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**The Relationship between Workload and Working Hours with  
Mental Health Problems of Caregivers in Elderly Homes  
Assisted by the Banten Provincial Government**

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**ABSTRACT**

The workload and working hours in caring for the elderly by caregivers in elderly homes increase the risk of mental health problems which have an impact on reducing work productivity and the quality of services for the elderly. To determine the relationship between workload and working hours and mental health problems of caregivers in elderly homes. This cross-sectional research was conducted from March to April 2024 with a sample of 55 formal caregivers from 6 elderly homes assisted by the Banten provincial government. The questionnaires used are NASA-TLX and DASS-21. Analysis was carried out using categorical descriptive analysis methods, Chi-Square test, and Fisher's test. There were 49 respondents who met the inclusion criteria. From the descriptive analysis, it was found that the largest age group was 25 – 34 years (40.8%), the majority were women (77.6%), and 59.2% had worked  $\geq 5$  years. Most felt the workload was moderate – heavy (85.7%) and worked for >40 hours/week (65.3%) and had mental health problems, 20.4% experienced depression, 38.8% experienced anxiety, and 22.4% experienced stress. From the analysis of the Chi-Square test and Fisher's test, it was found that there was no statistically significant relationship between workload and depression ( $p = 0.319$ ), anxiety ( $p = 0.407$ ), and stress ( $p = 0.325$ ) and there was no statistically significant relationship. between working hours and depression ( $p = 0.285$ ) and anxiety ( $p = 0.386$ ) but there is a statistically significant relationship between working hours and stress ( $p = 0.033$ ). There is no relationship between workload and mental health problems (depression, anxiety, and stress), there is no relationship between working hours and depression and anxiety but there is a relationship between working hours and stress.

**Keywords :** Mental health problems, depression, anxiety, stress, workload, working hours, formal caregivers, elderly homes

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## INTRODUCTION

Unsatisfactory jobs, such as excessive workload and working hours, can lead to mental health issues among workers.<sup>1,2</sup> One occupation vulnerable to mental health problems is caregivers in elderly homes.<sup>3,4</sup> According to WHO (2019), more than half of the world's population are workers, with an estimated 15% of adult workers experiencing mental health disorders.<sup>2</sup> In Japan in 2021, 50% of elderly caregivers experienced depression due to excessive workload.<sup>4</sup> According to the Basic Health Research data in 2018, the national average prevalence of depression among the working population aged >15 years was 5%, which is not significantly different from the prevalence of depression in Indonesia across all categories, at 6.1%. However, the prevalence of depression in Banten Province is higher at 8.7%. Meanwhile, the prevalence of emotional mental disorders among workers in Indonesia averages 8.05%, which is not significantly different from the national average across all categories, which is 9.9%. A higher prevalence of emotional mental disorders, at 14%, is found in Banten Province.<sup>5</sup> The prevalence of emotional mental disorders among these workers has increased 1.7 times from 2013 when it was initially 4.63%.<sup>6</sup> Research on emotional mental disorders among caregivers found that 61.3% experienced moderate stress and 38.7% experienced low stress due to workload at a Social Home in East Jakarta.<sup>7</sup> 40% of caregivers caring for patients in the Psychiatric Polyclinic in Lumajang experienced mild anxiety due to prolonged care of schizophrenic patients.<sup>8</sup>

As the elderly age, there is a decline in physical and psychological function, such as cognitive ability, memory, and the onset of degenerative diseases. These conditions require more attention compared to caring for younger individuals, thus increasing the burden on elderly caregivers.<sup>7,9</sup> The high demands in meeting the basic needs of the elderly affect their quality of life and well-being. Unmet basic needs of the elderly in terms of physical, psychological, social interaction, and social environment lead to a decline in their quality of life.<sup>10</sup>

Caregivers may experience job stress due to workload consisting of complex job demands, high responsibilities, and difficulties in caring for physically limited patients.<sup>11,12</sup> They also experience psychological burdens when caring for the elderly, such as feelings of shame, irritability, depression, fatigue, and guilt for not being able to provide the best care for the elderly under their care.<sup>13</sup> Mental health problems due to workload result in decreased productivity and work efficiency, mental fatigue, decreased ability to make decisions, feelings of helplessness, and depression. Self-needs and signs of mental health disorders tend to be neglected as caregivers devote themselves more to the needs of others.<sup>14</sup> In addition to excessive workload, working hours in caring for the elderly can also affect mental health. Caregivers who care for the elderly >20 hours per week or 80 hours per month are at risk of experiencing anxiety and depression. Caregivers feel nervous and anxious due to the long duration

of caring for the elderly.<sup>4,13,15</sup> The long duration of caring for the elderly deprives them of sufficient rest and makes them feel physically and mentally exhausted, affecting their sleep patterns, eating habits, and family life. They do not have enough time for family and social activities, leading to mental health problems such as stress.<sup>16,17</sup>

