The Relationship Between Stress Levels and Self-Care Management in Elderly Individuals with Hypertension

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ABSTRACT

Elderly individuals undergo gradual physical and psychological deterioration. They commonly encounter difficulties in self-care management, potentially exacerbating their health conditions. Self-care management among elderly individuals with hypertension tends to be inadequate. Challenges within self-care management among the elderly often stem from stress. The objective of this study is to analyze the relationship between stress levels and self-care management among elderly individuals with hypertension. This research employs a quantitative design with a cross-sectional correlation approach. The sample in this study consists of 145 elderly individuals with hypertension, selected using cluster random sampling. The study utilizes the Hypertension Self-Management Behavior Questionnaire (HSMBQ) and the Perceived Stress Scale (PSS). The results, analyzed using the gamma test, show a contingency coefficient P-value of -0.991 and a P-value of $0.000 \leq 0.05$. Statistically, this indicates a significant relationship between stress levels and self-care management, with a very strong negative correlation. This means that lower stress levels are associated with better self-care management. Elderly individuals experiencing high stress are unable to effectively manage self-care, highlighting the need for optimal individualized stress management to improve the health status of the elderly.

Keyword: Self-care Management, Stress, Hypertension, Elderly

ABSTRAK

Lansia terjadi kemunduran fisik dan psikologis secara bertahap, lansia umumnya mengalami kesulitan dalam manajemen perawatan diri sehingga dapat memperburuk kondisi kesehatannya. Manajemen perawatan diri pada lansia dengan hipertensi cenderung kurang. Kondisi didalam manajemen perawatan diri pada lansia sering kali terjadi karena lansia mengalami stres. Tujuan penelitian ini adalah menganalisis hubungan antara tingkat stres dengan manajemen perawatan diri pada lansia dengan hipertensi. Rancangan penelitian ini bersifat kuantitatif dengan pendekatan korelasi cross sectional. Sampel dalam penelitian ini berjumlah 145 lansia dengan hipertensi yang diseleksi menggunakan cluster random sampling. Penelitian ini menggunakan kuesioner Hypertension Self-Management Behavior Questionnaire (HSMBQ) dan Perceived Stress Scale (PSS). Hasil penelitian dengan menggunakan uji gamma menunjukkan nilai koefisien kontingensi sebesar -0,991 dan di dapatkan nilai P Value = 0,000 ≤ 0,05. Secara statistik memiliki arti ada hubungan yang signifikan antara tingkat stres dengan manajemen perawatan diri, dengan keeratan hubungan yang sangat kuat dan hubungan bersifat negatif yang artinya jika tingkat stres ringan maka manajemen perawatan diri baik. Lansia yang mengalami stres berat tidak mampu melakukan manajemen perawatan diri secara efektif dan perlunya dilakukan manajemen stres secara individu dengan optimal untuk meningkatkan derajat kesehatan terhadap lansia.

Kata Kunci: Manajemen Perawatan Diri, Stres, Hipertensi, Lansia

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Introduction:

Hypertension is a common condition among the elderly, and its management requires effective hypertension self-care management (Du, 2018). Self-care management refers to a set of behavioral skills performed to manage the disease independently (Adiyasa & M Cruz, 2020). Essential to controlling hypertension is the implementation of effective self-care management (Muthiyah A. AM, 2023). Self-care management among elderly individuals with hypertension tends to be low (Du, 2018). The elderly generally experience difficulties in self-care management, which could worsen their health conditions. Moreover, many elderly individuals with hypertension consider the lack of self-care management to be normal, whereas inadequate self-care management increases the risk of complications (Prabasari, 2021).

The World Health Organization (WHO) reports that approximately 972 million people worldwide, or 26.4%, suffer from hypertension. Of these, 333 million live in developed countries and 639 million in developing countries (Kurniawan and Sulaiman, on (Aprillia, 2020)). The prevalence of hypertension in East Java is 1,377,356 (15.15%). In Jember Regency, the prevalence of hypertension ranked third in East Java in 2021, at 39.18%. Data from the Jember District Health Office in 2022 indicates that 1,631 elderly individuals with hypertension visited the Tanggul Public Health Center. Within the Tanggul Public Health Center's service area, 227 elderly individuals with hypertension are registered at seven elderly care centers. Among the ten elderly individuals in the Tanggul area, 70% exhibit poor self-care management, and 40% experience stress accompanied by anxiety disorders

A common issue among the elderly is the poor implementation of self-care management, often caused by stress. Psychological factors such as anxiety, depression, difficulty accepting their condition, early retirement, low life expectancy, and economic problems can lead to elevated blood pressure beyond normal limits, causing stress in the elderly (Pebriyani, 2022). The psychological conditions experienced by elderly individuals with hypertension can make self-care management difficult. The success of self-care management in hypertensive patients is closely correlated with maintaining a stress-free mindset, as sustained stress can keep blood pressure high, leading to hypertension. This approach helps prevent complications from hypertension (Barus, 2023). Failure to implement self-care management can result in uncontrolled hypertension, leading to complications such as congestive heart failure (CHF), cardiac insufficiency, stroke, and kidney failure (Sakinah & Nurdin, 2021).

