COMPREHENSIVE HEALTH CARE e-ISSN : 2722-1563 p-ISSN : 2580-7137

Relationship Between Balanced Nutritional Behavior and the Occurrence of Hypertension on the Lances in Puskesmas Sabbang Paru

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Article Info
Article History:
Received : 6 April 2024
Revised : 7 April 2024
Accepted: 27 April 2024

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DOI
https://doi.org/10.37362/jch.v8i1.1400
P- ISSN : 2722-1563
E -ISSN : 2580-7137

ABSTRACT

Hypertension in elderly is mostly isolated systolic hypertension (HST), increasing systolic pressure leads to increasing risk of stroke and myocardial infarction even if the diastolic pressure is within normal limits. (isolated systolic hypertension). The aim of this study is to find out the relationship between balanced nutritional behavior and the occurrence of hypertension in the elderly. The type of research used is quantitative with a cross sectional study approach. The population in this study is the entire elderly suffering from hypertension aged 60-74 years in the Puskesmas Sabbangparu Lung Working Region with a total of 32 respondens. The sample in the study is 32 respondens. The results of the study show that the most balanced nutritional behaviour is the most dominant category as many as 30 (93.8%) respondents. while, the remainder of respondents with poor balanced dietary behavior as much as 2 (6.3%) respondents. Pearson Chi square results obtained a value $\rho = 0{,}004$ This indicates that $\rho < \alpha$ ($\alpha = 0{,}05$) then Ha is accepted and H0 rejected. The conclusion of this study is that the most dominant nutritional behavior is a good category. The most prevalent occurrence of hypertension is a stage II category.

Keywords: Hypertension; Elderly; Balanced Nutritional Behavoir

INTRODUCTION

Unoptimal nutrition is linked to poor health. Poor nutrition is a risk factor for Non-communicable Diseases (NCDs), such as cardiovascular diseases (heart and blood vessel diseases, hypertension and strokes), diabetes and cancer are the leading causes of death in Indonesia. More than half of all deaths in Indonesia are due to PTM (Astika & Permatasari, 2018).

The diet is the most important behavior that can affect nutrition. This is because the quantity and quality of food and beverages consumed will affect the level of health of individuals and communities. In order to keep the body healthy and avoided from various chronic diseases (PTM) related to nutrition, then the diet needs to be improved

towards a balanced nutritional consumption. One of the principles is to consume a variety of foods. (Wulandari, 2019). According to Nugraheni, et al., (2008) in Widagatanrum (2012) stated that body weight and body mass index (BMI) are directly correlated with blood pressure, especially systolic blood pressure. The relative risk of suffering from hypertension in obese people is five times higher than in normal-weight people. In hypertensive patients found about 20%-30% have excess weight (Arini & Wijana, 2020).

According to the American Heart Association, (2018), hypertension is a silent killer whose symptoms vary greatly in each individual and are almost the same as other diseases. Symptoms include headaches or swelling. Vertigo, heartbeat, tiredness, blurred vision, ears banging and fainting. Hypertension in elderly is mostly isolated systolic hypertension (HST), increased systolic pressure leads to increased risk of stroke and myocardial infarction even if the diastolic pressure is within normal limits. (isolated systolic hypertension). Isolated systolic hypertension is the most common form of high blood pressure in the elderly. (Unger et al., 2020). In one study, hypertension occupied 87% of cases in people aged 50 to 59. Hypertension, both HST and a combination of systolic and diastolic is a risk factor for morbidity and mortality in the elderly. Hypertension is still a major risk factor for stroke, coronary heart failure, where the role is expected to be greater than in younger people. (Lloyd-Jones et al., 2017).

According to Ministry of health RI (2020) Prevalence of hypertension in Indonesia Kalimantan (44.1%), Jabar (43%), Jateng (37.5%), Jatim (37.5%), Kaltim (43.1%), Kalbar (32.7%), Sumsel (32.2%), Sultra (32. 2%), Sulbar (36%), Surteng (32.1%), Gorontalo (32%), Papua (22.2%) and prevalence for sulut provinces as much as (34%).