Based on research by Lai et al. (2019) found that female caregivers feel more burdened than male caregivers.<sup>3</sup> Based on research by Takahashi et al. (2022) on elderly caregivers with backgrounds as elderly companions, social workers, and nurses, it was found that 52.5% experienced symptoms of anxiety disorders and 56.7% experienced symptoms of depression.<sup>18</sup> Rakhmaningrum et al. (2019) explained in their research that 61.3% of caregivers experienced moderate stress and 38.7% experienced low stress due to workload, and there was a correlation between workload and job stress levels among caregivers at the Tresna Werdha Budi Mulia 03 Ciracas East Jakarta Social Home.<sup>7</sup> Based on research conducted by Kolodziej et al. (2022) and Kumagai (2017), caregivers in elderly homes who work >20 hours per week or 80 hours per month are at risk of experiencing anxiety and depression.<sup>4,13,15</sup> Kalanlar et al. (2019) explained in their research that caregivers feel physically and mentally exhausted from working 12 hours a day, affecting their quality of life and causing stress.<sup>16</sup>

Given the magnitude of the prevalence of mental health problems among workers in Banten Province and the limited specific research data on mental health problems related to workload and working hours among caregivers in elderly homes in Banten Province, as well as the relationship between workload and working hours with mental health problems among elderly caregivers that impact work productivity and service quality to the elderly, researchers are motivated to conduct research to determine the relationship between workload and working hours with mental health problems among caregivers in government-run elderly homes in Banten Province.

## METHODS

This study uses an observational analytic method with a cross-sectional research design. The study subjects consist of 49 subjects selected using purposive sampling techniques according to the inclusion criteria (formal caregivers who are willing to participate in the study) and exclusion criteria (caregivers who do not complete the questionnaire in full). Data collection was carried out using a valid, reliable, and representative questionnaire which includes a workload questionnaire (NASA-TLX), working hours, mental health problems (DASS-21), age, gender, length of employment, and formal caregiver type. Data collection was carried out in stages at 6 elderly home locations in Banten Province with the questionnaire being filled out independently by the caregivers and supervised by the researchers. The collected data will be processed using SPSS version 23, including univariate analysis

(measuring the percentage of workload, working hours, mental health problems, age, gender, length of employment, and type of formal caregiver) and bivariate analysis with *Chi-Square* test and Fisher's test to determine the relationship between the independent variables (workload and working hours) and the dependent variable (mental health problems). After data processing, the data will be presented in table form to determine the frequency and factors associated with the incidence of mental health problems. After that, a report will be compiled based on the presented data. This study uses individuals as respondents, so ethical approval must be obtained from the Ethics Committee of the Faculty of Medicine and Health Sciences, Sultan Ageng Tirtayasa University. This study has been approved by the Ethics Committee with letter number 10/UN43.20/KEPK/2024 issued on March 19, 2024.

## RESULTS

### A. General Description of the Research Location and Description of Research Respondents

An overview of the research location can be seen in Table 1.

**Table 1.** General description of the research location

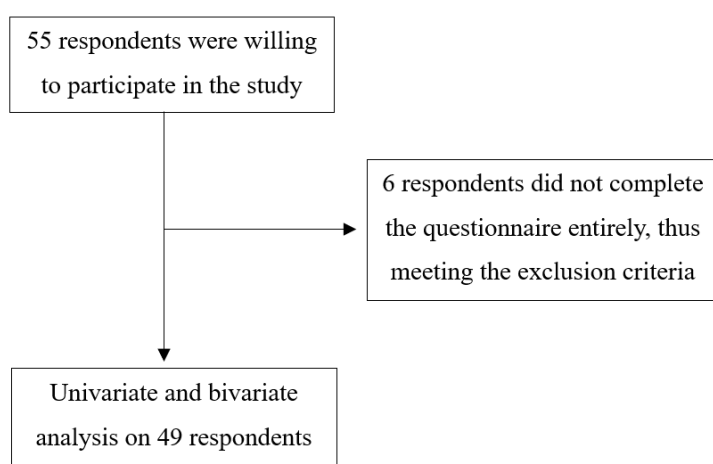
No.	Elderly Home	Location	Number of Respondents
1.	UPTD Perlindungan Sosial Dinas Sosial Provinsi Banten	Serang City	9 person (4 Nurses, 1 Social Worker, 4 Elderly Assistants)
2.	Berdikari Elderly Home	Tangerang Regency	6 person (2 Nurses, 4 Elderly Assistants)
3.	Islamic Village Elderly Home	Tangerang City	4 person (4 Elderly Assistants)
4.	Bina Bhakti Elderly Home	South Tangerang City	18 person (18 Elderly Assistants)
5.	Hana Elderly Home	South Tangerang City	14 person (8 Nurses, 6 Nurse Assistants)
6.	Kanopi Wulan Bahtera Elderly Home	South Tangerang City	4 person (2 Nurses, 2 Elderly Assistants)
Total			<b>55 person</b>

