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RESEARCH ARTICLE

Knowledge and Family Support Relationships with the Management of Hypertension in the Elderly

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ABSTRACT

The elderlies are part of family members or community members who are getting older in line with the increase in life expectancy. Based on data from (WHO) shows that around 1.13 billion people in the world have hypertension, meaning that 1 in 3 people in the world is diagnosed with hypertension. High blood pressure (hypertension) is one of the Leading causes of death worldwide as well as causes of death Generally, blood pressure increases slowly with age. Retrieved The relationship between knowledge and family support with the management of hypertension in the elderly in Sulaa Health Center, Betoambari District, Baubau City. This type of research uses quantitative research with research methods Descriptive Analytics and the approach cross sectional study. This research has been carried out from June to July 2021. The sample used was 46 elderly people. Data collection using The data collected in this study includes primary data and secondary data of the Sulaa Health Center in Baubau City with a Gutman scale and using a Chi Square. The relationship between knowledge and the management of hypertension in the elderly at the Sulaa Health Center, Betoambari District, Baubau City. Exist the relationship between family support and the management of hypertension in the elderly at the Sulaa Health Center, Betoambari District, Baubau City.

INTRODUCTION

The elderly or the elderly are part of family members or community members who are getting older in line with the increase in life expectancy (Wulandhani, dkk., 2014). According to *World Health Organization* The global population of people aged 60 and over will more than double, from 900 million in 2015 to about 2 billion by 2050. Aging is not a disease, but an advanced stage of a process characterized by a decrease in the body's ability to adapt to environmental stress. Elderly is a condition characterized by a person's failure to maintain physical and physiological balance. High blood pressure (hypertension) is one of the (WHO, 2018) (Muhith & Siyoto, 2016)Leading causes of death worldwide as well as causes of death Generally, blood pressure increases slowly with age.(Triyanto, 2014)

Based on data from (WHO) shows that around 1.13 billion people in the world have hypertension, meaning that 1 in 3 people in the world is diagnosed with hypertension. The number of people with hypertension continues to increase every year, it is estimated that by 2025 there will be 1.5 billion people affected by hypertension, and it is estimated that every 9.4 million people die from hypertension and complications. (WHO, 2019)

Based on Riskesdas 2018, the prevalence of hypertension based on measurements in the population aged 18 years is 34.1%, the highest in South Kalimantan (44.1%), while the lowest in Papua is (22.2%). Hypertension occurs at the age of 31-44 years (31.6%), age 45-54 years (45.3%), age 55-64 years (55.2%). This proves that the number of hypertensive patients is higher in the elderly. (Kemenkes RI, 2018)

South Sulawesi in 2016 was 21.90%, with the highest cases in Selayar Regency (32.49%), Soppeng Regency (24.92%) and Takalar Regency (14.82%), while the lowest cases were in Sidrap Regency, Luwu Regency, and Makassar City each (0.00%). In Southeast Sulawesi Province, Baubau City itself in 2016 as many as 18,054 cases. (Baubau City Health Office, 2016). The number of hypertension sufferers in 2017 was 5,215 cases, in 2018 it decreased to 3,606 cases (Dinkes Sulsel, 2017)*(Baubau City Health Office, 2017 & 2018*).

One of the problems that worsens the condition of hypertension is that hypertension is not properly managed so that the blood pressure in the elderly with uncontrolled hypertension maximally exceeds 140/90 mmHg. If maximum management is carried out, it will result in the recurrence of hypertension symptoms which are usually called hypertension recurrences. If hypertensive patients do not prevent and treat their hypertension disease optimally, hypertensive patients will be at risk of complications. It is estimated that in five years patients who are more than 60 years old will experience heart disorders such as myocardial infarction and in addition to that are at risk of having a stroke if hypertension is not treated. (Suwandi, 2016)

Hypertension in the elderly can actually be prevented and controlled to be able to reduce the risk of recurrence by cultivating healthy living behaviors, consuming foods with balanced nutrition that meet nutritional needs with elements rich in fiber, low fat and low sodium (less than 6 grams of sodium per day), exercising regularly, getting enough rest, thinking positively, not smoking, and not consuming alcohol. However, the lack of adequate public knowledge about hypertension and its prevention tends to increase the incidence of hypertension (Caroline, dkk., 2018).

