



## ORIGINAL ARTICLE

# RELATIONSHIP BETWEEN FAMILY SUPPORT WITH LOW-SALT COMPLIANCE IN ELDERLY HYPERTENSION AT SEI MENCIRIM HEALTH CENTER

*Hubungan Dukungan Keluarga dengan Kepatuhan Diet Rendah Garam Pada Lansia Hipertensi Di Puskesmas Sei Mencirim*

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### ABSTRACT

**Background:** Hypertension is a chronic health condition that cannot be cured. It is caused by high sodium consumption, obesity, stress, smoking, and alcohol consumption. **Purpose:** Determine the relationship between family support and adherence to a low-salt diet in the working area of the Sei Mencirim Health Center, Deli Serdang District, for the elderly with hypertension. **Methods:** The population in this study was older adults with hypertension, totaling 110 respondents. The sample in this study was 52 respondents using a purposive sampling technique, using univariate and bivariate data analysis with the chi-square test. **Results:** The results of the chi-square statistical test obtained a p-value of 0.00 compared to the value of  $\alpha = 0.05$ , so the p-value  $< 0.05$  ( $0.00 < 0.05$ ). This means that there is a significant relationship between family support and adherence to a low-salt diet in the elderly with hypertension in the Sei Mencirim Health Center, Deli Serdang District. **Conclusion:** This study found that there is a significant relationship between family support and adherence to a low-salt diet in the elderly with hypertension. It is hoped that health workers will provide more information about adherence to a low-salt diet in hypertensive patients through health education.

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### ABSTRAK

**Latar Belakang:** Hipertensi adalah kondisi kesehatan kronis yang tidak dapat disembuhkan. Hal ini disebabkan oleh konsumsi natrium yang tinggi, obesitas, stres, merokok, dan konsumsi alkohol. **Tujuan:** Penelitian ini bertujuan untuk mengetahui adanya hubungan dukungan keluarga dengan kepatuhan diet rendah garam pada lansia dengan hipertensi di wilayah kerja Puskesmas Sei Mencirim Kabupaten Deli Serdang. **Metode:** Penelitian ini merupakan penelitian deskriptif kuantitatif dengan pendekatan cross sectional. Populasi dalam penelitian ini adalah semua lansia penderita

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*hipertensi yang berjumlah 110 responden, sampel dalam penelitian ini yaitu 52 responden dengan teknik purposive sampling, menggunakan analisis data univariat dan bivariat dengan uji chi-square. Hasil: Hasil uji statistik chi-square didapatkan p-value sebesar 0,00 dibandingkan dengan nilai  $\alpha = 0,05$ , maka  $p\text{-value} < 0,05$  ( $0,00 < 0,05$ ). Ini berarti ada hubungan yang signifikan antara Dukungan Keluarga dengan Kepatuhan Diet Rendah Garam Pada Lansia Dengan Hipertensi Di Wilayah Kerja Puskesmas Sei Mencirim Kabupaten Deli Serdang. Simpulan: Penelitian ini menemukan Ada hubungan yang signifikan antara dukungan keluarga dengan kepatuhan diet rendah garam pada lansia dengan hipertensi, diharapkan petugas kesehatan lebih banyak memberikan informasi tentang kepatuhan diet rendah garam pada penderita hipertensi melalui penyuluhan kesehatan*

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## INTRODUCTION

Hypertension, commonly called high blood pressure, is a degenerative disease commonly suffered by the elderly (1). It is caused by high sodium consumption, obesity, stress, smoking, and alcohol consumption. Living a healthy lifestyle is not enough to control blood pressure. Therefore, most people with hypertension still need to take medication to control their blood pressure. If hypertension is not treated routinely, it can cause damage to the heart, brain, and kidneys (2).

Based on data from the 2016 Indonesian Health Profile, the prevalence of people with high blood pressure nationally is 30.90%. The prevalence of high blood pressure in women (32.90%) is higher than in men (28.70%). The prevalence in urban areas is slightly higher (31.70%) compared to rural areas (30.20%). The prevalence increases with increasing age (3). In Indonesia, the number of people with this disease is estimated to be around 15 million, but only 4% have controlled hypertension. The prevalence rate in adults ranges from 6% to 15%, with approximately 50% being unaware of their condition, leading to a propensity for severe hypertension due to a lack of awareness and avoidance of risk factors. Moreover, approximately 90% of cases can be attributed to essential hypertension (4). Therefore, hypertension disease is often called the "silent killer" and causes the iceberg phenomenon (5). Risk factors that lead to increased blood pressure such as high salt intake (6).