Source: Trisnasari E, Krisnamurti DGB, Hanifa AN, 2024

Based on Table 1, the study was conducted in 6 elderly care homes under the supervision of Banten Province. The selection of these homes was based on the criteria that they care for the elderly within the home and are willing to participate in the study. Out of a total of 18 elderly care homes under the supervision of the Provincial Government of Banten, there are 8 homes that care for the elderly within the home. However, of these 8 homes, 2 could not be included in the study because the caregivers working in these homes are categorized as informal caregivers. Therefore, the study was conducted in the 6 homes that met the criteria. Respondents from the six homes participating in the study fall into the category of formal

caregivers, comprising elderly assistants, nurses, nurse assistants, and social workers. The activities carried out by the respondents in these elderly care homes include bathing, preparing food and drinks, health care for the elderly, and other tasks related to the needs of the elderly. These respondents have varying working hours as some homes implement a shift system.

The study was conducted on a total of 55 respondents over approximately 1 month from the March to April 2024. Out of the 55 respondents who agreed to participate in the study, 6 respondents did not complete the questionnaire fully and were thus included in the exclusion criteria. The fully completed questionnaire data from 49 respondents underwent univariate and bivariate analysis. The flow of respondent participation in the study is explained in Figure 1 below.



**Figure 1.** The flow of participant description in the research study

Source : Trisnasari E, Krisnamurti DGB, Hanifa AN, 2024

A description of the characteristics of the research respondents can be seen in Table 2.

**Table 2.** General description of the research location

Characteristic	n = 49	%
<b>Age</b>		
15 – 24 years	13	26.5%
25 – 34 years	20	40.8%
35 – 44 years	9	18.4%
45 – 54 years	5	10.2%
55 – 64 years	2	4.1%

Characteristic	n = 49	%
<b>Gender</b>		
Male	11	22.4%
Female	38	77.6%
<b>Length of Employment</b>		
<5 years	20	40.8%
>5 years	29	59.2%
<b>Formal Caregiver Type</b>		
Elderly Companion	26	53.1%
Nurse	16	32.7%
Nursing Assistant	6	12.2%
Social Worker	1	2.0%

n = frequency, % = percentage

Source: Trisnasari E, Krisnamurti DGB, Hanifa AN, 2024

Based on Table 2, it is found that the three largest age groups are 25 – 34 years (40.8%), 15 – 24 years (26.5%), and 35 – 44 years (18.4%). The majority of respondents are female (77.6%), with 59.2% having more than 5 years of work experience, and 53.1% of respondents being elderly companions.

## B. Univariate Analysis

Univariate analysis was conducted to determine the frequency distribution of workload, working hours, and mental health problems (depression, anxiety, and stress). The analysis was based on the data from the respondents' completed questionnaires. A description of the workload, working hours, and mental health problems of research respondents can be seen in Table 3.

**Table 3.** Overview of workload, working hours, and mental health problems of research respondents

Variable	n = 49	%
<b>Workload</b>		
Moderate – Heavy	42	85.7%
Light	7	14.3%

Variable	n = 49	%
<b>Working Hours</b>		
>40 hours/week	32	65.3%
20 – 40 hours/week	17	34.7%
<b>Depression</b>		
Yes	10	20.4%
No	39	79.6%
<b>Anxiety</b>		
Yes	19	38.8%
No	30	61.2%
<b>Stress</b>		
Yes	11	22.4%
No	38	77,6%

n = frequency, % = percentage

Source: Trisnasari E, Krisnamurti DGB, Hanifa AN, 2024

Based on Table 3, it was found that the majority of respondents perceived a moderate-heavy workload (85.7%), worked more than 40 hours per week (65.3%), 20.4% experienced depression, 38.8% experienced anxiety, and 22.4% experienced stress.

## C. Bivariate Analysis

Bivariate analysis was conducted to determine the relationship between independent and dependent variables through hypothesis testing using SPSS.

### 1. Relationship Between Workload and Mental Health Problems of Research Respondents

Bivariate analysis to determine the relationship between workload and mental health issues was analyzed using the Chi-Square test. After analysis, the data did not meet the criteria because there were >20% cells with expected count <5. Therefore, this research analysis was conducted using the Fisher test.

#### a. Relationship Between Workload and Depression of Research Respondents

The cross-tabulation results between workload and depression in research respondents can be seen in Table 4.



