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Elderly's Dependency Level Correlated with the Burden Perceived by Informal Caregivers



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Abstract

Elderly care at home is quite heavy care related to various physiological and psychological changes in the elderly. Informal caregivers who take care for elderly may get increase burden experience, especially for elderly people with a high level of dependency. The aim of this research is to determine the correlation between the level of elderly dependency and the burden felt by informal caregivers. This research was a non-experimental quantitative research with a cross-sectional design. The research was carried out in March-August 2023 with the population of 137 informal caregivers in Sukoharjo Hamlet, Klojen District, Malang City, East Java. The sample was 102 respondents who was carried out randomly using simple random sampling technique. The independent variable in this research was the level of elderly dependency. There was a correlation between the level of elderly dependency and the burden felt by elderly caregivers with a significance value of <0.05 . Based on the research results, it showed the correlation between the level of dependency of the elderly and the burden felt by the caregiver. The various physical burdens felt by caregivers while caring for the elderly, if it is not applied with a good management, it can affect to the daily activities. The caregiver's busy schedule in caring for the elderly give impact to disruption their social life and the caregiver loses the time to enjoy their personal needs.

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INTRODUCTION

The elderly population in Indonesia has increased by 9.92% (\pm 26 million people) over 5 decades (1971-2020) (Oktaviani et al., 2022). Based on projections made by the Central Statistics Agency, in 2025 East Java Province will become a province with a big aging population due to a significant increase the number of elderly people (12.6%) (Massie, 2019). Malang City is one of the cities in East Java which has a fairly high number of elderly communities. Based on data from the Head of the Social Service for Women's Empowerment, Child Protection, Population Control and Family Planning in Malang City, currently the number of elderly people in Malang has reached 106,000 or 12.5% of the total population of Malang City. (Malang, 2022). Elderly people experience various progressive physical changes which give impacts in health problems and chronic diseases such as hypertension and diabetes mellitus. In this world, 33.1% of the population aged 30-79 years had hypertension in 2019 and 10.1% (5.1 trillion people) aged 20-79 years suffered from Diabetes Mellitus in 2021 (IDF, 2021; Zhou et al., 2021). The prevalence of hypertension in Indonesia reached 65% in the population aged > 56 years in 2018, while the percentage of Diabetes Mellitus was 15% (Ministry of Health, 2019). Based on the Basic Health Research (Riskesdas) in 2018, the number of elderly people suffering from Non-Communicable Diseases is increasing. In East Java, there are 105 thousand people who suffer from hypertension, and 150 thousand people who has diabetes mellitus (Ministry of Health, 2019). The condition is not proportional to the number of community who undergo health checks at health services. This is shown by only 36.9% receiving health services regarding hypertension in 2021 (East Java Health Office, 2022). Based on a preliminary research conducted at the Barend Community Health Center, Malang City, only a small number of hypertension and DM patients who undergo health checks at Barend Community Health Center, so it is difficult for the Community Health Center to monitor the health status of the community in the Barend Community Health Center working area. Most elderly people wouldn't able to live independently if they have chronic diseases like those mentioned above. Elderly people who have chronic illnesses need someone/their own family to help and support them in managing their health (Schulman-Green et al., 2021). Elderly people who live at home will be cared by their family or called as informal caregivers.

Informal caregiver for elder is someone who provides unpaid care or support to elderly people who need help or who are unable to take care for themselves due to long-term health conditions or disabilities. Informal caregivers can be family members, relatives, friends or even neighbors, except the health care is provided by professionals or through organized voluntary services (Kong et al., 2021). Elderly care carried out at home is quite heavy care related to various physiological and psychological changes in the elderly. Informal caregivers who take care for the elderly may experience an increased burden, especially for elderly people with a high level of dependency. The research shows that families who take care for elderly parents with chronic diseases/multimorbidity have a high burden (Ding et al., 2022).