In addition to knowledge, another important factor in the management of hypertension is family support to help individuals solve health problems, especially in the management of hypertension. Support from family is the most important factor in helping individuals solve problems. Family support will increase confidence and motivation to face problems and increase life satisfaction. In this case, the family must be involved in the education program so that the family can meet the needs of the patient, know when the family should seek help and support compliance with treatment. The family becomes *support system* In the life of hypertensive patients, so that the situation experienced does not worsen and avoids complications due to hypertension. Family support is also needed to reduce the risk of recurrence. The family can help in the treatment of hypertension, namely in managing a healthy diet, inviting exercise, accompanying and improving routines in checking blood pressure (Susriyanti, 2014)

Yulanda & Lisiswanti study results (2017) Management Hypertension is divided into 2 i.e. nonpharmacological therapy includes weight reduction for individuals who are obese or obese, adopting the DASH diet (*Dietary Approach to Stop Hypertension*) which is rich in potassium and calcium, a diet low in sodium, physical activity and consumption of alcohol only a little, while pharmacological therapy using antihypertensive drugs can be started with one drug or a combination of drugs.

The previous research data is an overview of the level of knowledge about hypertension in Pondok Cina Village, Beji, Depok. The results of this study showed that there was no meaningful relationship between age, gender, education level, type of occupation, history of hypertension, and sources of information with the level of public knowledge about hypertension (p=1,000). This can be proven by the results of a correlation test using Chi Square. From the results of the test, it was obtained that out

of 70 respondents there were as many as (74.1%) respondents who were sources of hypertension information obtained and had a good level of knowledge.

Sulaa Village, Betoambari District, Baubau City is a coastal area where the community produces salted fish and is used as a side dish for daily food so that it can be one of the causes of the high rate of hypertension in Sulaa Village, Betoambari District, Baubau City. Data from the Sulaa Health Center shows that the number of visits for hypertension patients in 2018 was 390 patients, in 2019 there were 422 patients. Meanwhile, in 2020 there were 385 patients (Sulaa Health Center Secondary Data, 2020).

Research methods

This type of research uses quantitative research with research methods *Descriptive Analytics* and the approach *cross sectional study* that is, a study that studies the dynamics of the correlation between risk factors and effects, by means of approach, observation or data collection at the same time (*point time approach*) . This research has been carried out in (Notoatmodjo, 2014) Sulaa Health Center, Betoambari District, Baubau City.

A population is a collection or aggregate of objects/units of analysis to which generalizations are formulated and from which samples are taken. The population in the study is the criteria for the elderly aged 45-65 years who suffer from hypertension in (Setiawan & Prasetyo, 2015)Sulaa Health Center, Betoambari District, Baubau City with an average of 46 patients.

The sample is part of a certain number and characteristics determined by the researcher to be studied and then drawn conclusions. The sample in this study is the criteria for the elderly aged 45-65 years who suffer from hypertension in (Setiawan & Prasetyo, 2015)Sulaa Health Center, Betoambari District, Baubau City A total of 46 patients. The sampling techniques in this study are *total sampling. Total sampling* is a sampling technique when all members of the population are used as samples (Setiawan & Prasetyo, 2015).

Data collection is an important step in a research, because the data obtained is used to test the hypothesis that has been formulated. In this study, the data collection tool used is a list of statements in the form of questionnaires where questions are developed from previous research and from existing concepts. The data collection tool is designed by the researcher by referring to the conceptual framework that has been made, theories in literature studies, and references from the research questionnaire Astuti (2009) related to research (FIK University of Indonesia, 2009). This study uses a knowledge level scale used to collect data with questionnaires.