**Table 4.** Fisher test results of the relationship between workload and depression in research respondents

	Depression				Total		p-value
	Yes		No				
Workload	n	%	n	%	n	%	
Moderate – Heavy	10	23,8%	32	76,2%	42	100%	0,319 <sup>F</sup>
Light	0	0%	7	100%	7	100%	
Total	10	20,4%	39	79,6%	49	100%	

n = frequency, % = percentage, F = Fisher test, p-value = significant <0.05

Source: Trisnasari E, Krisnamurti DGB, Hanifa AN, 2024

Based on Table 4, 20.4% of respondents experiencing workload also experienced depression, among which 23.8% felt moderate to heavy workload and 0% felt light workload. The analysis with the Fisher test found no statistically significant relationship between workload and depression in research respondents (p-value = 0.319).

## b. Relationship Between Workload and Anxiety of Research Respondents

The cross-tabulation results between workload and anxiety in research respondents can be seen in Table 5.

**Table 5.** Fisher test results of the relationship between workload and anxiety in research respondents

	Anxiety				Total		p-value
	Yes		No				
Workload	n	%	n	%	n	%	
Moderate – Heavy	15	35,7%	27	64,3%	42	100%	0,407 <sup>F</sup>
Light	4	57,1%	3	42,9%	7	100%	
Total	19	38,8%	30	61,2%	49	100%	

n = frequency, % = percentage, F = Fisher test, p-value = significant <0.05

Source: Trisnasari E, Krisnamurti DGB, Hanifa AN, 2024

Based on Table 5, 38.8% of respondents experiencing workload also experienced anxiety, among which 35.7% felt moderate to heavy workload and 57.1%



felt light workload. The analysis with the Fisher test found no statistically significant relationship between workload and anxiety in research respondents (p-value = 0.407).

## c. Relationship Between Workload and Stress of Research Respondents

The cross-tabulation results between workload and stress in research respondents can be seen in Table 6.

**Table 6.** Fisher test results of the relationship between workload and stress in research respondents

	Stres				Total	p-value	
	Yes		No				
Workload	n	%	n	%	n	%	
Moderate – Heavy	11	26,2%	31	73,8%	42	100%	0,325 <sup>F</sup>
Light	0	0%	7	100%	7	100%	
Total	11	22,4%	38	77,6%	49	100%	

n = frequency, % = percentage, F = Fisher test, p-value = significant <0.05

Source: Trisnasari E, Krisnamurti DGB, Hanifa AN, 2024

Based on Table 6, 22.4% of respondents experiencing workload also experienced stress, among which 26.2% felt moderate to heavy workload and 0% felt light workload. The analysis with the Fisher test found no statistically significant relationship between workload and stress in research respondents (p-value = 0.325).

## 2. Relationship Between Working Hours and Mental Health Problems of Research Respondents

Bivariate analysis to determine the relationship between working hours and mental health issues was analyzed using the Chi-Square test. After analysis, the data regarding the relationship between working hours and depression and stress did not meet the criteria because there were >20% cells with an expected count <5. Therefore, the analysis was conducted using the Fisher test.

### a. Relationship Between Working Hours and Depression of Research Respondents

The cross-tabulation results between working hours and depression in research respondents can be seen in Table 7.

**Table 7.** Fisher test results of the relationship between working hours and depression in research respondents

	Depression				Total	p-value	
	Yes		No				
Working Hours	n	%	n	%	n	%	0,285 <sup>F</sup>
>40 hours/week	5	15,6%	27	84,4%	32	100%	
20 – 40 hours/week	5	29,4%	12	13,5%	17	100%	
Total	10	20,4%	39	79,6%	49	100%	

n = frequency, % = percentage, F = Fisher test, p-value = significant <0.05

Source: Trisnasari E, Krisnamurti DGB, Hanifa AN, 2024

Based on Table 7, 20.4% of respondents who worked certain hours experienced depression, among which 29.4% worked 20 - 40 hours/week and 15.6% worked >40 hours/week. The analysis with the Fisher test found no statistically significant relationship between working hours and depression in research respondents (p-value = 0.285).

## b. Relationship Between Working Hours and Anxiety of Research Respondents

The cross-tabulation results between working hours and anxiety in research respondents can be seen in Table 8.

**Table 8.** Fisher test results of the relationship between working hours and anxiety in research respondents

	Anxiety				Total	p-value	
	Yes		No				
Working Hours	n	%	n	%	n	%	
>40 hours/week	11	34,4%	21	65,6%	32	100%	0,386 <sup>cs</sup>
20 – 40 hours/week	8	47,1%	9	52,9%	17	100%	
Total	19	36,8%	30	61,2%	49	100%	

n = frequency, % = percentage, CS = Chi-square test, p-value = significant <0.05

Source: Trisnasari E, Krisnamurti DGB, Hanifa AN, 2024

Based on Table 8, 36.8% of respondents who worked certain hours experienced anxiety, among which 47.1% worked 20 - 40 hours/week and 34.4%

worked >40 hours/week. The analysis with the Chi-Square test found no statistically significant relationship between working hours and anxiety in research respondents (p-value = 0.386).

