

# The Factors That Affect the Adherence of Hypertension Elderly Diet with the Transcultural Nursing Theory Approach

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## ABSTRACT

Hypertension is a disease that not controlled can cause heart disease. Based on the results of studies conducted at health services in Mataram, 12 out of 20 elderly suffer from hypertension, and 4 of them have been given a low salt diet, but they are not compliant in carrying out the food. This study aims to analyze the factors that influence adherence to the menu of the elderly with hypertension. This study used a correlational method with a cross-sectional approach. The sampling used purposive sampling and obtained 52 elderly. The independent variables in this study are the level of education, economic factors, family support, culture, and lifestyle. The dependent variable is adherence to the elderly diet with hypertension. The data were collected using a questionnaire and analyzed with Spearman Rho test with a significance level of 0.05. The test results of this study show that there is a relationship between economic factors ( $p=0.000$ ), family support ( $p=0.000$ ), culture, and lifestyle ( $p=0.000$ ) with adherence to an elderly diet with hypertension. Economic factors, family support, culture, and lifestyle are factors that influence adherence to the menu of the elderly with hypertension. So the elderly are expected to maintain dietary compliance by involving family diets and healthy lifestyles to control blood pressure.

**Keywords:** adherence, diet, elderly, hypertension

## INTRODUCTION

Hypertension is an increase in blood pressure in the arteries that are systemic or lasts continuously for an extended period [1]. An examination makes the diagnosis of hypertension of the blood pressure exceeding 140/90 mmHg [2]. Uncontrolled hypertension can cause heart problems, including acute myocardial infarction, enlargement, heart disease, ruptured brain blood vessels, and cause strokes, even hypertension can cause kidney disease, blindness, and cognitive impairment to death [3]. The increase in age can improve the resistance of peripheral blood vessels that cause hypertension [4]. The heart will experience hypertrophy, and there is a decrease in the work of the left ventricle due to lack of activity. Besides experiencing a reduction in the number of heart muscle cells, thereby reducing the strength of the heart muscle, the increase of the age of a person causes a decrease in heart function. At the same time, blood pressure will rise gradually, causing hypertension in the elderly [5], [6]. But, definitively, the cause of elderly hypertension itself can not be explained with certainty. Lifestyle, family history, and high salt diet are the risk factors for hypertension [7]. Lifestyle-related to daily diet choices can have an impact on the incidence and prevalence of hypertension. Consumption of fast food, low fiber, and high fat and salt foods are some of the

contributions in the case of hypertension. Alcoholism and smoking are also included in high-risk living behaviors for hypertension [8]. A passive lifestyle increases the risk of hypertension. Besides that, metabolism in the elderly decreases. If it is not balanced

with physical activity or declines, the amount of food can cause excess calories in the body. It will be digested to fat resulting in obesity and hypertension [9]. West Nusa Tenggara Statistic Agency in 2014 recorded 107,364 elderly with hypertension. More than 5000 people were recorded as elderly in Mataram [10]. In 2013, the number of elderly with hypertension reached 920 people and increased in 2014 to 1006 people in health center. The data from 120 elderly in the working area of the Mataram health center found 74 elderly sufferings from hypertension [11]. Based on the results of a preliminary study that has been done in the working area of Mataram Health center obtained that from 20 elderly, 12 (60%) suffer from hypertension. According to the information from the elderly which stated that families do not provide special diets for elderly hypertension, but from 12 elderly with hypertension, found 4 (33.33%) of them have been given a low salt diet. Still, the elderly do not want to eat because the food is not tasty. According to the family's statement, every day they usually cook with more salt, the salt uses is about 1tsp in one cooking, as when they make chili sauce using 1tsp of salt, more than 1tsp for soup and to cook things like tempeh and tofu needs  $\frac{1}{2}$  tsp of salt. So they use more than 1tsp of salt in one-time cooking. It shows that the use of salt in Mataram is quite high. While the recommendation of salt consumption about 1.5tsp (5gram) per day [12]. Until now, there has been no research related to factors that influence adherence to the elderly with hypertension diet in the Mataram health center working area. Every month the health center has conducted Posyandu activities with the elderly such as

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gymnastics, examinations, giving medicines depends on the complaints of the elderly like hypertension and providing information about hypertension. However, there are still many elderly who eat food that is not following the proper hypertension diet.