The knowledge questionnaire uses *a gutmaan scale* with a choice of right and wrong answers. The knowledge questionnaire contains 20 items of statements related to respondents' knowledge about hypertension management. Questionnaire answers for correct choice were given a score of 2 and incorrect was given a score of 1. The family support questionnaire uses *a Likert* scale with a choice of answers always, often, sometimes and never. The family support questionnaire contains 20 items of statements related to support from families to respondents during the implementation of hypertension management. Questionnaire answers for choice are always given a score of 4, often given a score of 3, sometimes given a score of 2 and never scored.

Hypertension management questionnaire uses *a Likert scale* with a choice of answers always, often, sometimes and never. The questionnaire on hypertension management in the elderly contains 10 question items related to the extent to which hypertension management has been carried out while suffering from hypertension. Questionnaire answers for choice are always given a score of 4, often given a score of 3, sometimes given a score of 2 and never given a score of 1.

The results of the questionnaire obtained or collected through the questionnaire need to be edited (*Edit*) first. If it turns out that there is still incomplete data or information and it is impossible to

conduct re-research, then the questionnaire is issued. A sheet or code card is an instrument in the form of a column to record data manually. The sheet or code card contains the respondent's number, and the question numbers. Next, enter data, namely filling in the columns or boxes of sheets or code cards according to the the answer to each question. Then Tabulation namely making data tables, in accordance with the research objectives or desired by the researcher. (Notoatmodjo, 2014)

Then it is done Univariate analysis aims to explain or describe the characteristics of each research variable. The form of the type of univariate analysis depends on the type of data. In general, this analysis produces the frequency and percentage distribution of each variable. However, what is certain is that the use of univariate analysis in research is an analysis method that is carried out on a single data or consists of only one type of variable. For example, about age and level of knowledge (Notoatmodjo, 2014)**.**

After that If a univariate analysis has been carried out, the characteristics or distribution of each variable will be known, and the bivariate analysis can be continued. Bivariate analysis was carried out on two variables that were suspected to be related or correlated. The statistical test used in this study is a test (Notoatmodjo, 2014) *Chi-square*, because both independent variables and dependent variables are categorical variables. The limit of meaning used is 0.05. If the test conditions *Chi-square* is not met to see the trend, then the alternative test used is a test *Mann-Whitney*. Statistical decision-making is carried out by comparing *p* (*p value)* with a value of α (0.05) with the provision: When *R* value ≤ value α (0.05), then Ha is accepted, the interpretation is that there is an independent variable relationship with the dependent variable or If *R* value > value α (0.05), then H0 is accepted, the interpretation is that there is no relationship between independent variables and dependent variables.

RESULT

Based on research carried out at the Sulaa Health Center, Betoambari District, Baubau City from June 13 to July 12, 2021. The population in the study was all elderly people suffering from hypertension at the Sulaa Health Center, Betoambari District, Baubau City with an average of 46 patients per month. Based on data from the Sulaa Health Center in Baubau City, 46 patients were obtained for data analysis.

After conducting a univariate analysis of the results of the research on the relationship between knowledge and family support and the management of hypertension in the elderly at the Sulaa Health Center, Betoambari District, Baubau City, the following characteristics were obtained:

Table 1: Distribution of Respondents' Age Frequency at Sulaa Health Center, Betoambari District, Baubau City

Age	Frequency (n)	Percentage (%)
46-55 years old	12	26,1
56-65 years old	34	73,9
Total	46	100,0

Based on Table 1, it shows that of the 46 respondents, most of the respondents' age is in the vulnerable age group of 56-65 years, as many as 34 respondents (73.9%) and 46-55 years as many as 12 respondents (26.1%).

Table 2: Distribution of Respondent Gender Frequency at Sulaa Health Center, Betoambari District, Baubau City

Gender	Frequency (n)	Percentage (%)
Man	31	67,4
Woman	15	32,6
Total	46	100,0

Based on Table 2, it shows that of the 46 respondents, most of the respondents are male as many as 31 respondents (67.4%) and female as many as 15 respondents (32.6%).

