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**Analysis of the Relationship between Workload and work pressure for
employees at the X hospital during the Covid 19 Pandemic**

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ABSTRACT

COVID-19 has had a major impact on the management of health services, especially in hospitals. As the front line in overcoming the COVID-19 pandemic, hospitals are required to continue to serve and treat patients, especially those infected with COVID-19. Factors such as the increasing number of COVID-19 patients, increasing working hours, fatigue, a sense of danger and uncertainty, and lack of knowledge about the COVID-19 process increase the workload of hospital employees, causing work pressure to increase. This study is to identify the purpose to determine the relationship between workload and work stress levels in health workers. The research design used observational analytic with cross-sectional study approach and sampling with accidental sampling technique with the number of respondents as many as 126 respondents. Space Administration Task Load Index (NASA-TLX) measuring instrument to measure the workload of Hospital "X" employees. The data were analysed using statistical software with the type of Chi-Square statistical test with a significance level of $= 0.05$. The results of the study found that there was a relationship between workload and work stress levels for health workers with a *p-value* = 0.000, so it was concluded that employee workloads can affect employee work pressure during the COVID-19 pandemic caused by organizational demands in relation to the high role of increased tasks during the COVID-19 pandemic.

Keywords: Workload, Work Pressure, Stressor, Employees, Hospital, Covid-19

BACKGROUND

In December 2019, COVID-19 first appeared in Wuhan, China. Starting on January 30, 2020, COVID-19 began to spread to other countries including Indonesia. This led the WHO to declare the COVID-19 outbreak a Public Health Emergency of International Concern (PHEIC). The COVID-19 pandemic has had a huge impact on all areas of the world. The impact of the COVID-19 pandemic also affects the world of health, especially hospitals, which are the foremost health service units in fighting this pandemic. (Shohrabi, 2020).

As the front line in overcoming the COVID-19 pandemic, hospitals are intensely directly involved in serving and treating patients. Factors such as the increasing number of COVID-19 patients, increased working hours, fatigue, sense of danger and uncertainty, and lack of knowledge about the COVID-19 process increase the workload of hospital employees (Zhu et al. 2020, Young et al 2020)

Workload is expressed as the level and level of difficulty of employees in carrying out their duties in a certain period. The level of time constraints and the complexity of the work form a fairly high workload. A high workload can cause accuracy and work safety to decrease resulting in low and inefficient quality and performance (Achmad&Farihah, 2018). Performance efficiency itself is related to the workload of workers which consists of

physical workload and mental workload. Physical workload is caused by work that is dominated by physical activity. Meanwhile, mental workload is the difference between the work demands of a task and the mental abilities possessed by workers (Tynes et. al 2017) This research is focused on measuring the mental workload of the "X" Hospital employees. The study aims to identify and analyse the workload experienced by hospital employees during the COVID-19 pandemic. By doing this analysis, it can be determined how much the level of employee workload varies so as to facilitate the steps to solve the problem. The output of this research is to be a material for solving problems regarding the workload of employees which aims to improve both individual and organizational performance. The method used in this study is descriptive analysis using the NASA-TLX questionnaire with 6 indicators Mental demand (MD), Physical demand (PD), Temporal demand (TD), Own Performance (OP), Effort (EF), Frustration level (FR) where this method can analyse the workload of an employee.

Kediri Regency is one of the regencies in the East Java Province where data obtained as of July 2021 there were 21,247 confirmed cases of Covid-19 consisting of 19,941 declared cured and 1,294 declared dead. The data obtained from the "X" Hospital there are as many as 714 employees who devote themselves to the hospital. At RS "X" a team was formed consisting of 56 medical personnel, 333 paramedics, 98 non-nurse paramedics, 227 other employees who collaborated and served to handle and treat patients with ODP, OTG and positive Covid-19 status in Kediri Regency. .

