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Family Support For Low Salt Diit Compliance In Hypertension Patients In The Elderly

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ABSTRACT

Hypertension is the most common health problem in the elderly due to decreased physiological function due to degenerative processes. The cause of hypertension in the elderly is high sodium intake. Non-pharmacological treatment is important, such as maximizing adherence in modifying lifestyle with a low salt diet. Compliance with low salt diet is influenced by family support. This study aims to analyze family support for adherence to a low salt diet in elderly hypertensive patients. This research is a descriptive correlational research using design *cross sectional* with a quantitative approach carried out at the Purwoyoso Health Center in Semarang. The sample is selected using the technique*total sampling* with a total sample of 103 respondents. Statistical test using test*Spearman rho.* The results showed that there was a relationship between family support and adherence to a low-salt diet in elderly hypertensive patients with a positive correlation and moderate strength (*p value*=0,001; r=0,579). The recommendation from the results of this study is that nurses can form support groups (*Support Group*) which consists of families who have elderly hypertension, so it is hoped that group members can share information regarding how to provide good family support.

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INTRODUCTION

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Elderly is a group of people aged 60 years and over (Sunaryo, 2015). According to the World Health Organization (WHO) the percentage of elderly people in developed countries has exceeded 10% of the total population, even Japan has exceeded 30%. In Indonesia, it is leading to an aging population with an elderly percentage of 9.7% (Ministry of Health, 2019). Increasing age causes physiological functions to decrease due to degenerative processes, so that as many as 92% of the elderly have at least one Non-Communicable Disease (PTM) with the most disease being hypertension of 23.3% (Ekasari, 2018; Ministry of Health, 2018). Around 1.13 billion people in the world suffer from hypertension, meaning that 1 in 3 people in the world are diagnosed with hypertension, this was recorded in the 2015 World Health Organization (WHO) (Ministry of Health RI, 2019). The 2018 Riskesdas showed an increase in key indicators for Non-Communicable Diseases (PTM), including hypertension, which increased from 25.8% to 34.1% (Ministry of Health, 2019). In Central Java, cases of hypertension in 2019 are still the highest cases of Non-Communicable Diseases (PTM), namely 68.6% of cases (Dinkes, 2019). According to the Semarang City Health Profile, the highest PTM cases were in 37 puskesmas in Semarang City, with 232,180 cases of hypertension in 2019 (Dinkes, 2019).

The cause of hypertension in the elderly is high sodium intake. Someone who is getting old, will experience physical disturbances due to the aging process such as disturbances of the five senses. Disorders of the five senses experienced by the elderly one of which is impaired sense of taste, decreased sensitivity to sweet and salty tastes. Therefore, the use of salt is excessive and uncontrolled in the elderly (Darmojo, 2011).

Preventive and curative efforts for hypertension in the elderly due to high sodium intake, namely one of the recommended behaviors, namely lifestyle modification with a low salt diet (Christy, 2020). Setting a low-salt diet will be successful if the patient is obedient. Compliance in hypertensive patients is adherence when implementing a low salt diet. Factors that influence patient adherence include adherence to low-salt diet management, namely interpretation of instructions, quality of interaction, family social support, as well as beliefs, attitudes and personality (Feuer Stein et al., 1998, in Tumenggung, 2013).

Family support in this case plays a very important role in increasing compliance with low salt diets because the family is the patient's closest unit (Brilianifah, 2017). Priambodo's research (2010), showed that family support is one of the factors related to compliance with hypertension in carrying out therapy. This research is supported by Musaadah (2012), which states that the higher the family support obtained, the higher the adherence to a low-salt diet in hypertensive patients. Rohman's research (2019) showed that there was a relationship between family support and adherence to a low-salt diet in hypertension sufferers.

METHODS

This research is a descriptive correlational study using a cross-sectional design with a quantitative approach. The total population in the study was 103 respondents and the sample in this study was 103 respondents using the sampling technique*total sampling*. The location of the research was carried out in the working area of the Purwoyoso Public

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Health Center, Semarang. Sources of data in this study were obtained using questionnaires that had been prepared and distributed to respondents, by first providing a brief explanation of the purpose of the research and how to fill out the questionnaire if there were things the respondents did not understand.