Table 3: Distribution of Respondent Education Frequency at Sulaa Health Center, Betoambari District, Baubau City

Education	Frequency (n)	Percentage (%)
Elementary	6	13,0
Junior School	10	21,7
High School	18	39,1
Diploma	5	10,8
Bachelor Degree	7	15,2
Total	46	100,0

Based on Table 3, it shows that of the 46 respondents, most of the respondents' education, namely high school, 18 respondents (39.1%) and the least, elementary school, as many as 6 respondents (13.0%).

Table 4: Distribution of Respondents' Work Frequency at the Sulaa Health Center, Betoambari District, Baubau City

Work	Frequency (n)	Percentage (%)
House Wife	7	15,2
Government worker	9	19,6
Private	6	13,0
Self employed	10	21,7
Fisherman	14	30,4
Total	46	100,0

Based on Table 4, it shows that of the 46 respondents, most of the respondents' jobs are fishermen, as many as 14 respondents (30.4%) and the least, private employees as many as 6 respondents (13.0%).

Table 5: Distribution of Respondents' Knowledge Frequency at Sulaa Health Center, Betoambari District, Baubau City

Knowledge	Frequency (n)	Percentage (%)
Good	36	78,3
Less	10	21,7
Total	46	100,0

Based on Table 5, it shows that out of 46 respondents, 36 respondents (78.3%) had good knowledge and 10 respondents (21.7%) had less knowledge.

Table 6: Distribution of Frequency of Respondent Family Support at the Sulaa Health Center, Betoambari District, Baubau City

Family support	Frequency (n)	Percentage (%)
Good	29	63,0
Less	17	37,0
Total	46	100,0

Based on Table 6, it shows that out of 46 respondents, 29 respondents (63.0%) had good family support and 17 respondents (37.0%) had poor family support.

Table 7: Frequency Distribution of Hypertension Management of Respondents' Hypertension at the Sulaa Health Center, Betoambari District, Baubau City

Hypertension management	Frequency (n)	Percentage (%)
Good	37	80,4
Less	9	19,6
Total	46	100,0

Based on Table 7, it shows that out of 46 respondents, 37 respondents (80.4%) were found to have good hypertension management and 9 respondents (19.6%) had poor hypertension management.

Bivariate Analysis

To see the relationship between knowledge and family support with the management of hypertension in the elderly at the Sulaa Health Center, Betoambari District, Baubau City, the Chi-square *test was carried out.*

Table 8: The Relationship between Knowledge and the Management of Hypertension in the Elderly at the Sulaa Health Center, Betoambari District Baubau City

Knowledge	Hypertension management				Total		*R*
	Good		Less				
	n	%	n	%	n	%	
Good	31	86,1	5	13,9	36	100,0	0,070
Less	6	60,0	4	40,0	10	100,0	
Total	37	80,4	9	19,6	46	100,0	

Based on Table 8, it shows that the respondents who have good knowledge are 36 respondents, of which there are 31 respondents (86.1%) who have good hypertension management and 5 respondents (13.9%) whose hypertension management is poor. Meanwhile, the respondents who had less knowledge amounted to 10 respondents, of which there were 6 respondents (60.0%) who had good hypertension management and 4 respondents (40.0%) who had poor hypertension management.

The results of the statistical test with *Chi-square* obtained a value *of* ρ=0.070, because the value *of* $p<\alpha = 0.05$*, the hypothesis was accepted. The interpretation is that there is* a relationship between knowledge and the management of hypertension in the elderly at the Sulaa Health Center, Betoambari District, Baubau City. So the hypothesis is proven to be a relationship between knowledge and the management of hypertension in the elderly at the Sulaa Health Center, Betoambari District, Baubau City.

