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Characteristics Of Hypertension In The Elderly

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Abstract: The aging process is a life cycle characterized by the decline in various organ functions in the bodywhich is marked by the susceptibility of the body to various disease attacks. One of the diseases that is often experienced by the elderly is hypertension. This study aims to determine the characteristics of hypertension among elderly people in Buku Village, Mapilli District, Polewali Mandar Regency, West Sulawesi Province. The method used in this research is descriptive quantitative method with research instruments, namely questionnaire sheets and in the questionnaire there are several questions given, one of which is about age, gender, occupation of the elderly and the purpose of this research is to know the characteristics of the elderly which include age. , gender, occupation. The population in Buku Village was 267 elderly people and the sample was 50 elderly respondents who were sampled where of the 50 respondents there were 35 respondents who had hypertension, the study was conducted in April 2020. The results showed that the elderly aged 60-74 years (Elderly) or 46 people aged 60-74 years (92%), and 4 people (elderly) aged 75-90 years (8%), Elderly 32 people aged 60-74 years with hypertension (91.4%) and 39 people in the dominance of female sex (78%) and the results for elderly people who were female who experienced hypertension were 29 people (82.8%).), there are 39 people (78%) elderly who work as IRT (housewives), 29 people (82.8%) who work as IRT (housewives) who have hypertension.

Keywords: Characteristics, Elderly, Hypertension

INTRODUCTION

Elderly is where a person experiences an increase in age accompanied by a decrease in physical function which is characterized by a decrease in muscle mass and strength, maximum heart rate(Bucur et al., 2013), increased body fat, and decreased brain function. The elderly group is a group of people aged 60 years and over. In the elderly there will be a process of loss of the ability of the tissue to repair itself or replace and maintain its normal function slowly so that it cannot survive infection and repair the damage that occurs.With increasing age, there are changes in the structure

and function of cells, tissues and organ systems. Change it affects the decline physical health that will ultimately effect on susceptibility to disease.

Currently worldwide, the number of elderly people is estimated at more than 625 million people (one in 10 people are over 60 years old), by 2025, the elderly will reach 1.2 billion(Salehi et al., 2010; Subramaniam et al., 2015; Tigerstedt et al., 2020). Whether we realize it or not, it turns out that Indonesia has entered an era of increasing the number of elderly population(Berlucchi, 2011; Ferenbach & Bonventre, 2015), since 2000, the proportion of the elderly population in Indonesia has reached above 7%. In 2010, the number of elderly is predicted to increase to 9.58% with a life expectancy of 67.4 years. Prediction in 2020, this number will increase to 11.20% with an average life expectancy 70.1 years. Someone said to be elderly based on law number 13/1998 are those who are aged 60 years and over. At that age, the elderly experience a decrease in the body's immune function, including a decrease in heart function, one of which is hypertension(Semba et al., 2010).

According to the World Health Organization (WHO) and the International Society of Hypertension (ISH), currently there are 600 million people with hypertension worldwide, and 3 million of them die each year. WHO noted that there are one billion people in the world suffer from hypertension, two thirds of whom arein low- and middle-income developing countries. The prevalence of hypertension will continue to increase sharply, it is predicted that by 2025, around 29% of adults worldwide suffer from hypertension. Hypertension has resulted in the death of about 8 million people every year, 1.5 million deaths occur in Southeast Asia, where one third of the population suffers from hypertension.

In Indonesia, the prevalence of hypertension in the elderly from the results of Riskesdas in 2013 showed quite high, namely 45.9% in the 55-64 year age group, 57.6% in the 65-74 year age group and 63.8% in the 75 year age group and over. Basic Health (Riskesdas) in 2013 the prevalence of hypertension in Indonesia based on age 18 years was 25.8% with a diagnosis from health personnel coverage of only 36.8%, and most cases of hypertension in the community were undiagnosed, which was 63.2%.In 2018 the highest province experiencing hypertension, namely South Kalimantan, which was 44.1%, was in the highest no. 1, West Sulawesi with a percentage of 34.1%. (Ministry of Health RI 2017).

Based on data from the West Sulawesi Provincial Health Office in 2015, it was reported that the prevalence of hypertension in adults and the elderly was 22.62%. The report also stated that of the 662,899 residents of West Sulawesi, only 181,142 people or 27.33% of them took blood pressure measurements. Data from the Polewali Mandar District Health Office shows that the number of cases of hypertension in the last 3 years has fluctuated. In 2015, cases of hypertension in Polewali Mandar Regency reached 19,183 cases. Then in 2016 it increased to 26,300 cases and in 2017 it

decreased again to 25,220 cases. Based on the Mapilli Health Center data in 2019, the total number of elderly people is 3,116 people, of which the number of elderly men who are male is 1,511 people and the number of elderly women is 1,605 people. And based on the Mapilli Health Center data in 2019, the number of elderly people in Buku Village is 267 people and data for the elderly who are male there are 125 people then there are 142 elderly female gender. Mapilli sub-district as a whole there are 270 people for data on hypertension sufferers. (2019 data).