High consumption of salt is suspected to increase the risk of someone suffering from hypertension [13]. Salt is an essential concern in the emergence of hypertension mechanism, sustained high intake of salt in the daily diet can increase plasma volume (body fluid). The impact is it will cause average blood pressure to rise [7]. It indicates that the elderly in Mataram have not been able to control salt consumption in their food. This tendency is thought to be related to local cultural norms that are obtained, imitated, formed through a process with the laws that apply in interactions that occur between humans [14]. Habits of the community are inseparable from the culture adopted. In general, people have their characteristics following the conditions of the social environment and physical environment, and the need for food is met by the daily diet that is commonly eaten. It concerns the consumption patterns of the society that affect eating habits, personal tastes, pleasures, and acceptance of food [15].

Socioeconomic conditions, work conditions, education, and local facilities, and genetic originators, eating habits, and cultural influences are known to have close links with patterns of disease in a community group [16]. Culture also influences individuals and families in determining the diet consumed. Transcultural Nursing is offered based on the assumption that this approach can explain individual or group health behaviors in maintaining or enhancing health and cultural practice according to social-cultural backgrounds. Transcultural nursing considers seven factors that influence behavior, including family and social support, cultural values, and lifestyles, educational history, religion and philosophy of life, politics, and law, and technology [17]. According to this background, it necessary to research factors that influence the adherence of a hypertension diet for the elderly.

Based on the problem above, this study aims to examine the factors associated with adherence to the hypertension elderly diet in Mataram health center.

### METHODS

The research design used was a correlational study with a cross-sectional study. The sample in this study was 52 elderly who suffer from hypertension in the Mataram health center working area. The independent variables in this study were family support, cultural values & lifestyle, educational background, and family economy. While the dependent variable is the adherence of the elderly with hypertension diet. The instrument used for collecting the data in this study was using a questionnaire. The data analysis used spearman's rho correlation test to find out the relationship between the independent and dependent variables with the value of  $\alpha < 0.05$ .

### RESULT

**Table 1.** The respondents demographic data

Demographic Data	n	%
Gender		
Female	33	63.5
Male	19	36.5
Age		
60-74 Years	44	84.6
75-90 Years	8	15.4
Number of family members		

3	5	9.6
4	17	32.7
5	14	26.9
>5	16	30.8
Education		
None	32	61.5
Elementary	20	38.5
Junior High	0	0
Senior high	0	0
Bachelor	0	0
Family income level		
Under regional minimum wage	41	78.8
Above regional minimum wage	11	21.2
Family Support		
Lack	44	84.6
Good	8	15.4
Culture and Lifestyle		
Cultured	38	73.1
Uncultured	14	26.9
Adherence to hypertension diet		
Not compliant	35	67.3
Compliant	17	32.7

Table 1 shows that female respondents were 33 elderly (63.5%) respondents. The majority of their age ranged in 60-74 years, with several 44 elderly (84.6%). The highest number of families living with respondents is four family members, 17 elderly (32.7%) respondents. The level of education is in elementary school, which is 32 elderly (61.5%). The level of income of respondents is still below the minimum wage (<1.400.000), which is 41 elderly (78.8%). Family support for the majority of respondents lacks with only 44 elderly (84.6%). Respondents still adhered to a culture consisting of 38 elderly (73.1%). The level of adherence to the hypertension diet of the majority is not compliant with only 35 elderly (67.3%).

**Table 2.** Tabulation of the relationship between education level, family income level, family support, culture and lifestyle with adherence to the elderly hypertension diet

	Diet Adherence						Spearman's rho
	Not compliant		Compliant		Total		
	n	%	n	%	n	%	
Education Level							p=0.7 r=0.039
None	22	42.3	10	19.2	32	61.5	
Elementary	13	25	7	13.5	20	38.5	
Junior High	0	0	0	0	0	0	
Senior High	0	0	0	0	0	0	
College	0	0	0	0	0	0	
Total	35	67.3	17	32.7	52	100	
Family Income Level							p=0.000 r=0.542
Under Minimum Wage	33	63.5	8	15.4	41	78.8	