Since the formation of this Covid-19 team, employees, especially health workers who are members of the team, have additional work, resulting in them having to stay in the hospital area and are not allowed to go home to gather with their families. In addition, although preventing the transmission of the Covid-19 virus to the Covid-19 team and health workers in general is adequate, they still often feel worried about contracting the virus because they feel that they are very at risk of contracting it compared to people who do not carry out work activities.. This causes them to feel burdened with the responsibilities of the work carried out during the current pandemic. From the results of a brief interview with one of the health workers at the "X" hospital who said that due to the burden felt by the employees there, they felt stressed with the work being carried out because the number of positive increases in Covid-19 in Kediri Regency increased rapidly since December 2020 until now.

The workload felt by hospital employees "X" can cause work stress that has an impact on physical disorders such as feeling tired or tired, dizziness, attitude disorders such as anxiety, impatient and irritable, panic and psychological disorders such as difficulty sleeping and difficulty relaxing. Based on the data, descriptions and phenomena above, the researchers are interested in conducting research on the impact of workload on work pressure levels for hospital employees "X" during the covid-19 pandemic.

RESEARCH METHODS

This study was conducted using an analytical observational method with a cross-sectional design (cross-sectional). The cross-sectional research design is a research design carried out by collecting data simultaneously at one time. This research was conducted from March to May 2022. The approach of this research is descriptive research, using a sample of 126 respondents with accidental sampling technique. Measurement of respondents' work stress levels was measured using the Indonesian version of the Depression, Anxiety, and Stress Scale-42 (DASS-42) questionnaire with a validity and reliability value of $r = 0.952$ and $p = 0.001$ with a very strong interpretation of the reliability value as many as 14 questions about work stress on an ordinal scale and each answer is given a value of 1 =

“low”, 2 = “medium”, 3 = “high enough”, 4 = “high”, 5 = “very high” which is measured when the respondent finishes working each shift then given the Indonesian version of the Space Administration Task Load Index (NASA-TLX) questionnaire with a valid reliability value of $r = 0.789$ and $p \text{ value} = 0.000$ with a fairly strong interpretation of the reliability value, this shows that the DASS-42 questionnaire is very strong for measuring the stress level of health workers compared to questionnaires NASA-TLX is powerful enough to measure the workload of healthcare workers. After that, the respondents filled out the questionnaire by assessing between 0 to 100 points out of 6 indicators related to the work being carried out, namely 1. Mental demand (MD), 2. Physical demand (PD), 3. Temporal demand (TD), 4. Performance (OP), 5. Effort (EF), 6. Frustration level (FR) by assessing the higher the value circled by the respondent, the higher the perceived workload (Prastika et al., 2020). After obtaining the results from the pairwise comparison table, then proceed with processing the workload data and obtaining the Weighted Workload (WWL) value by calculating the workload score with the formula Product = (rating x weight) after the results are obtained then proceed with calculating the workload score based on the order of indicators above with the formula value $WWL = \frac{MD+PD+TD+OP+EF+FR}{15}$

After the data is collected, the data analysis process is carried out using statistical software with two types of analysis, namely univariate and bivariate. Univariate analysis on each variable to see the picture of the frequency distribution starting from demographic data, the independent variable is workload and the dependent variable is the work stress of employees at hospital "X". Bivariate analysis was conducted to test the hypothesis whether there is a relationship between the independent variable, namely workload and the dependent variable, namely work stress using a non-parametric chi-square test with an ordinal scale with a significance level of $= 0.005$ if $p <$ then there is a relationship between workload and level of work stress of employees at hospital "X".

RESULTS AND DISCUSSION

RESULTS

1. Univariate Analysis

Table 1. Characteristics of Respondents

Characteristics of Respondents	n	%	Total
Gender :			
1. Male	51	40	126
2. Female	75	60	(100%)
Age			
1. < 20 years old	19	15	126
2. 20-35 years old	59	46	(100%)
3. > 35 years old	49	39	
Workload			
1. Low	6	5	126
2. Medium	9	7	(100%)
3. High Enough	18	14	
4. High	51	41	
5. Very High	42	33	
Work pressure			
1. Low	11	9	
2. Medium	14	11	
3. High Enough	16	13	126
4. High	47	37	(100%)
5. Very High	38	30	