Meanwhile, according to RISKESDAS 2020 data, the prevalence of nutritional status of the adult population (≥ 18 years) according to Body Mass Index (BMI) categories. Nutritional status is weak 11.1%, Normal 62.7% and nutrition status is more than 11.5%, obesity is 14.8% and the highest prevalence is overweight and obese status in South Sulawesi province, with 24.1% obese and 16.5% obese (Kemenkes RI, 2020). In addition, in 2020 the number of patients with hypertensive artery in the age of 45-54 years is 10.69%, or 5.46% of those age 16.69, or 5.65% of subsequently suffering from hypertense. From the data it is known that the older the prevalence of hypertension also increases. Meanwhile, in Wajo district for the number of people suffering from hypertension in 2020 in the age group 45 years and over is 32.74% or as many as 1.515

hypertensive patients (Riskesdas, 2020)

MATERIALS AND METHOD

A cross-sectional survey is a study to explain the dynamics of collation between risk factors and effects by means of approaches, observations, or data collection at a time. (point time approach). The research was carried out for one month, from June to July 2023 in Puskesmas Pushesmas Sabbang Paru district of Wajo. The sample included 32 elderly people suffering from hypertension aged 60-74.

Secondary data and questionnaire methods are used to gather the necessary information about dependent and independent variables. Data collected in the research process through direct blood pressure measurement of the respondents being the subject of the study using digital voltage meters and the division of questionnaires filled directly by respondents. The researchers select samples that meet the inclusion criteria and are not included in the exclusion criteria. Then a chi-square univariate and bivariate analysis was conducted to test the relationship between the two variables and to evaluate the research hypothesis. Application for approval of research ethics has been submitted to the Ethics Committee to the LPPM Campus Institute of Health Technology and Science Muhammadiyah Sidrap

RESULT

Table 1, it shows that all respondents in this case hypertension sufferers in the Sabbangparu Puskesmas, Wajo Regency 2023, the most are hypertension sufferers with an age range of 60-74 years, namely 32 (100%) respondents.

Tabel 1. Respondent Characteristics Based on Age in Puskesmas of Sabbangparu Health Center, Wajo Regency 2023

Age	Frequency	Percentage (%)
60-74 Years	32	100.0
Total	**32**	**100.0**

Based on table 2 above, it shows that the majority of respondents in this case hypertension sufferers in the Sabbangparu Health Center Work Area, Wajo Regency 2023, the most are hypertension sufferers with male gender, namely 19 (59.4%) respondents. Meanwhile, the remaining 13 (40.6%) respondents are female.

Tabel 2. Respondent Characteristics Based on Gender in Puskesmas of Sabbangparu Health Center, Wajo Regency 2023

Gender	Frequency	Percentage (%)
Male	19	59.4
Female	13	40.6
Total	**32**	**100.0**

Based on table 3 above, it shows that the most dominant balanced nutritional behavior is good category as many as 30 (93.8%) respondents. Meanwhile, the remaining respondents with poor balanced nutritional behavior are 2 (6.3%) respondents.

Tabel 3. Respondent Characteristics Based on Balanced Nutrition Behavior in Puskesmas of Sabbangparu Health Center, Wajo Regency 2023

Nutrition Behavior	Frequency	Percentage (%)
Good	30	93.8
Poor	2	6.3
Total	**32**	**100.0**

Based on table 4 above, it shows that the most dominant hypertension incident is the stage II hypertension category as many as 18 (56.3%) respondents. Meanwhile, the remaining respondents with stage I hypertension were 14 (43.8%) respondents.

Tabel 4. Respondent Characteristics Based on Hypertension Incidence in Puskesmas of Sabbangparu Health Center, Wajo Regency 2023

Hypertension incident	Frequency	Percentage (%)
Stage I Hypertension	14	43.8
Stage II Hypertension	18	56.3
Total	**32**	**100.0**

Based on table 5 above, it shows that out of a total of 32 respondents, there were 13 (40.6%) respondents who had good balanced nutritional behavior with stage I hypertension, while those suffering from stage II hypertension were 17 (53.1%) respondents. Furthermore, it shows that 1 (3.1%) respondents had poor balanced nutritional behavior with stage I hypertension and 1 (3.1%) respondents suffered from stage II hypertension. From these results, it can be concluded that in general, the elderly in the Sabbangparu Health Center Work Area have good balanced nutritional behavior with stage II hypertension. Meanwhile, based on the results of the Pearson Chi square test, the value of $\rho = 0.004$ was obtained. This shows that $\rho < \alpha$ ($\alpha = 0.05$) then Ha is accepted and H0 is rejected. This means that there is a relationship between balanced nutritional behavior and the incidence of hypertension in elderly in the Puskesmas Sabbangparu, Wajo Regency in 2023.