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Above Minimum Wage	2	3.8	9	17.3	1	21.1	
Total	35	67.3	17	32.7	5	10.2	
Family Support							
Lack	35	67.3	9	17.3	4	8.4	p=0.000 r=0.612
Good	0	0	8	15.4	8	15.4	
Total	35	67.3	17	32.7	5	10.2	
Culture and Lifestyle							
Cultured	34	65.4	4	7.7	3	73.1	p=0.000 r=0.779
Uncultured	1	1.9	13	25.4	1	26.9	
Total	35	67.3	17	32.7	5	10.2	

From the table above, Spearman's rho statistical test results obtained family income level ( $p=0.000$ ), Family support ( $p=0.000$ ), Culture, and lifestyle ( $p=0.000$ ), related to the adherence of elderly hypertension diet.

### DISCUSSION

Based on the result, there is a relationship between the level of income of the respondents' families with adherence to the elderly hypertension diet. With the direction of the positive correlation with a moderate level of association, which means that if the family's income is high, then the elderly will be compliant in going on a hypertension diet [17]. The theory shows that there is a relationship between family income and adherence to the elderly hypertension diet. Low-income families may not be able to meet their needs in fulfilling their dietary needs. According to economic status or income related to family needs, high family income will have a positive impact on the overall needs of the family, such as clothing, food, shelter and transportation, and health. But not with the low-income families (below minimum wage) will cause an inability to meet their needs such as health care. Based on the results of the study, it is found that the elderly with economic factors can be compliant in implementing a hypertension diet. It is because the elderly live with a small number of families. It is also supported by general data on the number of elderly families. Most of the people live with more than four family members, thus affecting the food to be bought and consumed by their unique families at an economic level, which is low. So, it causes a daily basis expense that can fulfill the needs of the elderly with hypertension diet. There is a relationship between respondents' family support with adherence to the elderly hypertension diet with a positive correlation with a healthy correlation level. It means that if family support is useful in supporting and motivating hypertension diet compliance, the elderly who suffer from hypertension will be compliant in carrying out the diet as well as otherwise. The results of this study are in line with the theory of transcultural nursing. Family support is the ability of families to provide time, attention, and help in fulfilling the needs of both physical, mental, and social. Family support includes attention/family support to the elderly in meeting hypertension dietary needs. Family support is

one of the factors that are very influential in conducting health action [17]. It shows that family support has a relationship with hypertension diet adherence [18], [19]. Family support is divided into three namely, emotional, cognitive, and material family support [20]. In this study, there is still emotional support from the family of the elderly to support the needs of the elderly, and the family encouraged them to eat the recommended foods [21]. But in cognitive support, the family cannot give advice related to hypertension and diet that the elderly should live. Likewise, with material support, even though the family encourages the elderly to eat recommended food, but in reality, the elderly eats without a diet plan or not following dietary recommendations. The continue to eat as usual as what their families eat.

Based on the results of the research, there is a relationship between family income with adherence to the hypertension diet, with a positive correlation and a healthy correlation level. It means that if there are a good culture and lifestyle, then adherence to the hypertension diet will be useful, and vice versa. Culture and lifestyle are factors that significantly influence one's actions in carrying out health measures [17]. It shows that culture and lifestyle are associated with adherence to the elderly hypertension diet [22]–[24]. In this study, most of the elderly who embrace culture and lifestyle that are not good in living their hypertension diet are not compliant. Changes in lifestyle will affect your nutrition and health, so if someone has a good lifestyle, it will be suitable for a hypertension diet [19], [25]. The strategies used in nursing care are the protection or preservation of culture, accomodating/negotiating, and changing the culture of changing clients [17]. Besides, family support in regulating food patterns can help the elderly to improve their adherence to the diet [26].

### CONCLUSION

Based on the results of the study, it is found that there is a relationship between family income level, family support, and culture and lifestyle. A high-income level can affect the elderly's adherence to the diet. It happens because adequate financial capacity can help to fulfill the needs of the elderly. Also, family support is needed to motivate the elderly to adhere to their diet program. The next factor is culture and lifestyle. A culture that has been inherited for generations will affect adherence to the elderly diet.

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