The burden felt by informal caregivers is defined as the experience felt by informal caregivers when providing care to the elderly which is influenced by the characteristics of the elderly, the caregiver themselves, and the environment. The burden felt by caregivers is related to various indicators, namely the implications of elderly care for personal life, satisfaction with roles and family members, emotional burden, family support, economic burden, and perceptions of success and control mechanisms (Monteiro et al., 2015). The results of the research show that the high burden felt by elderly caregivers is caused by: lack of free time, the number of hours of care in a day, the length of patient care in years, the development of elderly illnesses and the level of elderly dependency (Bekdemir & İlhan, 2019; Pudelewicz et al., 2019). The burden felt by elderly caregivers must be managed to minimize the negative impacts that occur. The impact on the quality of life, burn-out and mental health (stress, anxiety, depression) of informal caregivers will appear when they feel a high burden (del-Pino-Casado et al., 2021; Große et al., 2018; Wijaya & Fun Fun, 2022; Ybema et al., 2002). Based on the background description above, the researcher will conduct research entitled "The Influence of the Care Situation and Health Status of the Elderly on the Burden Perceived by Informal Caregivers". The aim of this research is to determine the correlation between the level of elderly dependency and the burden felt by informal caregivers

METHODS

This research was non-experimental quantitative research with a cross-sectional design.

The research was conducted in March-August 2023 with a population of 137 informal caregivers in Sukoharjo Hamlet, Klojen District, Malang City, East Java. The sample was 102 respondents who was carried out randomly using simple random sampling technique. The independent variable in this research was the level of elderly dependency. The dependent variable in this research was the burden felt by informal caregivers which includes emotional burden, implications for personal life, economic burden, reactions to requests, perceptions of effectiveness and control mechanisms, family support, satisfaction with the role and relatives. The data collection was carried out using a questionnaire. The research instrument used in this research was the Barthel Index to determine the level of independence of elderly people, consisting of 10 items that were

assessed, there are eating, bathing, self-care, dressing, urinating, defecating, using the toilet, transferring, mobility, and going up and down stairs. The Informal Caregiver Burden Assessment Questionnaire (QASCI) to identify the burden that felt by informal caregivers consists of 32 question items with seven sub-items, there are emotional burden, implications for personal life, economic burden, reactions to requests, perceptions of effectiveness and control mechanisms, support family, satisfaction with roles and relatives. The data analysis techniques consisted of univariate and bivariate analysis. Univariate analysis used descriptive statistics presented in the form of a frequency distribution table. Bivariate analysis uses chi-square.

RESULTS

Table 1 shows that the majority of respondents were female (75.5%) and the majority were married (73.5%) and had >2 children (50%). The education level of the majority of respondents is high school (66.7%) and most of them work as private employees. Most of the respondents live in the same house as elderly people that they take care for (91.2%).

Table 1: Frequency Distribution of Respondents (n=102)

Variables	Frequency	Percent (%)
Gender		
Man	26	25.5
Woman	76	75.5
Marital status		
Marry	75	73.5
Not married	7	6.9
Not married yet	18	17.6
Widow/widower	2	2.0
Last education		
Elementary School	8	7.8
Middle School/Equivalent	8	7.8
High School/equivalent	68	66.7
University (D3/D4/S1)	18	17.6
Work		
Private	58	56.9
Civil servants	0	0
Housewife	36	35.3
Doesn't work	8	7.8
Number of children		
There isn't any	0	0
1 person	26	25.5
2 persons	25	24.5
>2 people	51	50
Residence with elderly people		
Live at home	93 Respondents	91.2%
Don't live in the same house	9 Respondents	8.8%

Source: Primary Data

Elderly Dependency Level

The results of the research shows that the majority of elderly people are in the mild dependent category at 41.2% (42 people), followed by 24.5% (25 people) independent elderly people, 23.5% (24 people) moderately dependent elderly people, 7.8% (8 people) of elderly people are heavily dependent, and the smallest percentage is total dependent at 2.9% (3 people).

Burden Felt by Informal Caregivers

The research results shows that the majority of respondents had a burden while caring for the elderly with the high burden category being 53.9% (55 respondents), followed by 28.4% (29 respondents) experience a moderate burden, and the least category was 17.6% (18 respondents) experience extreme burden.

Table 2: Research Variable Data (n=102)

Variables	Frequency	Percent (%)
Dependency Levels		
Independence	25	24.5
Mild Dependence	42	41.2
Moderate Dependence	24	23.5
High Dependence	8	7.8
Total Dependence	3	2.9
Perceived Burden		
Moderate	29	28.4
High	55	53.9
Extreme	18	17.6

Source: Primary Data

The Correlation between the Level of Dependency of the Elderly and the Burden Perceived by Informal Caregivers

Table 3 shows a significance value of <0.05, it means there is a correlation between the level of elderly dependency and the burden felt by elderly caregivers. The cross table from table 3 shows that elderly people cared for by caregivers with a light level of dependency tend to show a moderate burden felt by the caregiver, whereas elderly people with a total level of dependence tend to show a high burden felt by the caregiver.