Data analysis used univariate analysis to determine the frequency distribution and bivariate analysis used the Spearman rho test.

RESULT AND DISCUSSION

Result

Univariate analysis

The univariate analysis that will be described includes age, gender, occupation, education, BMI, family support, and adherence to a low salt diet.

Table 1
Frequency Distribution of Respondents Based on Respondent Characteristics Purwoyoso Health Center Work Area in April 202 2
(n = 103)

	Variables	frequency	%
1.	Age:		
	60 - 74 years	79	76,6
	75 - 89 years	24	23,4
	≥ 90 years	0	0
	Total	103	100,0
2.	Gender:		
	Male	43	41,7
	Female	60	58,3
	Total	103	100,0
3.	Occupation:		
	Work	19	18,4
	Not working	84	81,6
	Total	103	100,0
4.	Education:		
	SD	44	42,8
	SMP	23	22,3
	HIGH SCHOOL	10	9,7
	College	0	0
	Not in school	26	25,2
	Total	103	100,0
5.	BMI:		
	25.0 - 29.9 kg/m^2	69	70
	30.0 - 39.9 kg/m^2	34	33
	> 40.0 kg/m^2	0	0
	Total	103	100,0

Based on table 1, it can be seen that most of the 103 elderly hypertensive patients aged between 60-74 years were 79 respondents (76.6%), dominated by female sex, 60 respondents (58.3%), the majority of respondents did not work as many as 84 respondents (81.6%), the majority of respondents' last education was elementary school as many as 44 respondents (42.8%), the majority of respondents' BMI were 25.0 - 29.9 kg/m^2 as many as 69 respondents (70 %).

Table 2
Frequency Distribution of Respondents Based on Support for Respondents' Families in the Work Area of the Purwoyoso Health Center in April 2022
(n = 103)

Family support	Frequency (n)	Percentage (f)
Good	47	45,6 %
Enough	24	23,3 %
Less	32	31,1 %
Total	103	100%

Based on table 2, it was found that most elderly hypertensive patients had good family support, namely 47 respondents (45.6%) and 32 respondents (31.1%) who had less family support.

Table 3
Frequency Distribution of Respondents Based on Respondents' Low Salt Diet Compliance in the Work Area of the Purwoyoso Health Center in April 2022
(n = 103)

Low Salt Diet Compliance	Frequency (n)	Percentage (f)
Comply	67	65,1 %
Disobedient	36	34,9 %
Total	103	100%

Based on table 3, it was found that 67 respondents (65.1%) adhered to a low-salt diet in elderly hypertensive patients and 36 respondents (34.9%) did not comply.

Bivariate Analysis

Bivariate analysis in this study was used to determine the relationship *self efficacy* and family support for adherence to a low-salt diet in hypertensive elderly patients with obesity. The test used in this study is the correlation

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test*Spearman Rho*. Test results*Spearman Rho* with data processing presented as follows:

Table 4
Relationship between Family Support and Adherence to Low Salt Diets for Hypertensive Patients in the Elderly in April 202 2
(n = 103)

Variables	Correlation coefficient	P value
Family Support		
	0,579	0,001
Low Salt Diet Adherence		

Based on table 4, the results of statistical analysis are obtained by testing*Spearman rho*, got the value *p value* = 0,001 (*p value* <0.05), which means that Ha is accepted with = 0.05 (5%) so it can be concluded that there is a relationship between family support and adherence to a low-salt diet in elderly hypertensive patients. The correlation coefficient value was 0.579, meaning that the relationship between family support and low-salt diet adherence was moderately correlated with a correlation value range of 0.40 - 0.599 and showed a positive direction, meaning that better family support was followed by an increase in low-salt diet adherence in hypertensive patients in the elderly.

Discussion

Univariate analysis

Age

The results showed that the most elderly age group experienced hypertension, namely the category*elderly* in the range of 60-74 years, namely as many as 79 respondents (76.6%). The results of this study are in line with the results of Firyal's research (2017), which shows that hypertension is dominated by the elderly aged 60-74 years. This is also supported by research conducted by Pratiwi and Tala (2013) at the H. Adam Malik General Hospital Polyclinic in Medan which stated that hypertension is more common at the age of 60-74 years than at the age of 75-90 years.