Interventions to improve self-care management among elderly individuals affected by stress should include prevention and management approaches to mitigate sustained stress. Elderly health posts (Posyandu Lansia) provide healthcare services for the elderly, aiming to ensure a pleasant and productive old age (Masluroh & Farlikhatun, 2020). These health posts are community health service facilities in villages designed to enhance public health, particularly for the elderly. Posyandu Lansia offers services focusing on preventive, promotive, curative, and rehabilitative measures (Pujianti, 2021). The objective of this study is to analyze the relationship between stress levels and self-care management among elderly individuals with hypertension.

Methods:

This study is quantitative research with a cross-sectional correlation approach. It was conducted in the service area of the Jember District Health Office. The study population consists of 227 elderly individuals with hypertension, from which a sample of 145 respondents was selected using probability sampling, specifically cluster random sampling. Cluster random sampling was carried out based on the number of elderly care center in the area. There are 7 elderly care center in the area. The inclusion criteria for this study are elderly individuals who have had hypertension for at least the past year, with blood pressure measurements of at least 140/90 mmHg, and who are at least 60 years old. The exclusion criteria include elderly individuals with hypertension complications that prevent them from managing

their hypertension independently.

The independent variable is stress level, and the dependent variable is self-care management. Data collection was carried out at every elderly care center. Researchers provided informed consent and research questionnaires to each respondent. Stress levels were measured using the Perceived Stress Scale, adapted from Pin (2011), which includes ten items with three indicators: unpredictability, lack of control, and feeling overwhelmed. The validity and reliability of all questions were confirmed, with validity values ranging from 0.565 to 0.879 and a reliability score (Cronbach's Alpha) of 0.960. The self-care management of elderly individuals with hypertension was assessed using the Hypertension Self-Management Behavior Questionnaire (HSMBQ), adapted from Akhter (2010), which consists of 40 items with five indicators: self-integration, self-regulation, interaction with healthcare providers, blood pressure monitoring, and adherence to recommended regimens. The validity and reliability of all questions were confirmed, with validity values ranging from 0.181 to 0.526 and a reliability score (Cronbach's Alpha) of 0.817.

Data analysis in this study includes univariate and bivariate analyses. Univariate analysis covers respondent characteristics and specific data, including age, gender, employment status, education level, and duration of hypertension. Particular data includes stress levels and self-care management. Bivariate analysis uses the gamma test to determine the correlation between variables. The study was ethically approved by the Ethics Committee of Dr. Soebandi University, Jember, No. 28/KEPK/UDS/I/2024, dated January 11, 2024. Informed consent was obtained from the participants before data collection, and the elderly participants signed the consent form. The researcher also adhered to ethical principles such as anonymity, confidentiality, and providing tokens of appreciation to respondents for their participation.

Results:

The research findings were obtained from 145 respondents and presented in the form of univariate and bivariate analyses. Univariate analysis was conducted on respondent characteristics and research variables. In contrast, bivariate analysis was performed to examine the relationship between dependent and independent variables.

1. Respondent's Characteristic

Table 1. Characteristics of Elderly Respondents with Hypertension in the Service of the Jember Distric Health office

Respondent's Characteristic	Frequency (f)	Percentage (%)
Age (years old)		
60-70 tahun	109	75,1%
71-80 tahun	23	15,9%
>80 tahun	13	9,0%
Gender		
Male	14	9,7%
Female	131	90,3%
Employment Status		
Unemployed	84	57,9%
Employed	61	42,1%
Education Levels		
No formal Education	23	15,9%
Elementary School	39	26,9%
Junior High School	20	13,8%
Senior High School	41	28,3%
Bachelor's Degree	22	15,1%
Hypertension Period		
1-5 years	91	62,8%
>5 years	54	37,2%
Total	**145**	**100%**

Table 1 presents the frequency distribution of respondent characteristics for a total of 145 respondents. The majority of respondents are aged 60-70 years old, with 109 respondents (75.2%). The majority are female, with 131 respondents (90.3%). Most respondents are unemployed, with 84 respondents (57.9%). The highest level of education among respondents is high school graduation, with 41 respondents (28.3%). The duration of hypertension is most commonly 1-5 years old, with 91 respondents (62.8%).