Based on table 1 above, it can be seen that most of the employees of the "X" hospital are female; as many as 75 respondents (60%) and the majority are aged 20-35 years as many as 59 respondents (46%). The workload of "X" hospital employees during the Covid 19 pandemic was mostly in the high category of 51 respondents (41%) while the work pressure level of employees during the Covid 19 pandemic was also mostly in the high stress category of 47 respondents (37%) however, there were also 38 employees (30%) who experienced high levels of work pressure during the COVID-19 pandemic at the "X" hospital.

2. Bivariate Analysis

Table 2 Analysis of the Relationship between Workload and Work Pressure on Employees

No	Workload	Work Pressure levels										Total	p-value
		Low		Medium		High Enough		High		Very High			
		N	%	N	%	N	%	n	%	n	%		
1	Low	1	0.5	1	0.5	3	2	5	4	3	2	13 (9%)	0,000
2	Medium	2	1	2	1	4	3	6	5	5	4	15 (14%)	
3	High Enough	3	2	2	1	2	1	8	6.6	6	5	21 (15.5%)	
4	High	3	2	4	3	7	5.5	17	16.5	10	8.5	41 (35.5)	
5	Very High	2	1	5	4	5	4	11	9.5	9	7.5	32 (26%)	
	Total	11	6.5	14	9.5	21	15.5	47	41.5	33	27	120(100%)	

Based on the results of the bivariate analysis using the chi-square test in table 2, it was found that p value = 0.000 obtained from the Pearson chi-square value with a significant level of = 0.05 so that $p < 0.05$ means that there is a relationship between workload and stress levels in health workers. This is evidenced from table 2 above which explains that respondents with low workloads experience low work pressure as many as 1 (0.5%) respondents and high workloads experience high work pressure as many as 17 (16.5%) respondents. However, other results in this study are cells that describe that low workloads experience high work pressure as many as 5 (4%) respondents and high workloads but experience low work pressure as many as 3 (2%) respondents.

DISCUSSION

1. Employee's Workload

From research conducted on employees of the "X" Hospital in Kediri Regency, East Java, data obtained that the majority of employees who feel the workload is in the high category are 51 people (41%), employees who feel the workload is very high are 42 people (33%), quite high as many as 18 people (14%), employees with a low workload of 11 people (9%) and employees who feel a moderate workload as many as 14 people (11%). This is in line with research conducted by Solon et al., (2021) and Caietal., (2020), which explained that the workload on employees, especially excessive health workers, could arise due to an imbalance between working time and the amount of work required. Its must be resolved. As during the COVID-19 pandemic, there is a lot of work to be done that requires health workers to finish in hospitals, so that health workers feel anxious and worried about the increasingly widespread of the Covid-19 virus. Another opinion that supports this statement was by

Cai et al., (2020), which stated that the COVID-19 pandemic caused an increase in the workload, both physical workload and mental workload for hospital employees.

Table 3 Comparison of NASA TLX. Score Elements

Aspect	Total	%
<i>Mental demand (MD)</i>	20586	17
<i>Physical demand (PD)</i>	16950	14
<i>Temporal demand (TD)</i>	12138	10
<i>Performance (OP)</i>	8799	8
<i>Effort (EF)</i>	30279	25
<i>Frustration level (FR).</i>	30783	26

Based on the final NASA-TLX (National Aeronautics and Space Administration Task Load Index) *score* at Hospital "X" it is known that the mental workload indicator, the total load value for frustration level is 30783, effort 30279, mental demand 20586, physical demand 16950, temporal demand 12138 and own performance 8799. The frustration level indicator has the highest mental load value, followed by effort and the lowest is own performance. This is in line with research by Brooks' et.al (2020) which states that during the Covid-19 pandemic, strong mental and physical strength are needed because to handle Covid-19 patients, nurses are very vulnerable to being exposed to this virus and health workers often get COVID-19 situations and patients, causing feelings of insecurity, and work stress in dealing with patients. Working in the midst of intense media and public attention, and the risk of contracting the COVID-19 virus triggers negative psychological effects including emotional disturbances, depression, stress, low mood, irritability, panic attacks, phobias, insomnia, anger, and emotional exhaustion.