The age factor associated with the incidence of hypertension is the occurrence of several physiological changes resulting from increased peripheral resistance and sympathetic activity. In addition, after the age of 45, the arterial walls will thicken due to the accumulation of collagen in the muscle layer, so that the blood vessels will gradually narrow and become stiff (Menggasa, 2018). Increased blood pressure in the elderly is caused by a decrease in function, especially in the cardiovascular system. Heart valves thicken and become stiff, the ability of the heart to pump blood decreases by 1% per year, reduced cardiac output, loss of elasticity of blood vessels, so that blood pressure increases due to peripheral vascular resistance (Adriaansz, 2016).

Gender

The results of the study showed that 60 respondents (58.3%) had more women with hypertension and obesity than men. Elderly women will have a higher risk of developing hypertension than men due to hormonal instability, namely experiencing a decrease in the hormone estrogen which plays a role in regulating circulation after entering menopause (Sawitri, 2017). The hormone estrogen plays a role in increasing levels*High Density Lipoprotein* (HDL) and increase spending*prostacyclin* by endothelial cells which causes vasodilation of blood vessels, so that when estrogen decreases it facilitates the occurrence of vasoconstriction of blood vessels and results in an increase in blood vessels. HDL functions as a cleaner in the arteries and prevents thickening and loss of elasticity of the arteries (atherosclerosis) (Kumar, 2018).

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Work

The results showed that the majority of respondents did not work, namely as many as 84 respondents (81.3%). Research conducted by Anggara and Prayitno (2013), it is known that work has a relationship with an increase in blood pressure with a value (p = 0.00). Work has an influence on a person's physical activity, by working it is expected that the person has more physical activity than people who do not work. In people who don't work, they have little activity, thus increasing the risk of hypertension because they are at risk of being overweight (Kurniasih, 2013). Low physical activity, such as in the elderly who don't work, triggers hypertension because cardiac output decreases so that peripheral resistance increases, this may also be due to other variables that are stronger as risk factors for hypertension (Musfirah, 2019).

Education

The results of the study can be seen that the majority of respondents have graduated from elementary school, namely as many as 44 people (42.8%). Research by Multi and Rebecca (2014), states that education level is significantly related to hypertension in the elderly in Sukoharjo Regency. Seniors with high school education have a 1/5 smaller risk of experiencing hypertension compared to those with elementary, junior high school education or not attending school, while elderly people with tertiary education have a 1/10 times smaller risk of experiencing hypertension compared to those with elementary school education or not attending school (Rahmatika, 2017) .

IMT

The results showed that the majority of respondents with hypertension in the elderly were included in the category of obesity level I with a BMI of 25.0 - 29.9 kg/m^2 as many as 69 respondents (70%). This is in line with Herdiani's study (2019) which stated that the distribution of hypertensive elderly people in the first-degree obesity category was higher than that of the second-degree obesity category, namely 14 obese people with grade I and obesity with grade II, namely 3 people. In line with research conducted by Manampiring (2015) regarding the relationship between nutritional status and blood pressure, it was found that there was a relationship between nutritional status and blood pressure where out of 71 samples included in the class I obesity classification, all samples experienced increased blood pressure.

Obesity affects the work of the heart over a long period of time and causes cardiac hypertrophy, disrupts endocrine function and causes pancreatic beta cells to enlarge, and glucose tolerance increases with increasing body weight. In addition, there is a pathophysiological mechanism for hypertension which involves activation of the sympathetic nerves and the renin-angiotensin-aldosterone system in the body (Sihombing, 2013). Obese sufferers have a risk of experiencing an increase in blood pressure 2.2 times greater than subjects who have normal BMI (Natalia, 2015).

Obesity is one of the risk factors that affect hypertension in the elderly. The obesity factor associated with the incidence of hypertension in the elderly is caused by excessive consumption patterns, containing lots of fat, protein and carbohydrates that are not in accordance with the needs. In addition, decreased metabolic processes in the elderly can cause excess calories to be converted into fat resulting in overweight or obesity if not balanced with increased activity and

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decreased amount of food (Ramli, 2018).