## c. Relationship Between Working Hours and Stress of Research Respondents

The cross-tabulation results between working hours and stress in research respondents can be seen in Table 9.

**Table 9.** Fisher test results of the relationship between working hours and stress in research respondents

	Stres				Total	p-value	
	Yes		No				
Working Hours	n	%	n	%	n	%	0,033 <sup>F</sup>
>40 hours/week	4	12,5%	28	87,5%	32	100%	
20 – 40 hours/week	7	41,2%	10	58,8%	17	100%	
Total	11	22,4%	38	77,6%	49	100%	

n = frequency, % = percentage, F = Fisher test, p-value = significant <0.05

Source: Trisnasari E, Krisnamurti DGB, Hanifa AN, 2024

Based on Table 9, 22.4% of respondents who worked certain hours experienced stress, among which 41.2% worked 20 - 40 hours/week and 12.5% worked >40 hours/week. The analysis with the Fisher test found a statistically significant relationship between working hours and stress in research respondents (p-value = 0.033)

## DISCUSSION

According to the Central Statistics Agency, respondents in this study are categorized as being in the productive age group, indicating that they are actively working at that age.<sup>19,20</sup> Based on the percentage of age, there is a difference from a previous study by Rakhmanigrum, et al. (2019) on caregivers at PSTW Budi Mulia 03 East Jakarta, where the majority of respondents were in the age group of >30 – 65 years (60%) compared to >20 – 30 years (40%).<sup>7</sup> However, another meta-analysis study mentions in line with this research that the age of 30.5 years is the peak of mental health disorders.<sup>21</sup> Age is one biological factor that can affect mental health. As age increases, changes occur in organ systems leading to decreased function, the onset of diseases, and changes in symptomatology.<sup>22</sup>

Women are more likely to work as caregivers because they feel more responsible and obligated to care for others compared to men. According to social role theory, women are viewed as responsible for caregiving tasks and nurturing. Additionally, the long-standing stigma that nursing culture is dominated by women creates negative perceptions for men who choose caregiving as a profession.<sup>23,24</sup>

Based on the percentage of gender, there is similarity with the findings of a previous study by Rakhmanigrum, et al. (2019) where the percentage of female caregivers was higher (75%) compared to males (25%). Gender is also another biological factor that affects mental health. Research conducted in Spain, Canada, and England found that women experience psychological pressure more often than men because women have higher levels of inflammatory, neurotropic, and serotonergic markers compared to men.<sup>22</sup>

The length of employment tends to make employees feel comfortable as they have adapted to their work environment, thus they will feel satisfied with their jobs. Based on the percentage of employment duration, there is similarity with the findings of a previous study by Rakhmanigrum, et al. (2019) where the percentage of employment duration >4 years was 77.5% and <4 years was 22.5%. Length of employment is related to prolonged exposure to risk factors such as fatigue and boredom due to work, which can result in stress at work and subsequently lead to various symptoms of mental health problems.<sup>14,25,26</sup>

Elderly companions have more interactions and direct care for the elderly, so their numbers are higher compared to other professions. In line with a study conducted by Takahashi, et al. (2022), where care workers or other terms for elderly companions had the largest percentage, 51.3%, followed by social workers (25.5%) and nurses (7.2%). Characteristically, the study has similarities in the percentage of female respondents outnumbering males. The risk of mental health problems in caregivers in elderly homes is related to the tasks they perform. The study explains that the duration of contact with the elderly, worsening conditions in the elderly, fatigue in caregiving, and conflicts with family members of the elderly can increase the risk of mental health problems.<sup>18</sup>

Based on the percentage of mental health problems, there are similar findings with a previous study by Aprilia (2022) on elderly caregivers with stroke in Makassar City, where more individuals did not experience mental health issues, with a depression rate of 11.8%, anxiety at 21.8%, and stress at 13.4%. The study shares similarities with this study in terms of the distribution of characteristics of age and gender of respondents.<sup>27</sup> Based on the observations of the researchers in this study, respondents chose to be patient and accept circumstances when serving and facing the elderly. In theory, the ability to tolerate and adapt to perceived burdens can form positive coping mechanisms to maintain psychological strength in dealing with sources of mental health problems.<sup>28,29</sup>

The results regarding the percentage of workload are similar to a previous study by Rakhmaningrum, et al. (2019), where the percentage of heavy workload was 80% and moderate workload was 16%.<sup>7</sup> However, the results differ from a previous study by Sarwendah (2013) on caregivers at Tresnawerdha Budi Mulia Social Welfare Home in DKI Jakarta, where 76.7% were categorized as having light to moderate workload and 23.3% had moderate to heavy workload.<sup>14</sup> This difference is due to variations in the use of workload measurement questionnaires, differences in the location of the studies, and the absence of excessive demands on caregiver workload, thus the perceived workload differs from the respondents in this study.<sup>7,14</sup>