Based on several research journals presenting adherence to the hypertension diet in the elderly, which comes from family support, it was found that many older adults said that their blood pressure often increased because they did not comply with

the hypertension diet, had difficulty complying with dietary rules, took medication and also felt they did not receive enough attention from their parents. Families, for example, families rarely remind sufferers to comply with hypertension diet rules, take medication regularly, and take them for health control. The phenomenon of increasing incidence of hypertension is related to the lack of compliance with hypertension sufferers, one of which is the hypertension diet (7). The low rate of adherence to a hypertensive diet increases the incidence of hypertension. In this case, family support is vital in ensuring adherence to a hypertensive diet (8).

Family support is needed to increase self-confidence and motivation to deal with problems. Moreover, it improves adherence to the hypertensive diet. Families can help treat hypertension by managing a healthy diet, inviting patients to exercise, and accompanying and improving routine blood pressure checks (9).

Based on a preliminary study of hypertension sufferers at the Sei Mencirim Health Center, Deli Serdang District, it was found that 5.50% had an average visit of 5-8 patients in one day. Based on interviews with four older adults with hypertension who were carrying out examinations at the Sei Mencirim Health Center, it was stated that the respondents did not know about adherence to a low-salt diet. Therefore, this study aims to determine the relationship between family support and adherence to a low-salt diet in the working area of the Sei Mencirim Health Center, Deli Serdang District, for the elderly with hypertension.

## METHODS

This research uses a cross-sectional study method, namely research that studies the dynamics

of the correlation of risk factors with their influence, namely family support for adherence to a low-salt diet, through an approach, observation, or data collection at one time. This means that each research subject was only observed once, and measurements were made on the status of the character or subject variables at the time of examination based on time (10). The population in this study was all older adults with hypertension who went to the health center for treatment. To determine the number of samples in this study.

$$n = \frac{N}{1 + N (d)^2}$$

$$n = \frac{N}{1 + N (d)^2}$$

$$n = \frac{110}{1 + 110 (0,1)^2}$$

$$n = \frac{10}{1 + 1,1}$$

$$n = 52,38 = 52$$

Based on the formula above, the sample size is 52 people. The sampling technique in this study was purposive sampling with the following inclusion criteria: elders aged  $\geq 60$  years who suffer from hypertension, elders suffering from hypertension  $\leq 5$  years, and the elderly who are willing to be respondents. The instruments used in this study were interviews, observation checklists, and research questionnaires. The questionnaire used is a standard questionnaire containing family support (10). The scale employed in this study is a Likert scale featuring positive statements. Each question on this scale offers four response options, rated as follows: Always = 4, Often = 3, Sometimes = 2, and Never = 1. The resulting scores are then categorized into three levels of intensity: "Less" is defined as a score ranging from 12% to 23%, "Enough" is between 24% and 35%, and "Good" is a score of 36% or higher.

Data analysis in this study consisted of univariate and bivariate analyses. Univariate data analysis was used to describe the characteristics of the respondents (age, education, gender, length of suffering, family support, and adherence to a low-salt diet). Meanwhile, bivariate analysis was carried out to determine the relationship between the independent and dependent variables, which was examined using the chi-square test with the SPSS version with a significance level of  $\alpha < 0.05$ .

This research was approved by the STIKes Flora Research Ethics Committee on March 10, 2023, with number 167/III/STIKes-FL/KE/2023.

## RESULTS

### Univariate Analysis

Based on sex, it shows that some of the respondents are female, namely as many as 37 people (71.20%). Meanwhile, there were 15 male respondents (28.80%). Based on the education level of the respondents, it was shown that most of the respondents had a high school education level, namely 20 respondents (38.50%). In contrast, the highest education level was 18 people (34.60%), while the middle level had as many as 9 respondents (17.30%). A small proportion of respondents had an elementary school education level of 5 respondents (9.60%). Based on the length of suffering, all respondents suffered for less than 5 years, namely 52 respondents (100%). Based on adequate family support, there were 35 respondents (67.30%), while respondents who had less family support were 9 respondents (17.30%). Moreover, a small proportion of respondents have good family support, namely as many as 8 respondents (15.40%). Based on respondents' adherence, most respondents adhered to a low-salt diet, namely 42 respondents (80.80%). In contrast, a few respondents needed to comply with a low-salt diet, namely as many as 10 respondents (19.20%).