Family support

Family support is a process that is felt throughout the ages for every living being in the various stages of life experienced (Hardiyatmi, 2016). According to Bisnu (2017), family support is a form of serving behavior carried out by the family both in the form of instrumental support, awards/assessments, information, and instrumental which will impact obedience on family members. The function of the family is to maintain the health condition of its family members so that they have high productivity in the form of recognizing health problems, the ability to care for sick family members, the ability to modify the environment so that they remain healthy and optimal, and the ability to utilize available health facilities in their environment. Family support is an external factor that influences respondents to take recommended lifestyle changes, namely a low-salt diet (Udiyani, 2019).

The results of the study showed that the majority of respondents were seen from the family support of hypertensive patients in the elderly, as many as 47 respondents had good family support of 45.6%. This is supported by previous research by Choirunnisa (2018), the results of the family support study found that most respondents had good family support of 68.6%. Also supported by Miyusliani's research (2012) regarding the risk factors that influence hypertension diet adherence, the results obtained for good family support were 73.0%.

The age factor can affect family support because the condition of the elderly has decreased body function, so that families are increasingly worried about the patient's condition (Tumenggung, 2013). In the elderly there is also a decrease in independence and tends to experience psychosocial disorders caused by a decrease in health status due to illness, retirement or loss of work, position and relationships so that they need family support related to their care (Utomo, 2019).

The observation results of this study also found that 24 respondents (23.3%) had sufficient family support and 32 respondents (31.1%) had insufficient family support. This could be due to assistance from the family for the respondent, which is actually good, but is not always well received by the respondent. Perceptions of family members who have provided assistance are different from those of respondents who should have received assistance. For example, family members have reminded respondents not to consume salty foods such as eating salted eggs, so that blood pressure remains in a stable condition, but respondents still consume salted eggs. The lack of family support for respondents can also be influenced by the busyness of the family members themselves. The results of Nisfiani's research (2014) stated that there were 9 respondents who received less family support but were still able to do hypertension diet well. This is due to the condition of family members who are busy working so that the time available to provide support such as reminding and supervising diet menus is not carried out by the family.

Good family support from family members to patients can help the healing process. The form of instrumental support and appreciation obtained by respondents from the family is that the family always accompanies, loves, and cares for their

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family members to remain obedient in undergoing lifestyle modifications on a low salt diet. This form of support makes the elderly feel comfortable, confident, accepted by family members in the form of expressions of empathy, caring, being appreciated, caring, love, trust, a sense of security and always accompanying patients in care and can improve the psychosocial status of the elderly (Elmiani, 2014). Family support can be influenced by informational support, namely the family acts as a collector and disseminator of information. Information support received such as reminding to control, take medication, maintain diet, provide information about the results of examinations and treatment from doctors (Wulandari, 2017). Other family support, namely instrumental support, is a source of practical and concrete help which includes assistance, forms of instrumental support received by respondents such as direct assistance in the form of money, equipment, time, food modification and help in caring for the elderly which leads to a low salt diet (Wahyudi , 2020).

Respondents' low salt diet compliance

Based on the results of the study, it was shown that the majority of elderly hypertensive patients adhered to a low-salt diet, namely 67 respondents (65.1%). In accordance with previous research by Perdana (2017) regarding adherence to a low-salt diet in elderly hypertensive patients, the results obtained were 85.4% of the elderly were included in the adherent category of implementing a low-salt diet. Arini's research (2016) concerning the relationship between nutritional status and low-salt diet adherence, the frequency distribution of low-salt diet compliance variables was 73.33% of adherent respondents.

In this study, the characteristics of the respondents studied showed the category of elderly people aged > 60 years. Older people already have an understanding in terms of adherence to a low-salt diet which will prioritize experiences that have been carried out regarding the incidence of hypertension and the reasons for adhering to a low-salt diet are because they are motivated from themselves. This arises because increasing age is a factor affecting adherence to low-salt diets (Salmiyati, 2018). The results of this study are in line with Mafrur (2018), who found that age will affect understanding of health changes, this understanding will affect respondents' adherence to low salt diets

This high adherence to not adding salt to food that is considered less salty can be caused by the fact that in this study the majority of respondents were female (58.3%). Women who are busy as housewives have the duty to cook, so that it can be said that the amount of salt cooked can be controlled, so that the amount of salt in the food consumed by respondents tends to be small. Patients with hypertension should be instructed not to add cooking salt or table salt to food. Processed/instant dishes and foods with easy-to-taste salt such as canned soup, meat, ham, salted beans, etc. are foods to avoid. Because someone who is sensitive to salt/sodium is easier to increase their sodium and cause fluid retention and increased blood pressure (Muchtadi, 2013).