2. Specifically Data

Table 2. Research Variables: Stress Level and Self-Care Management

Variebel Penelitian	Frequency (f)	Percentage (%)
Stress Level		
Low	39	26,9%
Moderate	50	34,5%
High	56	38,6%
Self-care Management		
Negative	99	68,3%
Positive	46	31,7%
Total	**145**	**100%**

Based on Table 2, the majority of respondents experience high-stress levels, with 56 respondents (38.6%). Additionally, the majority of respondents have less self-care management, with 99 respondents (68.3%).

3. Bivariate Analysis

Table 3. An Analysis of the Relationship Between Stress Levels and Self-Care Management Among Elderly Individuals with Hypertension in the Service of the Jember Distric Health office

Stress Level	Self-care Management						p value	Correlation Coefficient
	Negative		Positive		Total			
	F	%	F	%	F	%		
Low	2	1,4	37	25,5	39	26,9	0,000	-0,991
Moderate	41	28,3	9	6,2	50	34,5		
High	56	38,6	0	0,0	56	38,6		
Total	99	68,3	46	31,7	145	100		

Table 3 The table above presents a crosstab analysis of the relationship between stress levels and self-care management among elderly individuals with hypertension. The statistical test, conducted using the Gamma test, yielded a P-value of 0.000. Since a P-value ≤ 0.05 indicates statistical significance, there is a significant relationship between stress levels and self-care management in this population. The contingency coefficient of -0.991 suggests a very strong negative correlation, implying that higher stress levels are associated with poorer self-care management. Conversely, lower stress levels correspond to significant levels of self-care management.

Discussion :
1. Stress Levels Among Elderly Individuals with Hypertension

This study indicates that elderly individuals experience a high level of stress. Various factors contribute to this stress, with loneliness and social isolation being the primary causes. Many elderly people feel marginalized and no longer needed. Their reluctance to accept new realities, such as chronic illness, is one of the many negative feelings they must confront (Budiman et al., 2021). The elderly report that during periods of stress, they experience increased blood pressure, muscle tension, elevated heart rate, frequent disturbances due to unexpected events, loss of motivation, lack of support leading to feelings of hopelessness and helplessness, frequent anxiety and depression leading to self-doubt, inability to control their emotions, and feelings of pressure marked by hatred, anxiety, and sadness.

Stress is the body's reaction to emotional stimuli, influenced by environmental and lifestyle factors (Refialdinata, 2022). Adrenaline hormones increase blood pressure by narrowing blood vessels, a process known as vasoconstriction, and by increasing heart rate. Prolonged stress can lead to hypertension. Through the activity of the sympathetic nervous system, stress can cause recurrent increases in blood pressure (Galuh Permata & Syiah Kuala Banda Aceh, 2023)

The study found that the majority of respondents were female. This finding aligns with Kurniawati's (2020) research, which revealed that women are 1.7 times more likely to experience stress and depression than men. Women report higher stress levels compared to men, with stress levels at 8.9 out of 10, whereas men's stress levels are slightly lower (American Psychological Association, 2012). Naturally, women experience higher stress levels due to biological changes, particularly hormonal fluctuations. Older women experience a decline in estrogen levels as part of the aging process, which significantly impacts their emotional balance. Older women also face

greater declines in self-confidence, interpersonal conflicts, and more severe family issues compared to men (Refialdinata, 2022). Women are more prone to stress than men. Although women's brains are physiologically smaller than men's, they work seven to eight times harder when solving problems and can tackle more complex issues. Consequently, women experience stress more frequently (Refialdinata, 2022).

The study also found that most respondents were aged 60-70 years and were unemployed, likely due to adapting to retirement, which can cause stress. Additionally, changes in income, particularly when experiencing a decrease after retirement, contribute to stress among the elderly. They view retirement as a non-productive, rigid, and dependent period, especially if there are financial changes and job loss (Galuh Permata & Syiah Kuala Banda Aceh, 2023).

The researcher opines that several factors, such as age, gender, and occupation, can influence stress levels. Therefore, managing stress in the elderly is crucial to prevent the development of more serious illnesses. The elderly experience stress due to life changes associated with retirement, economic decline, and physical changes. Effective stress management techniques, such as relaxation, cognitive therapy, music therapy, and spiritual practices, should be considered. For instance, music therapy can help reduce stress by stabilizing emotional conditions, providing comfort, increasing motivation or enthusiasm, boosting energy or mood, and having a relaxing effect. Prevention and intervention efforts that consider gender differences and the psychological and biological factors affecting stress should be prioritized to enhance the well-being of the elderly.