Different results were obtained from a previous study by Prasetyo (2019) on caregivers at Tresna Werda Palembang, which found a value of  $p = 0.001$  ( $p < 0.05$ ), and a study by Risnarita, et al. (2023) on stroke patient caregivers, which found a value of  $p = 0.003$  ( $p < 0.05$ ), indicating a significant statistical relationship between caregiver workload and depression. The results differ from a previous study by Risnarita, et al. (2023), which found a significant relationship between workload and anxiety with a value of  $p = 0.02$  ( $p < 0.05$ ). Different results were also obtained from previous studies by Risnarita, et al. (2023) with a p-value of 0.04 ( $p < 0.05$ ), Rakhmaningrum, et al. (2019) with a p-value of 0.003 ( $p < 0.05$ ), and Sarwendah (2013) with a p-value of 0.001 ( $p < 0.05$ ), indicating a significant relationship between workload and work stress. In theory, the workload perceived by caregivers while caring for the elderly affects their psychological state, resulting in depression, anxiety, and stress. Depression is associated with feelings of guilt when unable to provide the best care to patients. Anxiety is related to concerns about the condition of the elderly being cared for, and stress is associated with the magnitude of responsibility in caring for the elderly.<sup>7,14,29,30</sup>

This study found no relationship between workload and depression, anxiety, and stress because the data obtained from this study were homogeneous and used a smaller sample size compared to previous studies. Furthermore, in some elderly homes, the reward and punishment system and job quality assessment for respondents have not been implemented, resulting in no excessive demands on the workload they perform, which ultimately affects the perceived workload and impacts mental health conditions. Additionally, most respondents were able to cope with the workload they perceived while working by tolerating and adapting well, thus creating positive coping mechanisms to avoid incidents of mental health problems.<sup>28,29</sup>

Some elderly homes implement a shift system for the respondents so that they answer based on the accumulation of working hours during a week-long work shift, with the following working hours at the elderly homes:

1. UPTD Perlindungan Sosial Dinas Sosial Provinsi Banten

a. Nurses and Social Workers

- 1) Monday – Friday : 07:30 AM – 04:00 PM
- 2) Saturday and Sunday : Using a morning shift system until 2 PM according to the predetermined schedule and standby via phone for 24 hours

b. Elderly Companions: 24 hours every day

2. Berdikari Elderly Home

Operates on a one-week shift working 24 hours/day and one week off, then replaced by the next shift. Each shift for one week is filled by 2 – 3 nurses or elderly companions.

3. Islamic Village Elderly Home

All elderly companions work 24 hours every day.

4. Bina Bhakti Elderly Home

Implements a per-day shift system where each elderly companion gets a 7-day break in a month.

The daily work hour division is as follows:

- a. Shift 1 (Morning) : 09:00 AM – 02:00 PM
- b. Shift 2 (Afternoon) : 02:00 PM – 08:00 PM
- c. Shift 3 (Night) : 08:00 PM – 05:00 AM

5. Hana Elderly Home

Operates a per-day shift system where nurses and nursing assistants work for 5 – 6 days a week.

The daily work hour division is as follows:

- a. Shift 1 (Morning) : 07:00 AM – 02:00 PM
- b. Shift 2 (Afternoon) : 02:00 PM – 09:00 PM
- c. Shift 3 (Night) : 09:00 PM – 07:00 AM

6. Kanopi Wulan Bahtera Elderly House

Operates a per-day shift system where nurses work for 4 – 5 days a week. The daily work hour division is as follows:

- a. Shift 1 (Morning) : 07:00 AM – 02:00 PM
- b. Shift 2 (Afternoon) : 02:00 PM – 09:00 PM
- c. Shift 3 (Night): 09:00 PM – 07:00 AM

Based on the percentage of working hours, most respondents have exceeded the working hour regulations in Indonesia according to the Republic of Indonesia Law Number 13 of 2003 concerning Manpower and Government Regulation Number 35 of 2021 concerning Temporary Work Agreements, Outsourcing, Working Hours, and Rest Time, and Termination of Employment. However, the regulations also state that working hours can exceed the regulations adjusted to the type of work. As observed in the field, some respondents work full-time for 24 hours/day to supervise the elderly and ensure their needs are met.<sup>31,32</sup>

In theory, based on previous research conducted by Kumagai (2017) on caregivers in Japan, 50.3% of caregivers work for 20 – 40 hours/week and >40 hours/week. Excessive working hours are one of the main stressors for caregivers in elderly homes working >20 hours per week, which can negatively impact mental health and lead to symptoms of depression, anxiety, and stress.<sup>15,29,33</sup> There are similarities in results with previous research by Kumagai (2017) with a p-value of 0.496 ( $p > 0.05$ ), indicating no statistically significant relationship between working >20 hours/week and mental pressure.<sup>15</sup> In theory, excessive working hours can cause fatigue in workers, disrupting physical conditions and mental health, which affects the decline in work productivity.<sup>16,34</sup>