Table 9: The Relationship between Family Support and the Management of Hypertension in the Elderly at the Sulaa Health Center, Betoambari District Baubau City

Family support	Hypertension management				Total		*R*
	Good		Less				
	n	%	n	%	n	%	
Good	26	89,7	3	10,3	29	100,0	0,040
Less	11	64,7	6	35,3	17	100,0	
Total	37	80,4	9	19,6	46	100,0	

Based on Table 9, it shows that the respondents who have good family support are 29 respondents, of which there are 26 respondents (89.7%) whose hypertension management is good and 3 respondents (10.3%) whose hypertension management is poor. Meanwhile, the respondents who had less family support amounted to 17 respondents, of which there were 11 respondents (64.7%) who had good hypertension management and 6 respondents (35.3%) who had poor hypertension management.

The results of the statistical test with *Chi-square* obtained a value *of* ρ=0.040, because the value *of* $p<\alpha = 0.05$, *the hypothesis was accepted. The interpretation is that there is* a relationship between family support and the management of hypertension in the elderly at the Sulaa Health Center, Betoambari District, Baubau City. So the hypothesis is proven that there is a relationship between family support and the management of hypertension in the elderly at the Sulaa Health Center, Betoambari District, Baubau City

DISCUSSION

Sulaa Village, Betoambari District, Baubau City is a coastal area where the community produces salted fish and is used as a side dish for daily food so that it can be one of the causes of the high rate of hypertension in Sulaa Village, Betoambari District, Baubau City, so that the researcher's assumption is that there is a relationship between knowledge and family support with the management of hypertension in the elderly at the Sulaa Health Center, Betoambari District, Baubau City.

The relationship between knowledge and the management of hypertension in the elderly

In the knowledge data, namely Table 5, it shows that out of 46 respondents, 36 respondents (78.3%) have good knowledge and 10 respondents (21.7%) have less knowledge. Meanwhile, the hypertension management data, namely Table 7, shows that out of 46 respondents, 37 respondents (80.4%) were found to have good hypertension management and 9 respondents (19.6%) whose hypertension management was poor.

Based on Table 8, it shows that there are 36 respondents who have good knowledge, of which there are 31 respondents (86.1%) who have good hypertension management and 5 respondents (13.9%) who have poor hypertension management. Meanwhile, the respondents who had less knowledge amounted to 10 respondents, of which there were 6 respondents (60.0%) who had good hypertension management and 4 respondents (40.0%) who had poor hypertension management.

Based on research carried out at the Sulaa Health Center, Betoambari District, Baubau City, it shows that there is a relationship between knowledge and the management of hypertension in the elderly at the Sulaa Health Center, Betoambari District, Baubau City with a value *of* $\rho=0.070$, so the hypothesis is proven to be a relationship of knowledge with the management of hypertension in the elderly at the Sulaa Health Center, Betoambari District, Baubau City**.**

According to Soekanto (2002) in Lestari, stating that knowledge is the result of knowing, is an important dominant factor in shaping a person's actions ((2015)*overt behavior*). According to Caroline, dkk., (2018) With adequate public knowledge about hypertension, it is possible to prevent and manage hypertension, tending to reduce the incidence of hypertension.

The results of this study are in line with the research that has been conducted by Tarigan, et al., stating that there is a significant influence between knowledge about the definition of hypertensive diet (food regulation) and food intake of hypertensive patients. Knowledge comes from experience can be obtained with information obtained and will influence attitudes. If the person has high knowledge, he or she automatically behaves and behaves in accordance with his knowledge (2018).

Research that has been conducted by Caroline, et al., stated that there is a relationship between knowledge about hypertension and the behavior of preventing recurrence of hypertension in the elderly in the Pesisir Village of the LimaPuluh Health Center Working Area, namely if the knowledge of the elderly is not good, the behavior of preventing recurrence of hypertension is also not good.(2018)

According to the assumption, there is The relationship between knowledge and hypertension management in the elderly, because respondents who have good knowledge are more likely to be good in hypertension management. So the better the knowledge of the elderly, the better the elderly will be in managing hypertension. However, in this research, 6 respondents were also found to have good knowledge but lack of knowledge Hypertension Management. This can be influenced by the age factor of respondents who are classified as elderly. In accordance with the research of Lestari & Isnaini, it is stated that the increase in the number of elderly will affect various aspects of life, one of which is physical changes in the cardiovascular system. Cardiovascular dysfunction can be aggravated and affect normal activities of daily living. Elderly people with hypertension have difficulty controlling blood pressure, which will worsen their health. (2018)