2. Self-care Management in Elderly Individuals with Hypertension

The majority of self-care management among elderly individuals with hypertension indicates a category of inadequate self-care management. This condition of hypertension self-care management in the elderly manifests in their inability to adhere to the recommended hypertension diet, failure to control stress, and inadequate compliance with medication. This is consistent with research indicating that elderly individuals with hypertension still do not engage in optimal healthy behaviors, including dietary patterns, stress management, physical activity, and maintaining an ideal body weight (Silvanasari et al., 2023)

The ability of individuals to control and maintain effective self-care behaviors to enhance their quality of life and maintain their health to achieve optimal health well-being is known as self-care management. The lack of self-care management for elderly individuals with hypertension who do not adhere to the five components of self-care management, namely self-integration (following dietary advice, exercising, maintaining body weight, controlling stress, limiting smoking), self-regulation (recognizing signs and symptoms of hypertension, understanding hypertension causes, making informed decisions), interacting with healthcare professionals, monitoring blood pressure regularly, adhering to medication rules, and visiting doctors (Ryandini & Kristianti, 2021)

The results from the data characteristics show that the highest level of education attained by respondents is completing high school (SMA). Still, when combined with those who have no formal education and those who finished elementary school (SD), the number is higher. According to the study by (Silvanasari et al., 2023), most respondents had only an elementary school education. Completion of elementary school education is considered to have a low level of education. The low educational attainment is closely related to a decrease in understanding. The respondents in the study mostly completed elementary school, and there were even quite a few elderly individuals with hypertension who did not attend school. The low level of education is associated with the lifestyle of hypertension patients.

The research results from the data characteristics of the duration of hypertension show that the majority fell into the 1-5 years range, indicating that elderly individuals who have recently developed hypertension may have inadequate self-care management because of their lack of knowledge, leading them to think that

hypertension is a condition that tends to require relatively long treatment, has risks of complications, and can shorten life expectancy. Knowledge about hypertension can encourage the elderly to make lifestyle changes to avoid conflicting or worsening their condition (Silvanasari et al., 2022).

The researcher believes that the lack of education can impact the lack of knowledge and lifestyle behaviors, as evidenced by the results showing that the highest level of education completed is high school (SMA). Still, when combined with those who have no education and those who finished elementary school, the number is higher, indicating a lack of information on how to effectively manage self-care so that the elderly can recognize and evaluate specific symptoms and determine appropriate actions.

3. The Relationship between Stress Levels and Self-care Management in Elderly Individuals with Hypertension

The research findings indicate a relationship between stress levels and self-care management in elderly individuals with hypertension, interpreted as a strong correlation with a negative connotation, signifying an opposing or conflicting relationship between the two variables. Mild stress levels correspond to good self-care management. Elderly individuals experiencing severe stress may exhibit suboptimal self-care management, as during stressful periods, they tend to deviate from recommended dietary patterns such as consuming insufficient vegetables, consuming high-salt foods, neglecting stress management, inadequate physical activity, and delaying doctor visits. In hypertension treatment, apart from medication and self-care, disease awareness also plays a crucial role in treatment and self-care management (Silvanasari et al., 2022).

Elderly individuals experiencing severe stress may not be able to manage self-care optimally. Therefore, optimal stress management is necessary for every individual. Redirecting attention or focusing on other positive activities is one of many simple ways to reduce stress (Anugraheni, 2020). Unhealthy lifestyles, non-adherence to antihypertensive medications,

inadequate stress management, and irregular physical activity are major mistakes made by hypertension patients that can worsen their condition (Lukmawati et al., 2020). One of the most crucial factors in hypertension patient care is the factor influencing self-care (Sulistiawati et al., 2023)

The researcher's opinions that stress levels are related to self-care management in elderly individuals with hypertension due to factors such as elderly individuals not practicing stress management and the five components of hypertension self-care management effectively. Elderly individuals experiencing severe stress express an inability to control their emotions, lacking a deeper understanding of these emotions. They feel torn between various life demands and pressures, making it difficult for them to focus on self-care. When stressed, they may be less motivated to adhere to rules and lifestyle changes necessary to maintain their health. This can include neglecting medication, not following a healthy diet, or avoiding recommended physical activities. Therefore, to stay healthy and have a good quality of life, the elderly must develop effective stress management techniques.

The Limitations of this study include the sample size being limited to one region in Jember Regency, which does not represent all elderly individuals with hypertension in Jember Regency. Additionally, other factors can affect self-care management beyond stress, but these were not included in the analysis. The cross-sectional research method is good for examining relationships, but it would be better if a cohort study were conducted.

Conclusions:

Most stress levels are categorized as severe, and self-care management is inadequate. There is a strong relationship between stress levels and self-care management in the elderly with hypertension, where good self-care management is associated with less stress. Elderly with hypertension should be able to manage stress for self-care optimization, especially by controlling thoughts that affect health and doing positive activities. Health care providers are encouraged to routinely check blood pressure at

the elderly posyandu and implement stress diversion programs such as relaxation, cognitive, music, and spiritual therapies. These programs are expected to help the elderly develop skills and release emotional impulses in a healthy manner. Future researchers are encouraged to explore variables other than stress to describe self-care management in elderly individuals with hypertension comprehensively.

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