Blood pressure is the pressure exerted on the walls of the arteries(Kumar & Ayub, 2015). Peak pressure occurs when the ventricles contract and is called the systolic pressure(Chemla et al., 2004). Diastolic pressure is the lowest pressure that occurs when the heart is at rest. Blood pressure is usually described as the ratio of systolic pressure to diastolic pressure, with normal adult values ranging from 100/60 to 140/90. The average normal pressure value is 120/80.

Hypertension suffered by a person is closely related to systolic and diastolic pressure or both continuously(Bell et al., 2015; Collin & Hughes, 2011; Sawicka et al., 2011). Systolic blood pressure is related to the high pressure in the arteries when the heart contracts, while diastolic blood pressure is related to the arterial pressure when the heart relaxes between two heartbeats. It is estimated that 23% of women and 14% of men over the age of 65 suffer from hypertension. The prevalence of hypertension in the world is estimated to be around 15-20%. Hypertension is more common in the 55-64 year age group. Hypertension is often referred to as the Silent Killer, because it is a deadly disease without any symptoms as a warning to its victims. Causes of hypertension in the elderly due to changes in the elasticity of the aortic wall decreases(Sawabe, 2010; Wagenseil & Mecham, 2012), the heart valves thicken and become stiff, the heart's ability to pump blood decreases, so that its contraction and volume decreases, loses elasticity of blood vessels due to less effectiveness of peripheral blood vessels for oxygen, increased peripheral vascular resistance.

The causes that affect blood pressure in the elderly are age, gender, education level, physical activity, genetic factors (heredity), food intake, smoking habits, and stress(Hu et al., 2015; Pinto & Martins, 2017). Some of the risk factors that can causes blood pressure high, namely advanced age and a history of high blood pressure in the family, obesity, high salt levels, and lifestyle habits such as smoking and drinking alcohol. In addition, there are factors that cancause high blood pressure, namely being overweight followed by a lack of exercise, and eating fatty foods and high salt content(Fuchs & Whelton, 2020).

METHOD RESEARCH

This research uses descriptive research method(Atmowardoyo, 2018; Millner et al., 2020; Siedlecki, 2020). The method used in this research is descriptive method using observation sheets or questions

that include questions about age, gender, and occupation in the elderly(Ichsan et al., 2019). The sample was 50 elderly respondents who were used as respondents and their blood pressure was checked. This study was conducted in January 2020. The sample used in this study was 50 elderly respondents in Buku Village, Mapilli District, Polewali Mandar Regency, West Sulawesi Province. The variables in this study were age, gender, and occupation. Data from the study were taken from primary data from elderly patients. Data analysis with analysis that is displayed in tabular form(Genc & Buyukkarci, 2013).

RESULT & DISCUSSION

Results Characteristics of Research Subjects

Table 1.1 Frequency Distribution of Respondents' Characteristics Based on Elderly Age in Buku Village, Mapilli District, Polewali Mandar Regency, West Sulawesi Province

Age	Frequency	Percentage%
Elderly (elderly) old age 60-74 years old	46	92
old age (old) Very old age 75-90 years old	4	8
Amount	50	100

This research uses descriptive research method. The method used in this research is descriptive method using observation sheets or questions that include questions about age, gender, and occupation in the elderly. The sample is 50 elderly respondents and blood pressure checks were carried out. This study was conducted in January 2020. The sample used in this study was 50 elderly respondents in.

Based on table 1.1, it can be explained that from the 50 respondents in this study, 46 people (92%), and elderly (old) or very old age with age 60-74 years old were found. 75-90 years as many as 4 people (8%).

Table 1.2 Frequency Distribution of Respondents' Characteristics by Gender in the Elderly in Buku Village, Mapilli District, Polewali Mandar Regency, West Sulawesi Province

Gender	Frequency	Percentage%
Man	11	22
Woman	39	78
Amount	50	100

Based on the table in 1.2, it can be explained that of the 50 respondents in this study, 11 male elderly people (22%), and female elderly as many as 39 people (78%).

Table 1.3 Frequency Distribution of Respondents' Characteristics based on Elderly Occupations in Buku Village, Mapilli District, Polewali Mandar Regency, West Sulawesi Province

Work	Frequency	Percentage%
entrepreneur	11	22
IRT (Housewife Ladder)	39	78
Amount	50	100

Based on table 1.3, it can be explained that of the 50 respondents in this study, 11 people (22%) were elderly who worked as entrepreneurs and 39 people (78%).