Tabel 5. Relationship between balanced nutrition behavior and hypertension incidence in the elderly in Puskesmas of Sabbangparu Health Center, Wajo Regency 2023

Balanced Nutrition Behavior	Hypertension Incident						P Value
	Stage I		Stage II		Total		
	F	%	F	%	F	%	
Good	13	40.6	17	53.1	30	93.8	0,004
Poor	1	3.1	1	3.1	2	6.2	
Total	**14**	**43.8**	**18**	**56.2**	**32**	**100.0**	

DISCUSSION

Researchers conducted research in Puskesmas Sabbangparu, Wajo Regency in 2023 with the aim of identifying the relationship between balanced nutritional behavior and the incidence of hypertension in the elderly. Based on the results of the data analysis carried out, it shows that the elderly in Puskesmas Sabbangparu Area have balanced nutritional behavior both with suffering from stage II hypertension. Meanwhile, based on the results of the Pearson Chi square test, it was obtained that there was a relationship between balanced nutritional behavior and the incidence of hypertension in the elderly in the Puskesmas Sabbangparu Area, Wajo Regency in 2023.

The results obtained are in line with the results of research conducted by Sitorus (2022). In his research entitled The Relationship between Lifestyle and Nutritional Status with the Incidence of Hypertension in Adults in Puskesmas Sentosa Baru Area, Medan Perjuangan District. The results of his research showed that there was a positive and significant relationship between nutritional status and hypertension in adults, meaning that the better the nutritional status, the better the hypertension in adults ($p = 0.615$). The results of multiple linear regression tests showed a positive and significant relationship between lifestyle and nutritional status with hypertension in adults ($Y = -1.40 + 0.044X1 + 0.091X2$). Hypertension is caused by an unhealthy lifestyle such as frequent consumption of fast food, salty foods and foods with high sodium seasonings, high-fat foods, preserved foods, alcoholic beverages, smoking habits, and lack of exercise, stress factors (Rahma & Pujianto, 2017). Sodium is a micronutrient, which is not only sourced from table salt but is also found in many other foods such as instant spices, processed meat, cheese, and so on. Sodium plays an important role in the human body. However, excessive consumption will have a negative impact on the body and almost all foods contain sodium (Prihatini et.al, 2016).

People's eating patterns show that they consume more foods high in sodium, which basically means that the elderly do not know what foods trigger increased blood pressure, which is also very susceptible to the elderly because in old age the immune system will experience decreased function and disorders in the blood vessels (Komalasari, 2022). In addition, the tendency for high-fat eating behavior will cause an imbalance of fat that will be stored in body tissues which can ultimately lead to obesity (Eryani et.al, 2015). The recommended fat consumption per day is 2 parts of vegetable fat sources and 1 part of animal fat sources. Excessive fat consumption over a long

period of time can result in weight gain and progress to obesity (Nirmalasari, 2019).

The results of a study conducted by Hamzah et.al (2021) showed that the elderly have a genetic predisposition that makes them susceptible to hypertension, even though they maintain a balanced diet. Environmental factors can also influence the incidence of hypertension in the elderly. Stress, pollution, unhealthy lifestyles, and lack of physical activity are some of the environmental factors that can contribute to hypertension. Meanwhile, research conducted by Purwono et.al (2020) found that the interaction between drugs consumed by the elderly and nutritional factors can also affect blood pressure. Drugs consumed to treat hypertension or other health conditions can interact with nutritional factors consumed by the elderly, thereby affecting their blood pressure levels. Although balanced nutritional behavior is maintained, there is still a possibility that excessive salt intake or an imbalance in certain nutritional intakes can contribute to hypertension. Based on the research results obtained and the results of previous studies related to the research conducted, researchers assume that the incidence of hypertension in the elderly in the area is caused by factors other than nutritional behavior. Although their nutritional behavior is balanced, there may be genetic, environmental, or other lifestyle factors that contribute to the development of hypertension in the elderly group.

CONCLUSION

Based on the research results obtained, it can be concluded as follows : The most dominant balanced nutritional behavior is the good category as many as 30 (93.8%) respondents. Meanwhile, the remaining respondents with poor balanced nutritional behavior are 2 (6.3%) respondents. The most dominant hypertension incidence is the stage II hypertension category as many as 18 (56.3%) respondents. Meanwhile, the remaining respondents with stage I hypertension are 14 (43.8%) respondents. There is a relationship between balanced nutritional behavior and the incidence of hypertension in the elderly in Puskesmas Sabbangparu Area, Wajo Regency in 2023. This is based on the results of the Pearson Chi square test, the value of $\rho = 0.004$ is obtained. This shows that $\rho < \alpha$ ($\alpha = 0.05$).

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