The third workload indicator is the mental temporal demand workload indicator, in this case to do the work there is always a target time to complete the work, if it is not completed then the hospital employee "X" must work outside working hours because there is work to be completed on the same day. As like research by Elbay et.al (2020) which explains that 42% of employees, especially health workers, experience workload and stress caused by high working hours patterns. According to the results of Prasteya's research (2021), it also explains that the physical demand and mental demand of hospital employees in carrying out their duties must be able to complete the work correctly and quickly. Moreover, employees, especially health workers, often have to race against the emergency faced by patients. During this covid-19 pandemic, nurses are required to be physically strong because they have to wear hasmate clothes for 4 consecutive hours. Not infrequently in doing these jobs employees feel a mental burden and anxiety so that they experience a decrease in concentration and way of thinking while doing their jobs which has an impact on decreasing employee performance.

2. Employee's Work Pressure

From the results of research conducted on hospital employees "X" data that the majority of employees who experience work stress are in the high work pressure category as many as 47 people (37%), employees who experience very high work pressure as many as 38 people (30%). 16 people (13%), moderate work pressure level 14 (11%) and 11 employees (9%). This is in line with the research conducted by Verma and Mishra in (2020), which stated that the characteristics of respondents such as gender factors, age factors, environmental factors, workload factors, psychological factors, the influence of excessive leadership style and working time/working hours

inappropriate, but the most dominant ones come from psychological factors such as anxiety and workload during the COVID-19 pandemic. As a result of this pandemic, health workers can easily feel work stress due to the increasing number of new positive cases of covid-19, increasing cases of People Under Monitoring and People Without Symptoms as well as the fear of being infected and transmitting it to their families which is a separate stress for health workers which triggers an increase in work stress in health workers. This statement is supported by research conducted by Cai et al., (2020), which states that another cause of stress for health workers is the awareness of health workers about the mortality rate due to COVID-19 infection from various ages.

Based on the results of interviews with health workers, they revealed that they felt stressed when they imagined that their family or close people were exposed to COVID-19 after hearing the death toll from COVID-19. Another thing that also causes stress to health workers is when they see their co-workers are stressed. Based on the research data, it was found that the respondents had different levels of work stress severity. However, from the questionnaire data obtained, many health workers experience stress in the moderate to severe category. This happened because health workers felt excessive anxiety as a result of the very rapid increase in confirmed cases of COVID-19 in the area. This causes respondents to be burdened with having to work in hospitals and feel worried and afraid of the transmission of the Covid-19 virus. This is supported by research conducted by Titasari&Fani, (2021) which explains that in addition to the workload that losses experienced by health workers are psychological disorders or mental disorders due to excessive anxiety that can cause physical illness in health workers.

According to the researcher's assumptions, the stress felt by the respondents occurred because the respondents felt excessive anxiety and the amount of work that had to be completed at the hospital, so that the burden felt at work as a result of the rapid and widespread increase in confirmed cases of COVID-19, even more so. when the respondent has a family member. This is in line with research, Lai, et al in 2020 which stated that health workers who deal directly with patients will be at higher risk of experiencing stress problems from mild to severe due to various pressures faced by employees during the COVID-19 pandemic. In line with these studies, the fear of being infected, contracting and transmitting the virus face to face with patients causes a significant psychological burden on health workers (Kang, et. al, 2020). The level of stress is caused by demands or pressure from the work itself. Health workers have moderate to high levels of stress due to the many conditions that must be faced and the demands of the role of health workers themselves in serving patients directly (Zhu et. al, 2020).