In this study, there were also 9 respondents who had less knowledge but were good at hypertension management. This can be influenced by the employment factor of most respondents working. In accordance with the research of Bisnu, et al., stated that in general, when working a person will meet many people to socialize with various types of people where during the interaction information is provided directly. Patients who work will get more information than those who do not work regarding the management of hypertension.(2017)

The relationship between family support and the management of hypertension in the elderly

In the family support data, namely Table 6, it shows that out of 46 respondents, 29 respondents (63.0%) have good family support and 17 respondents (37.0%) have poor family support, while in the hypertension management data, namely Table 5.7, 37 respondents (80.4%) were obtained with good hypertension management and 9 respondents (19.6%) with poor hypertension management.

Based on Table 9, it shows that the respondents who have good family support are 29 respondents, of which there are 26 respondents (89.7%) who have good hypertension management and 3 respondents (10.3%) whose hypertension management is poor. Meanwhile, the respondents who had less family support amounted to 17 respondents, of which there were 11 respondents (64.7%) who had good hypertension management and 6 respondents (35.3%) who had poor hypertension management.

Based on research carried out at the Sulaa Health Center, Betoambari District, Baubau City , it shows that there is a relationship between family support and the management of hypertension in the elderly at the Sulaa Health Center, Betoambari District, Baubau City with a value *of* ρ=0.040, so that the hypothesis is proven that there is a relationship between family support and the management of hypertension in the elderly at the Sulaa Health Center, Betoambari District, Baubau City.

According to Ofoli, et al., it was suggested that family and social support had a substantial effect on adherence to treatment among outpatient hypertension patients. In health science, a biopsychosocial approach is used in the management of hypertension to enable patients to acquire family and social factors that can affect patient compliance with treatment. Families should also be involved when managing hypertension to improve adherence as well as a tentative model of the mechanism by which family and social support and adherence are linked. Meanwhile, Affusim, et al., good family support is very important in the long-term management of hypertension because it requires lifelong lifestyle changes for affected individuals. A highly functional family with strong family support will increase the patient's confidence and motivation. Well-motivated hypertension will always tend to adhere to the therapy plan and eventually, achieve better blood pressure control.(2017) (2018)

The results of this study are in line with the research of Fuady, et al., who stated that there is a low relationship between family support and blood pressure of the elderly with hypertension at the 1 Sumbang Health Center, Sumbang District, Banyumas Regency. A person who is not satisfied with the support from his family will have high blood pressure. The existence of family support causes the elderly with hypertension to then have good habits in maintaining their lifestyle so that they do not fall into worse conditions.(2018)

Research that has been conducted by Dewi, et al., stated that there is a relationship between family support and the level of compliance with diet management where the better family support, the more compliant the diet management. The family provides preventive health care and jointly takes care of sick family members because with family support can increase the patient's compliance in diet management.(2016)

According to the assumption, there is The Relationship between Family Support and the Management of Hypertension in the Elderly, because respondents with good family support are more likely to be good at managing hypertension. So the better the support of the elderly family, the better the elderly will be in managing hypertension. However, in this research, 4 respondents were also found whose family support was good but lacking Hypertension Management. This can be influenced by the gender factor of the respondents who are mostly male. In accordance with Notoatmodjo's theory (2010) in Rasajati, et al., , it is stated that usually men pay less attention to their health compared to women. Differences in pain behavior patterns are also influenced by gender, women treat themselves more often than men. This can be attributed to the availability of time and opportunities for women to come to the Puskesmas more than men.(2015)