Table 3: The correlation between dependency level and perceived burden

Dependency Levels	Perceivrd Burden Level						Significance
	Moderate		High		Extreme		
	n	%	N	%	n	%	
Independence	3	2.9	16	15.7	6	5.9	pvalue = 0.006
Mild Dependence	21	20.6	15	14.7	6	5.9	
Moderate Dependence	4	3.9	14	13.7	6	5.8	
High Dependence	1	1.0	7	6.9	0	0	
Total Dependence	0	0	3	2.9	0	0	
Total	29	28.4	55	53.9	18	17.6	

DISCUSSION

Table 1 shows that the majority of elderly people's dependency levels fall into the mild dependency category. Mild dependents are defined as people who are mostly independent but are given occasional help with activities of daily living (Zingmark & Norström, 2021). In general, the level of dependency is influenced by residence status, medicatio use, and the illnesses experienced. Previous research found an influence among age, residence status, perceived health status, medication

use, physical exercise, and history of falls (Oliveira et al., 2019). Demographic data regarding the residence status of the elderly shows that 91.2% of respondents live with the elderly. This is one of the supporting factors in increasing the independence of the elderly. Elderly families, most of whom act as caregivers of course have emotional and emotional ties, so they have internal motivation to maintain the health of the elderly, one of them by takecare of them so that the elderly can remain independent. The family itself is an individual or group of individuals

who provide family care functions, one of which is providing love. Families who give a good care can improve the quality of life of the elderly. The results of previous research reveal that family support has a positive role in the independence of the elderly, besides that family support can improve the quality of life of the elderly so the elderly can have a positive outlook on life (positive psychology) (Bar-Tur, 2021; Friska et al., 2020; Kusumawaty et al., 2023).

Table 3 in this article shows the correlation between the level of elderly dependency and the burden felt by caregivers. The level of dependency of the elderly itself has both physical and psychological impacts on the caregiver. Physical impacts that can occur include physical fatigue. Physical fatigue causes health problems in caregivers who give assistance. The more time you spend with the elderly, the less time you have to maintain your health and meet your personal physical and emotional needs. This condition can cause significant changes in the health status of the caregiver. The results of previous research explain that caregivers experience fatigue when giving care to the elderly, they often skip meals which results in digestive diseases, get sick easily and disrupt rest patterns (Kamila & Dewi, 2023).

The various physical burdens felt by caregivers while caring for the elderly, if they don't have a good management it can affect their daily activities. The caregiver's busy schedule in caring for the elderly results in disruption to social life and the caregiver loses the opportunity to enjoy his or her personal needs. As time goes on, caregivers can feel isolated, stressed, anxious and even depressed, thus experience psychological burdens. This is in line with previous research which shows that caregivers can undergo neuropsychiatric symptoms, such as anxiety, agitation, shame, aggressive behavior, and sleep disorders which are closely related to caregiver burden, which has a negative impact on reducing general health, quality of life, and social isolation (Allen et al., 2019)

The closer correlation between the caregiver and the person being cared for, the higher the psychological burden felt. When the caregiver is unable to meet the physical needs of the elderly being cared for, the feeling of disappointment and failure that felt also higher, especially if the caregiver lives in the same house as the elderly and the elderly's ability to move is increasingly limited. This condition causes caregivers to feel distrustful of themselves in caring for the elderly or what is called low self-efficacy. This is in line with research which

states that caregivers who have low self-efficacy cause higher psychological burdens experienced (Yang et al., 2023).

CONCLUSION

Based on the research results described in this article, the majority of elderly people have a light level of dependency with the burden felt by the majority of caregivers being in the high category. The statistical test results show that there is a correlation between the level of dependency of the elderly and the burden felt by the caregiver.

SUGGESTIONS

Community health services should provide the education about the importance of physical and psychological health when providing the elderly care.

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CONFLICTS OF INTEREST

All authors declare no conflict of interest.

AUTHOR CONTRIBUTIONS

MP as a contributor of ideas, preparation of manuscripts, and publications. OD as developer of research methods carried out, data analyst, and manuscript preparation. EL has the role of data collection, data editing, data analysis, and manuscript preparation.

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