**Table 1**  
Frequency Distribution of Respondents' Characteristics in the Work Area of the Sei Mencirim Health Center, Deli Serdang District.

Characteristics of Respondent	n	%
<b>Sex</b>		
Male	15	28.80
Female	37	71.20
<b>Education Level</b>		
Elementary School	5	9.60
Middle School	9	17.30
High School	20	38.50
College	18	34.60
<b>Family Support</b>		
Less	9	17.30
Enough	35	67.30
Good	8	15.40
<b>Adherence</b>		
No	10	19.20
Yes	42	80.80
Total	52	100

### Bivariate Analysis

Based on bivariate analysis, 33 respondents (63.50%) have adequate family support and are obedient in undergoing a low-salt diet. In comparison, 2 respondents have sufficient family support but are not compliant in undergoing a low-salt diet (3.80%). Respondents who had less family support and were disobedient in undergoing a low-salt diet were as many as 6 respondents (11.50%). In comparison, respondents who had less family support and were obedient in undergoing a low-salt diet were as many as 3 respondents (5.80%). Respondents who had good family support and

were disobedient in undergoing a low-salt diet were as many as 6 respondents (11.50%).

In comparison, respondents who had good family support and were obedient in undergoing a low-salt diet were as many as 2 (3.80%). Based on the results of the chi-square statistical test, a p-value of 0.00 was obtained, which, when compared with the value of  $\alpha = 0.05$ , gives a p-value of 0.05 ( $0.00 < 0.05$ ). This means a significant relationship exists between family support and adherence to a low-salt diet in the elderly and hypertension in the Sei Mencirim Health Center, Deli Serdang District.

**Table 2**

Relationship between Family Support and Adherence to Low Salt Diet in Elderly with Hypertension

Variable	Adherence				Total		p-value
	No		Yes		n	%	
	n	%	n	%			
<b>Family Support</b>							
Less	6	11.50	3	5.80	9	17.30	<b>0.00</b>
Enough	2	3.80	33	63.50	35	67.30	
Good	2	3.80	6	11.50	8	15.40	
Total	10	19.20	42	80.80	52	100	

### DISCUSSION

Hypertension is very closely related to the elderly; several studies have stated that hypertension mainly occurs in the elderly, with an average age of 68 years. The elderly experience many setbacks, both physically and psychologically. Degenerative diseases such as hypertension are very likely to occur with increasing age in the elderly, and complications caused by hypertension also worsen the physical condition of the elderly (11).

A study states that the older a person is, the more susceptible they are to diseases such as hypertension. This is because as we get older, our blood pressure will tend to increase. Hypertension generally develops when a person reaches middle age and tends to increase, especially in those over 50. Even at over 60, the older the person, the more significant the increase in blood pressure. This is because, in old age, there are structural and functional changes in the peripheral vascular system responsible for changes in blood pressure. These changes include atherosclerosis, loss of connective tissue elasticity, and decreased ability to relax the smooth muscle of blood vessels, reducing the ability to distend and stretch blood vessels (12).

The results of this study are supported by the research, which indicated that the majority gender

was female, with 60 respondents (53.60%) (13). The prevalence of hypertension sufferers in women is higher than in men. Women who have not experienced menopause are protected by the hormone estrogen, which increases high-density lipoprotein (HDL) levels (14).

Based on the study's results, according to the respondents' education level, it was shown that the majority were high school students, with 20 people (38.50%). This result differs from the findings that most respondents had elementary school education, with as many as 50 respondents (53.80%). The higher a person's education, the easier it is for them to receive information; in the end, they have more knowledge. Conversely, if someone has a low level of education, it will hinder the development of their attitude toward acceptance and newly introduced values. The level of education indirectly affects blood pressure because the level of education influences a person's lifestyle, such as smoking habits, alcohol consumption habits, food intake, and physical activity (15).