The difference in results showing no significance between working hours and anxiety and depression but statistical significance between working hours and stress is due to several factors, such as a sample size that is too small compared to previous research and other influencing risk factors for anxiety and depression not included in the study. However, based on field observations, these results may be obtained because of several factors, such as the ability to cope positively with mental health disorders and having break times during work. The respondents' positive coping abilities with increased work duration stressors can reduce the risk of mental health problems. Additionally, the shift work system allows them to have time to rest briefly from their caregiver duties, and having rest times during work hours also has a positive impact on their mental health.<sup>15</sup>

## CONCLUSION

In conclusion, most respondents experienced moderate to heavy workloads and worked for more than 40 hours per week, and mental health problems such as depression, anxiety, and stress were found. There was no statistically significant relationship between workload and depression, anxiety, and stress. There was no statistically significant relationship between working hours and depression and anxiety, but there was a statistically significant relationship between working hours and stress. As a preventive measure against mental health problems among caregivers, it is hoped that they can employ positive coping strategies, utilize rest time effectively, and seek consultation for any changes in mental



condition as early as possible. Additionally, it is hoped that continuing policies implemented by elderly homes will evaluate the possible causes of mental health problems and provide appropriate appreciation to caregivers.

## REFERENCES

1. World Health Organization. Mental health [Internet]. 2022 [cited 2023 Nov 20]. Available from: <https://www.who.int/news-room/fact-sheets/detail/mental-health-strengthening-our-response>
2. World Health Organization. Mental health at work [Internet]. 2022 [cited 2023 Nov 20]. Available from: <https://www.who.int/news-room/fact-sheets/detail/mental-health-at-work>
3. Chan SL, Matsah NSB, Yusuf AAB, Khaidir ASBM, Hamdan NHB, Kamizi ZNB. A review on family caregiving challenges in Malaysia. *ProGCouns: Journal of Professionals in Guidance and Counseling*. 2022 May 31;3(1):1–9.
4. Omiya T, Kutsumi M, Fukui S. Work, leisure time activities, and mental health among family caregivers of the elder people in Japan. *Healthcare (Switzerland)*. 2021;9(2):1–13.
5. Tim Riskesdas 2018. Laporan Riskesdas 2018 Nasional. Jakarta: Lembaga Penerbit Badan Penelitian dan Pengembangan Kesehatan (LPB); 2019.
6. Tim Riskesdas 2013. Riskesdas 2013 dalam angka. Jakarta: Lembaga Penerbit Badan Penelitian dan Pengembangan Kesehatan; 2013. 200–207 p.
7. Rakhmaningrum M, Idris M. Hubungan beban kerja dengan tingkat stres kerja pada caregiver di panti sosial tresnawerdha budi mulia 03 jakarta timur. *Kesehatan dan Anak* |. 2019;5(2):15–23.
8. Firdausi AA. Hubungan antara lama merawat pasien skizofrenia dengan tingkat kecemasan caregiver pasien rawat jalan poli psikiatri RS PTPN XI Djatiroto Lumajang [Skripsi]. Universitas Jember; 2018.
9. American Psychological Association. Older adults [Internet]. 2021 [cited 2023 Nov 25]. Available from: <https://www.apa.org/pi/aging/resources/guides/older>
10. Ratna Prima D, Safirha AA, Nuraini S, Maghfiroh N. Pemenuhan kebutuhan lansia terhadap kualitas hidup lansia di kelurahan grogol jakarta barat. | *Jurnal Kebidanan*. 2019;8(1):1–7.
11. Izzati ML, Almira AN, Ghurriah A, Mukhoyyaroh T. Gambaran stres pada caregiver lansia. *Al-Ihath*. 2023;3(01):49–52.
12. Babapour AR, Gahassab-Mozaffari N, Fathnezhad-Kazemi A. Nurses' job stress and its impact

on quality of life and caring behaviors: a cross-sectional study. *BMC Nurs.* 2022;21(1):1–10.