Subject Results Elderly	Hypertension	Study

Hypertension	Frequency	Percentage%
Hypertension	35	100

Amount	35		100

Based on the Results of Hypertension Research Subjects in the Elderly in Buku Village

With 50 respondents, the results obtained were 35 people who experienced hypertension or high blood pressure.

Table 1.1 Relationship between Age and Outcomes with Hypertension in the Elderly in Buku Village, Mapilli District, Polewali Mandar Regency, West Sulawesi Province

Category i Age	Hypertension nsi	Frequency i	Presentation e%
Carry on Age (elderly) old age 60-74 year	32	32	91.4
Carry on old age (old) Age very old 75-90 year	3	3	8.5
Amount	35	35	100

Based on Table 1.1 Show, That the elderly category (elderly) 60-74 years old who have hypertension as many as 32 people (91.4%) and the results for very old age 75-90 years who experience hypertension as many as 3 people (8 ,5%)

Based on the results of research conducted on 50 respondents where the results show that there are 35 elderly people who experience hypertension and are very at risk of experiencing hypertension in old age. And Based onStudy justify that the more With increasing age, a person is

also at risk of developing hypertension. Age 60-64 years there is an increase in the risk of hypertension by 2.18 times, age 65-69 years 2.45 times and age >70 years 2.97 times. This happens because at the age ofAs a result, the large arteries lose their elasticity and become stiff, so blood at each heartbeat is forced to pass through the larger blood vesselsnarrow than usually andcauses an increase in blood pressure.

Table 1.2 Relationship of Sex with Hypertension in Elderly in Buku Village, Mapilli District, Polewali Mandar Regency, West Sulawesi Province

Type Gender n	Hypertension si	Frequency si	Percentage %
Man-Man	6	6	17.1
girl an	29	29	82.8
Amount	35	35	100

Based on Table 1.2, it shows that the gender of the elderlyMale gender who have hypertension as many as 6 people (17.1%) and the results for the Elderly who are female who experience hypertension as many as 29 people (82.8%). Based on the results of research conducted on 50 respondents where the results show that the elderly who experience hypertension are 35people where the elderly are gender. Women are very at risk of experiencing hypertension in old age where the results are as many as 29 people experiencing hypertension. To further provide an explanation of the Elderly who are Women at risk of developing Hypertension, there is a study that explains that women who have not yet entered menopause are protected by hormones.Estrogen plays a role in increasing levels of High Density Lipoprotein (HDL). Low HDL cholesterol and high LDL(cholesterolDensity lipoproteins) influencehappening process atherosclerosis andresulting   in high blood pressure.

Table 1.3 Occupational Relationships with Hypertension in the Elderly in Buku Village, Mapilli District, Polewali Mandar Regency, West Sulawesi Province

Worker an	Hypertension si	Frequency si	Percentage %
IRT (Mother Home Ladder)	29	29	82.8
Entrepreneur ta	6	6	17.1
Amount	35	35	100

Based on Table 1.3 Showthat the Elderly Jobs who work as IRT (housewives) whoexperience Hypertension as many as 29 people (82.8%) and the results for Elderly Jobs who work asThere are 6 entrepreneurs who have hypertension (17.1%).

Based on the results of research conducted on 50 respondents where the results show that there are 35 elderly people who have hypertension where the elderly who have a job as IRT (housewives) who experience hypertension are 29 people (82.8%) . someone explained that work as housemaid tends to cause severe hypertension due to stress. Sources of stress in work include workload, inadequate work facilities, unclear roles in work, unclear responsibilities, problems in relationships with other people, work demands and family demands.

CONSCLUSION

Based on the results and discussions that have been explained that of the total respondents as many as 50 people, namely the elderly aged 60-74 years (Elderly) or old age with the age of 60-74 years as many as 46 people (92%), and the elderly (old) or very old age with age 75-90 years as many as 4 people (8%), Elderly (elderly) Old age 60-74 years with hypertension as many as 32 people (91.4%) and dominated by female as many as 39 people (78%) and the results for the Female Elderly who experienced Hypertension were 29 people (82.8%), the elderly who worked as IRT (housewives) were 39 people (78%), the Elderly Worked work as IRT (house wife stairs) who had hypertension as many as 29 people (82.8%).With the results of this study, it is hoped that the elderly will pay more attention to their own health by doing various physical activities such as sports and maintaining regularity in their lifeconsuming food, in other words, the elderly are encouraged to behave in a

healthy way. In addition, the results of this study are also expected to make the Puskesmas more intensive in providing information about blood pressure in the elderly, for example by doing more counseling about maintaining normal blood pressure in the elderly with material on factors that affect blood pressure in the elderly.