The results of this study also found that 36 respondents (34.9%) were non-compliant in undergoing a low-salt diet. This happens because the respondents have not completely reduced salt consumption and are still consuming fast food quite

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often because it is practical and tastes tastier when compared to consuming food with a limited amount of salt intake (Hendrawati 2018). According to Wahyudi's research (2020), non-adherence to a low-salt diet is caused by poor understanding, such as not reading the nutritional value before consuming packaged food/beverages that are high in sodium, and because respondents do not understand more about the course of hypertension and the impact of excess salt on the body. The goal of a low salt diet is not only to lower blood pressure but also to lose weight for those who are obese. A low-salt diet helps eliminate salt retention in salt-sensitive hypertensive patients (*salt sensitive*). Hypertensive patients who are sensitive to salt tend to retain sodium and experience obesity if they do not reduce salt consumption (Susetyowati, 2018).

Bivariate Analysis

The relationship between family support and adherence to a low-salt diet in hypertensive elderly people with obesitys

Based on the results of statistical analysis with the Spearman rho test, a p value = 0.001 (p value <0.05), which means that Ha is accepted with = 0.05 (5%) so it can be concluded that there is a relationship between family support and low diet compliance. salt in hypertensive patients in the elderly. The correlation coefficient value was 0.579, meaning that the relationship between family support and low-salt diet adherence was moderately correlated with a correlation value range of 0.40 - 0.599 and showed a positive direction, meaning that better family support was followed by an increase in low-salt diet adherence in hypertensive patients in the elderly.

Family support is the support given by the family to hypertensive patients, where this support is really needed by patients during illness so that patients feel valued and cared for. Family support is provided in the form of instrumental support, award support, instrumental support, and informative support (Harmoko, 2012). Family support is very closely related to patient compliance in carrying out a low salt diet program. This is because the family has a very close relationship with the lives of each member, the family is a place to share all problems and also a place to learn to improve conditions including caring for family members (Nita, 2018).

In accordance with the theory put forward by Friedman in Wulandari (2017), explaining that family support is the attitude, actions and determination of the family towards a sick family. If in one family there is a family member who is sick, you can be sure that all other family members will try to provide assistance and support for the recovery of their family members. Family support as family coping, both external and internal supports have proven to be very useful and have an important influence on individuals (Mega, 2018). Therefore, awareness is expected for families to provide full support for family members who suffer from hypertension, especially the elderly with obesity so that they adhere to a low-salt diet.

CONCLUSION

Based on the results of research conducted on hypertensive elderly patients with obesity at the Manyaran Health Center, it can be concluded as follows:

1. Based on the data on the characteristics of the respondents, it was found that the majority of elderly people were in the elderly category, namely 79 respondents

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(76.6%). Dominated by female sex as many as 60 respondents (58.3%). The majority of respondents did not work as many as 84 respondents (81.6%). Most of the respondents' recent education was elementary school, 44 respondents (42.8%) and most of the respondents' BMI were 25.0 - 29.9 kg/m2, 69 respondents (70%).

2. The results showed that the majority of elderly hypertensive patients had good family support, namely 47 respondents (45.6%) and 32 respondents (31.1%) who had less family support.
3. The results showed that adherence to a low-salt diet in elderly hypertensive patients was 67 respondents (65.1%) obedient and 36 respondents (34.9%) who did not comply.
4. Based on the results of statistical analysis using the Spearman rho test, a p value = 0.001 (p value <0.05), which means that Ha is accepted, so it can be concluded that there is a relationship between family support and adherence to a low salt diet in hypertensive patients in the elderly. The correlation coefficient value of 0.579 means that the relationship between family support and low-salt diet adherence is moderately correlated with a correlation value range of 0.40 - 0.599 and shows a positive direction, meaning that the better family support is followed by an increase in low-salt diet adherence in hypertensive patients in the elderly.

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