Based on the results of the study, it was found that of the 52 respondents to family support for hypertensive patients with a low-salt diet in the working area of the Sei Mencirim Health Center, Deli Serdang Regency, most were in the sufficient category, namely 35 people (67.30%). The results of this study are in line with research from

Purwandari et al (7), who found that of 32 elderly respondents with hypertension at the Ngronggot Village, Nganjuk Regency, almost half had good family support, namely 15 respondents (46.90%). Family support is needed to increase self-confidence and motivation in dealing with problems and improve adherence to the hypertension diet. The role of the family is to be involved in meeting needs, knowing when the family should seek help, and supporting adherence to reduce the risk of recurrence and complications. Families can help treat hypertension by managing healthy eating patterns, inviting them to exercise, accompanying them, and reminding them.

Family support is significant for a low-salt diet in the elderly who suffer from hypertension because the family is the closest person who knows and understands the patient's condition better. The support provided by the family will significantly affect a person's health status; if the family support provided is good, it will improve the person's health status, and vice versa (16). A family is a service unit because family health problems are interrelated, influence each other among members, and will also affect the families around them or, in a broad context, affect the country. The role of the family is vital in the stages of health care, starting from the stages of health improvement, prevention, treatment, and rehabilitation. Family support is the support given by the family to hypertensive patients. This support is needed by patients while experiencing illness so that they feel cared for and valued (17).

One of the factors determining family support for the elderly is family status. Based on the study's results, it was found that most families provide support in the moderate category, as much as 60.00%. Most biological children pay more attention to the elderly than husbands, wives, and grandchildren. Even though they are busy with work and do not have much time with the elderly, children still have a greater sense of affection. Family relationships with the elderly can influence this; in this study, they have a relationship as biological children, especially daughters. Girls have a closer attachment to their parents because girls take care of family members' needs more than boys, who often leave the house to work (18).

The results showed that most respondents' adherence to a low-salt diet was in the obedient category, namely 42 people (80.80%), and 10 people (19.20%) were disobedient. Based on the questionnaire data, most respondents avoided foods containing a lot of salt or sodium. The results of this

study are the research where it was found that dietary compliance in the elderly with hypertension on the coast was higher, totaling 22 respondents (52%). The results of this study were also corroborated by Amelia's research (15); it was found that out of the 93 respondents, the majority adhered to the hypertension diet, and as many as 64 respondents (68.80%). Compliance is the level of patient behavior that agrees with instructions given in any prescribed form of therapy, whether diet, exercise, medication, or a meeting with a doctor. Compliance is a term used to describe obedience or surrender to a predetermined goal. A person's obedience is influenced by the elderly's belief in the benefits of a hypertension diet, such as avoiding fatty foods and foods containing too much salt, so that, in the end, it can lead to self-confidence to face and manage the disease better.

Dietary adherence to hypertension is influenced by several factors, one of which is family support. In this study, the family provided good support so that the respondent was able to carry out the hypertension diet because the family always paid attention and monitored the treatment of hypertension, especially in need for food and drink, salt use, limiting alcohol and coffee, and dietary counselling carried out by the respondent. Even so, great effort was needed for hypertensive patients to maintain their lifestyle, diet, and activities and take prescribed medication regularly. Compliance includes patient compliance in taking medication and adherence to sodium intake, fat intake, and exercise habits. Several variables affect a person's level of compliance, namely demographics, disease, knowledge, therapeutic programs, psychosocial factors, and family support (13). Dietary compliance is the respondent's adherence to various foods and balanced nutrition. The type and condition of the food are adjusted to the patient's condition, and the amount of salt is limited according to the patient's health and the type of food in the diet list. The research showed a relationship between family support and a low-salt diet (19).

The individual sufferer influences a person's adherence to a low-salt diet. Hypertension in achieving recovery and the patient's belief in the benefits of a low-salt diet, such as avoiding fatty foods and foods that contain too much salt. In addition, family support also affects the adherence of hypertensive patients to a low-salt diet. The family is part of the hypertensive patient who is the closest and can be separated, which will give rise to their confidence to face and manage their disease better (20).

## CONCLUSION

This study found that there is a significant relationship between family support and adherence to a low-salt diet in the elderly with hypertension.

## CONFLICT OF INTEREST

All authors declare there is no conflict of interest.

## AUTHOR CONTRIBUTION

JESP: conceptualized the study, collected and analyzed data, and wrote the initial draft of the manuscript. Also responsible for revising and editing the manuscript based on feedback from the co-author. LP: contributed to the study design and assisted in data interpretation.

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