3. Relationship between Workload and Work Pressure of Employees at “X” Hospital

From the results of research conducted on hospital employees "X" through the chi-square test, the results of the p value = 0.000 which indicate that $p < \alpha$ where the value of $\alpha = 0.05$ means that there is a relationship between workload and the level of work pressure on health workers in hospital "X" during the Covid-19 pandemic. Based on the results of these statistical tests, it can be concluded that health workers who feel excessive workload can affect the emergence of work stress in both the low work stress category and the very high work stress category. According to Handayani et al., (2020), which states that health workers are at high risk of experiencing mental problems such as stress due to various pressures such as doing a lot of work within the

allotted time, having to keep working in the hospital even in the current pandemic conditions and cannot doing work from home like other workers and fear, especially during the covid-19 pandemic, such as the risk of being infected and infecting family and loved ones so that many health workers are isolating themselves from family and closest people even though they don't have Covid-19. This is a difficult decision but must be taken to prevent family and loved ones from unwanted things. This causes a psychological workload or mental workload which is one of the factors that causes work pressure.

The workload experienced by hospital employees "X" affects work stress, there is a relationship between workload and work stress levels for employees due to the work environment and the work that must be done not as usual due to the Covid-19 pandemic conditions which must require employees to maintain distance so that communication between co-workers is slightly hampered and work that is usually done together must be done alone to maintain distance. Therefore, workload is one of the factors that greatly affects work stress on health workers. Conditions that occur due to excessive work to be completed, unsupportive work environment, mental and mental burdens and excessive fear and anxiety are factors that can cause stress at work. Meanwhile, the burden of this work can provide a sense of discomfort in carrying out duties and responsibilities at work so that a response can arise from within to fight the discomfort but is perceived as stressful. Suparlan and Winarta (2020) In addition, hospital employees are at risk of experiencing stress and work pressure due to the demands that must be faced during the COVID-19 pandemic. The demands during work both in the individual role who are responsible for the type of work he takes as well as pressure from the organization makes hospital employees experience pressure at work which results in psychological and physical work stress (Suryono et.al 2020)

The severity of the respondent's workload depends on the perceptions and concerns and anxiety they feel in carrying out their duties in the hospital. The workload is light if the respondent has a good coping mechanism to deal with concerns that occur as a result of the COVID-19 pandemic. On the other hand, a heavy workload is felt if the respondent is not able to process good coping mechanisms so that the feeling of pressure to carry out work during the Covid-19 pandemic persists. As a result of the severity of the workload experienced, it will affect the level of work stress experienced by health workers. This is also supported by research conducted by Vanchapo, (2020) that the workload felt by health workers can be in the form of a qualitative workload, which occurs due to work demands that are higher than the individual's own ability limit and under certain conditions this workload causes duties and responsibilities. responsibility becomes less and if it continues it can cause mental fatigue and form emotional and psychomotor reactions psychologically. This happens because the work stress is felt not only from the workload but there are other factors, for example, multiple roles, the presence of psychosocial stressors and the burden of thoughts or even problems in other places that cause health workers to feel stressed when carrying out their duties, especially during the Covid-19 pandemic.

CONCLUSION AND RECOMMENDATION

There is a relationship between workload and work pressure at the hospital "X", this means that when the workload is light, the work pressure level is low and when the workload is high, the work pressure level is also high. The COVID-19 pandemic period is a difficult time for employees, especially health workers who work at the "X" hospital. Employees

who work in hospitals are at risk of experiencing higher work pressure compared to employees who do not work in hospitals. In addition, the high workload and work pressure occur due to the demands that must be faced during the COVID-19 pandemic. The demands during work both in the role of the individual who is responsible for the type of work he takes as well as pressure from the organization makes hospital employees experience pressure at work which results in psychological and physical work stress. Suggestions for hospital employees to be better able to manage stress and manage time in order to complete all tasks and roles that are carried out, Employees have an effective coping mechanism with the assistance of policies provided by the leadership for assistance and review regularly about the workload and work stress of employees to support and improve employee performance. For further researchers are expected to be able to develop this research by paying attention to the right research methods and using more population and samples and can make this research as a reference for conducting further research in accordance with the results of this study.

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