In this study, 14 respondents whose family support was lacking but good in Hypertension Management. This can be influenced by the educational factors of the respondents, most of whom are high school. In accordance with Masyudi's research, it is stated that the higher a person's education level, the easier it is to receive information so that the more knowledge they have. With this knowledge, a person will better maintain the cleanliness of himself and his family so that he is more avoided from diseases, especially diarrhea. On the other hand, a lack of education will hinder the development of a person's attitude towards the new values that are introduced.(2018)

Limitation

The research was conducted using a qualitative method and using primary data obtained through in-depth interviews. The limitations of this study include the subjectivity that exists in the researcher. This research is highly dependent on the researcher's interpretation of the meaning implied in the interview so that the tendency to bias still remains. To reduce bias, a process is carried out with triangulation, namely triangulation of sources and methods. Source triangulation was carried out by cross-checking data with facts from different informants and from other research results. Meanwhile, triangulation methods are carried out by using several methods in data collection, namely in-depth interview and observation methods.

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REFERENCES

Affusim, Eromon, Erah, Fuh, & Ola, E. (2018). A pattern of Blood Pressure and Family Function in Adult Hypertensive Patients Attending a Tertiary Hospital in a Rural Area. *International Journal of Advances in Scientific Research and Engineering, Volume 4, Issue 5*, 99-107.

Amiruddin, M. A., Danes, V. R., & Lintong, F. (2015). Analysis of the Results of Blood Pressure Measurement Between Sitting Position and Standing Position in Semester VII (Seven) Academic Year Students. 2014/2015 Faculty of Medicine, Sam Ratulangi University. *Journal of e-Biomedik (eBm), Volume 3, Number 1*, 125-129.

Aref Alsehaimi, (2023). The Role of the Discipline of Social Work in Protecting the Environment from Pollution in Saudi Arabia. Pakistan Journal of Life and Social Sciences. E-ISSN: 2221-7630;P-ISSN: 1727-4915, Pak. j. life soc. Sci. (2023), 21(1): 294-312. https://www.pjlss.edu.pk/pdf_files/2023_1/294-312.pdf

Asikin, M., Nuralamsyah, M., & Susaldi. (2017). *Surgical Medical Nursing: Cardiovascular System.* Jakarta: Erlangga.

Asmawati Gasma et all, 2024, An Overview of Nurses' Knowledge of the Six Rights of Injectable Drug Administration in the Treatment Room, Pak. j. life soc. Sci. (2024), 22(1): 5996-6001, Pakistan Journal of Life and Social Sciences, https://doi.org/10.57239/PJLSS-2024-22.1.443

Astuti, E. (2009). *The relationship between the level of education and the level of knowledge about hypertension in the community in RT 12, RW 05, Karet Tengsin Village, Tanah Abang District, Central Jakarta*. Not published. Faculty of Nursing, University of Indonesia. Depok.

Baubau City Health Office*, 2017 & 2018.Profile of the Baubau City Health Office, Southeast Sulawesi Province in 2016*. Baubau : Baubau City Health Office

Bisnu, M. H., Kepel, B. J., & Mulyadi. (2017). The Relationship between Family Support and the Degree of Hypertension in Hypertension Patients at the Ranomuut Health Center, Manado City. *e-Journal of Nursing (e-KP) Volume 5 Number 1*, 1-9.

Budiman, & Riyanto, A. (2014). *Kapita Select Questionnaire: Knowledge and Attitudes in Health Research.* Jakarta: Salemba Medika.

Bustan, M. N. (2015). *Management of Non-Communicable Disease Control.* Jakarta: Rineka Cipta.

Caroline, S., Arneliwati, & Dewi, Y. I. (2018). The Relationship between Knowledge about Hypertension and Behavior to Prevent Hypertension Recurrence in the Elderly. *Online Journal of the Faculty of Nursing, Vol. 5 No. 2*, 151-158.

Dewi, K. C., Prapti, N. K., & Saputra, I. K. (2016). The Relationship between Family Support and the Level of Compliance with Dietary Management of the Elderly with Hypertension in the Tonja Village Environment. *Community of Publishing in Nursing, Vol 4, No 1*, 60-67.