13. Kolodziej IWK, Coe NB, Van Houtven CH. The impact of care intensity and work on the mental health of family caregivers: losses and gains. *Journals of Gerontology - Series B Psychological Sciences and Social Sciences.* 2022;77:S98–111.
14. Sarwendah E. Hubungan beban kerja dengan tingkat stress kerja pada pekerja sosial sebagai caregiver di panti sosial tresna werdha budi mulia dki jakarta 2013 [Skripsi]. [Jakarta]: Universitas Islam Negeri Syarif Hidayatullah; 2013.
15. Kumagai N. Distinct impacts of high intensity caregiving on caregivers' mental health and continuation of caregiving. *Health Econ Rev.* 2017;7(1).
16. Kalanlar B, Kuru Alici N. The effect of care burden on formal caregiver's quality of work life: a mixed-methods study. *Scand J Caring Sci.* 2020;34(4):1001–9.
17. Sołtys A, Tyburski E. Predictors of mental health problems in formal and informal caregivers of patients with Alzheimer's disease. *BMC Psychiatry.* 2020;20(1):1–11.
18. Takahashi T, Ekoyama S, Tachikawa H, Midorikawa H, Shiratori Y, Ota M, et al. Mental health of caregivers working in nursing homes during the COVID-19 pandemic. *Dement Geriatr Cogn Disord* [Internet]. 2022 [cited 2023 Nov 28];51(3):233–40. Available from: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC9393777/>
19. Direktorat Analisis dan Pengembangan Statistik Badan Pusat Statistik. Bonus demografi dan visi indonesia emas 2045. Badan Pusat Statistik [Internet]. 2023;1–12. Available from: [https://bigdata.bps.go.id/documents/datain/2023\\_01\\_2\\_Bonus\\_Demografi\\_dan\\_Visi\\_Indonesia\\_Emas\\_2045.pdf](https://bigdata.bps.go.id/documents/datain/2023_01_2_Bonus_Demografi_dan_Visi_Indonesia_Emas_2045.pdf)
20. Goma EI, Sandy AT, Zakaria M. Analisis distribusi dan interpretasi data penduduk usia produktif Indonesia tahun 2020. *Jurnal Georafflesia: Artikel Ilmiah Pendidikan Geografi.* 2021;6(1):20.
21. Solmi M, Radua J, Olivola M, Croce E, Soardo L, Salazar de Pablo G, et al. Age at onset of mental disorders worldwide: large-scale meta-analysis of 192 epidemiological studies. *Mol Psychiatry.* 2022;27(1):281–95.
22. Murniati N, Al Aufa B, Kusuma D, Kamso S. A scoping review on biopsychosocial predictors of mental health among older adults. Vol. 19, *International Journal of Environmental Research and Public Health.* MDPI; 2022.
23. Swinkels J, van Tilburg T, Werbakel E, van Groenou MB. Explaining the gender gap in the caregiving burden of partner caregivers. *J Gerontol B Psychol Sci Soc Sci.* 2019;74(2):309–17.

24. Woo BFY, Goh YS, Zhou W. Understanding the gender gap in advanced practice nursing: A qualitative study. *J Nurs Manag.* 2022;30(8):4480–90.
25. Rudyarti E. Analisis hubungan stres kerja, umur, masa kerja, dan iklim kerja dengan perasaan kelelahan kerja pada perawat. Bekasi; 2020.
26. Manabung AR, Duoth LF, Warouw F. Hubungan antara masa kerja dan beban kerja dengan stres kerja pada tenaga kerja di PT. pertamina TBBM Bitung. *Jurnal KESMAS.* 2018;7(5).
27. Aprilia I. Gambaran tingkat stres, ansietas, dan depresi pada caregiver lansia dengan penyakit stroke di kota makassar di masa pandemi covid-19 [Skripsi]. Universitas Hasanuddin; 2022.
28. Widiastuti RH, Setyowati AI, Setianingrum DE. Beban dan coping caregiver lansia demensia di panti wredha. *Jurnal Ilmu Keperawatan Komunitas.* 2019;2(1):8–18.
29. Risnarita D, Pribadi T, Furqoni PD, Elliya R. Depresi, kecemasan, stress dan beban perawatan pengasuh utama (caregiver) pasien dengan stroke. *Holistik Jurnal Kesehatan.* 2022;16(7):625–35.
30. Prasetyo MH. Hubungan beban caregiver terhadap kejadian depresi pada caregiver yang bekerja di panti tresna werdha palembang. 2019;
31. Undang-undang Republik Indonesia No.13 Tahun 2003 Tentang Ketenagakerjaan. Indonesia; 2003.
32. Republik Indonesia P. Peraturan Pemerintah Nomor 35 Tahun 2021 Tentang Perjanjian Kerja Waktu Tertentu, Alih Daya, Waktu Kerja dan Waktu Istirahat, dan Pemutusan Hubungan Kerja [Government Regulation Number 35 of 2021 concerning Work Agreements for Certain Time, Outsourcing, W. Peraturan Pemerintah Republik Indonesia Nomor 35 Tahun 2021 [Internet]. 2021;(086142):42. Available from: <https://peraturan.bpk.go.id/Home/Details/161904/pp-no-35-tahun-2021>
33. Wong K, Chan AHS, Ngan SC. The effect of long working hours and overtime on occupational health: A meta-analysis of evidence from 1998 to 2018. *Int J Environ Res Public Health.* 2019 Jun 2;16(12).
34. Collewet M, Sauermann J. Working hours and productivity. *Labour Econ.* 2017 Aug 1;47:96–106.