REFERENCES

Atmowardoyo, H. (2018). Research methods in TEFL studies: Descriptive research, case study, error analysis, and R & D. Journal of Language Teaching and Research, 9(1), 197–204.

Bell, K., Twiggs, J., Olin, B. R., & Date, I. R. (2015). Hypertension: the silent killer: updated JNC-8 guideline recommendations. Alabama Pharmacy Association, 334, 4222.

Berlucchi, G. (2011). Brain plasticity and cognitive neurorehabilitation. Neuropsychological Rehabilitation, 21(5), 560–578.

Bucur, V. M., Bucur, E., & Runcan, P.-L. (2013). Institutionalisation of the elderly person–between adaptation and survival. Procedia-Social and Behavioral Sciences, 84, 944–948.

Chemla, D., Castelain, V., Humbert, M., Hébert, J.-L., Simonneau, G., Lecarpentier, Y., & Hervé, P. (2004). New formula for predicting mean pulmonary artery pressure using systolic pulmonary artery pressure. Chest, 126(4), 1313–1317.

Collin, J., & Hughes, D. (2011). The silent killer in media stories: Representations of hypertension as health risk factor in French-language Canadian newspapers. Health, Risk & Society, 13(6), 577–592.

Ferenbach, D. A., & Bonventre, J. V. (2015). Mechanisms of maladaptive repair after AKI leading to accelerated kidney ageing and CKD. Nature Reviews Nephrology, 11(5), 264–276.

Fuchs, F. D., & Whelton, P. K. (2020). High blood pressure and cardiovascular disease. Hypertension, 75(2), 285–292.

Genc, B., & Buyukkarci, K. (2013). An assessment of pre-service language teachers' practicum observation forms: Descriptive observation vs. critical observation. Educational Research EJournal, 2(2), 83–91.

Hu, B., Liu, X., Yin, S., Fan, H., Feng, F., & Yuan, J. (2015). Effects of psychological stress on hypertension in middle-aged Chinese: a cross-sectional study. PloS One, 10(6), e0129163.

Ichsan, I. Z., Sigit, D. V., & Miarsyah, M. (2019). Environmental learning based on higher order thinking skills: a needs assessment. International Journal for Educational and Vocational Studies, 1(1), 21–24.

Kumar, S., & Ayub, S. (2015). Estimation of blood pressure by using electrocardiogram (ECG) and photo-plethysmogram (PPG). 2015 Fifth International Conference on Communication Systems and Network Technologies, 521–524.

Millner, A. J., Robinaugh, D. J., & Nock, M. K. (2020). Advancing the understanding of suicide: the need for formal theory and rigorous descriptive research. Trends in Cognitive Sciences.

Pinto, I. C., & Martins, D. (2017). Prevalence and risk factors of arterial hypertension: A literature review. Journal of Cardiovascular Medicine and Therapeutics, 1(2), 1–7.

Salehi, L., Shojaeizadeh, D., Eftekhar, H., Mohammad, K., & Taghdisi, M. H. (2010). Physical activity among a sample of Iranians aged over 60 years: an application of the transtheoretical model. Archives of Iranian Medicine, 13(6), 528–536.

Sawabe, M. (2010). Vascular aging: from molecular mechanism to clinical significance. Geriatrics & Gerontology International, 10, S213–S220.

Sawicka, K., Szczyrek, M., Jastrzebska, I., Prasal, M., Zwolak, A., & Daniluk, J. (2011). Hypertension– the silent killer. Journal of Pre-Clinical and Clinical Research, 5(2).

Semba, R. D., Nicklett, E. J., & Ferrucci, L. (2010). Does accumulation of advanced glycation end products contribute to the aging phenotype? Journals of Gerontology Series A: Biomedical Sciences and Medical Sciences, 65(9), 963–975.

Siedlecki, S. L. (2020). Understanding descriptive research designs and methods. Clinical Nurse Specialist, 34(1), 8–12.

Subramaniam, M., Chong, S. A., Vaingankar, J. A., Abdin, E., Chua, B. Y., Chua, H. C., Eng, G. K., Heng, D., Hia, S. B., & Huang, W. (2015). Prevalence of dementia in people aged 60 years and above: results from the WiSE study. Journal of Alzheimer's Disease, 45(4), 1127–1138.

Tigerstedt, C., Härkönen, J., Mäkelä, P., Parikka, S., & Vilkko, A. (2020). Drinking patterns among Finns aged 60 years and over from the 1990s onwards. Nordic Studies on Alcohol and Drugs, 37(5), 470–480.

Wagenseil, J. E., & Mecham, R. P. (2012). Elastin in large artery stiffness and hypertension. Journal of Cardiovascular Translational Research, 5(3), 264–273.