yogyakarta. Further researchers should include other variables related to complaints about online motorcycle taxis.

Keywords : Fatigue, Work Related Musculoskeletal Disorders (WMSDs), Online Taxi Bike





1. Introduction

Congestion in Indonesia provide opportunities for motorcycle taxi applications online to become a means of transportation to support activities the done by the community. Online motorcycle taxi applications are warmly welcomed by the Indonesian people because they can make it easy for consumers when they want transactions (Hapsari et al., 2021).

This driver's repetitive activity can cause fatigue that leads to Work-Related Musculoskeletal Disorder (WMSDs). Work-Related Musculoskeletal Disorder (WMSDs) is a nuisance work-related musculoskeletal may pose a risk to the health of workers which causes problems in some parts of the body such as muscles, tendons, nerves, joints and ligaments (Hidayatullah, 2021).

This excessive activity causes a decrease in performance, causing fatigue. Musculoskeletal disorders caused by due to fatigue such as in the neck area, arms and back that make drivers feel uncomfortable when working (Kharisma & Putra, 2016). Physiotherapy plays an important role in maximizing movement potential associated with develop, prevent, treat and restore motion potential a person's body functions according to Minister of Health Regulation No. 65 of 2015.

2. Methods

This research is correlation research with using quantitative research in the form of data into numbers for analyze information about what is known (Ketut et al., 2020). Data analysis used in this study is a non-parametric statistic with using correlation statistic test Spearman Rank.

3. Results

This research was conducted in Kota Yogyakarta because there are many motorcycle taxis online stop.



Departments.

Table 1 Characteristics of Respondents Gender

Gender	Frekuensi	Persentase (%)
Male	91	91%
Female	9	9%
Total	100	100%

Table 2 Characteristics of Respondents Age

Age	Frekuensi	Persentase %
19-24	14	14
24-29	16	16
30-34	25	25
35-40	31	31
>40	14	14
Total	100	100

Table 3 Characteristics of Respondents Index Body Mass

	Frekuensi	Persentase %	Clarification
<17	2	2%	Kurus
17,0 - 18,4	1	1%	Kurus
18,5 - 25,0	72	72%	Normal
25,1 - 27,0	25	25%	Kegemukan
Total	100	100%	

Based on table 1 shows that most of respondents are male with a percentage of 91 respondents (91%) and gender women as many as 9 respondents (9%).

Based on table 2 and 3, shows that characteristics of Respondents Age and characteristics of Respondents Index Body Mass

Table 4 Characteristics of Respondents By Fatigue Level Using Industrial Fatigue Research Committee (IFRC)

Skor	Frekuensi	Permentase %
30	0	0%
31-60	61	61%
61-90	37	37%
91-120	2	2%
Total	100	100%

Table 5 Characteristics of Respondents By Work Related Musculoskeletal Disorders (WMSDs) Using the Nordic Body Map (NBM)

Skor	Frekuensi	Permentase %
28-49	51	51%
50-70	33	13%
71-90	16	16%
91-112	0	0%
Total	100	100%

Based on table 4 and 5, shows that characteristics of Respondents By Fatigue Level Using Industrial Fatigue Research Committee (IFRC) and Characteristics of Respondents By Work Related Musculoskeletal Disorders (WMSDs) Using the Nordic Body Map (NBM)

Table 6 Correlation Test Results

N	Sig. (2-tailed)	Correlation
100	0,008	0,264

Table 7 Fatigue Relationship Distribution and WMSDs

NBM	IFRC									
	Not tired		Mild Fatigue		Medium fatigue		Severe fatigue		Total	
	f	%	f	%	f	%	f	%	f	%
Low	0	0	0	0	0	0	0	0	0	0
Currently	34	34	21	21	6	6	0	0	61	61
Tall	17	17	10	10	10	10	0	0	37	37
Very high	0	0	2	2	0	0	0	0	2	2
Total	51	51	33	33	16	16	0	0	100	100

Based on table 6 and 7, shows that correlation Test Results and Fatigue Relationship Distribution and WMSDs

This research aims to know the relationship between the level of fatigue to work related complaints Musculoskeletal Disorders (WMSDs) on online motorcycle taxis in Yogyakarta. There is a positive correlation between level of fatigue to complaints Work Related Musculoskeletal Disorders (WMSDs) on online motorcycle taxis at Yogyakarta with correlation coefficient is 0.264 which means the relationship between the two variables has low power level. The results of the level relationship analysis fatigue to Work . complaints Related Musculoskeletal Disorders (WMSDs) on online motorcycle taxis at Yogyakarta with 100 respondents the majority have a level of fatigue light with work related complaints.

Musculoskeletal Disorders (WMSDs) low as many as 34 respondents (34%) can be caused by gender more in males, mean age at > 30 years more has enough experience as much as 21 respondents have worked for 2 years, as many as 21 respondents worked for 5 years and Body Mass Index (BMI) normal as many as 72 respondents.

After filling out the questionnaire, Researchers pay attention to sitting position driver when driving less good that is not in an upright position make drivers more frequent have back pain. Driver more sitting good at work nor rest



because waiting order. The driver also complained pain in the right hand caused by moving repeated while riding a motorcycle like gripping the handlebar.

4. Discussion

The relationship between fatigue levels and work-related musculoskeletal disorders (WMSDs) complaints on Yogyakarta Online Taxi Bike. After filling out the questionnaire, the researchers noticed that the driver's sitting position when driving was not good, namely not in an upright position which made the driver more often experience back pain. Drivers sit more both at work and resting because they are waiting for orders. In addition to back pain, some drivers complain of pain in the right hand caused by too many repetitive motions while riding a motorcycle such as gripping the handlebars. Online motorcycle taxi riders need to stretch while working which will become a habit in physical activity to improve blood circulation which can reduce tension in the nerves and muscles to be strong so they don't get tired easily and the body posture can be back upright while working. Stretching for 15-30 seconds every day will improve your driving health and reduce muscle tension. Doing active rest can reduce musculoskeletal complaints such as doing other activities by taking drinking and eating, so that the muscles have the opportunity to relax from monotonous and static work continuously during work (Nooryana et al., 2020).

5. Conclusions

Based on research on 100 respondents can be taken conclusion that there is a correlation significant or sig. (2-tailed) of $p=0.008$ (<0.05) then stated that there is a correlation on the level of fatigue to complaints work-Related Musculoskeletal Disorder (WMSDs) on online motorcycle taxis at Yogyakarta with correlation coefficient is 0.264 which means the relation between the two variables has low level of strength towards positive, meaning when tired increases the complaints increased





musculoskeletal.

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