Dewi, S. R. (2014). *Gerontik Nursing Textbook.* Yogyakarta: Deepublish.

Dina Yusdiana Dalimunthe, 2024, The Effect of Self-Management Education as a Family-Based Nursing Model on Blood Pressure Control in Patients with Hypertension, https://doi.org/10.57239/PJLSS-2024-22.1.00434, http://www.pjlss.edu.pk/

Dion, Y., & Betan, Y. (2013). *Family Nursing Care Concepts and Practices.* Yogyakarta: Nuha Medika.

Fuady, N. R., Basuki, D. R., & Finurina, I. (2018). The Relationship of Family Support to Blood Pressure of Elderly Patients with Hypertension at Puskesmas 1 Sumbang, Sumbang District, Banyumas Regency. *Medicine Journal, Vol 1, No 1*, 7-15.

Indriyani, D., & Asmuji. (2014). *Maternity Nursing Textbook (Promotive and Preventive Efforts in Reducing Maternal and Infant Mortality Rates).* Yogyakarta: Ar-ruzz Media.

Kholifah, S. N. (2016). *Gerontik Nursing.* Jakarta: Health Human Resources Center.

Kusuma, H. (2015). *Nursing Care Application Based on Medical Diagnosis and Nanda Nic-Noc.* Yokyakarta: Mediaction.

Lestari, I. G., & Isnaini, N. (2018). The Effect of Self Management on Blood Pressure of the Elderly with Hypertension. *Indonesian Journal for Health Sciences, Vol.02, No.01*, 7-18.

Lestari, T. (2015). *Collection of Theories for Health Research Literature Review.* Yogyakarta: Nuha Medika.

Masyudi. (2018). Factors Related to Elderly Behavior in Controlling Hypertension. *AcTion Journal, Volume 3, Number 1*, 57-65.

Ministry of Health of the Republic of Indonesia. (2018). *Main Results of Riskesdas 2018.* Jakarta: Ministry of Health of the Republic of Indonesia.

Muhith, A., & Siyoto, S. (2016). *Gerontik Nursing Education.* Yogyakarta: CV. Andi Offset.

Murwani, A. (2014). *Health Education in Nursing.* Yogyakarta: Fitramaya.

Notoatmodjo, S. (2014). *Health Research Methodology.* Jakarta: PT. Rineka Cipta.

Nursalam. (2016). *Nursing Science Research Methodology: A Practical Approach.* Jakarta: Salemba Medika.

Ofoli, J., Dankyau, M., Sule, J., & Lass, D. (2017). Relationship Between Family and Social Support and Adherence to Treatment Among Outpatient Hypertensives in an Urban Hospital. *Nigerian Journal of Family Practice, Volume 8, No. 1*, 45-52.

Rasajati, Q. P., Raharjo, B. B., & Ningrum, D. N. (2015). Factors Related to Treatment Compliance in Hypertension Patients in the Working Area of the Kedungmundu Health Center, Semarang City. *Unnes Journal of Public Health, 4 (3),* 16-23.

Renecynth B. Jaurigue, Noemi G. Laspinas, Hyacin S. Inojales, Reygei B. Hermano. 2023. Rank-and-File Employees' Work Attitude, Motivation and Performance in an Academe. Pakistan Journal of Life and Social Sciences. E-ISSN: 2221-7630; P-ISSN: 1727-4915, Pak. j. life soc. Sci. (2023), 21(1): 236-254. https://www.pjlss.edu.pk/pdf_files/2023_1/236-254.pdf

Setiawan, D., & Prasetyo, H. (2015). *Health Research Methodology for Health Students.* Yogyakarta: Graha Ilmu.

South Sulawesi Health Office. (2017). *Profile of the South Sulawesi Provincial Health Office in 2016.* Makassar: South Sulawesi Provincial Health Office.

Sudarmoko, A. (2015). *Healthy without hypertension.* Yogyakarta: Cahaya Atma Pustaka.

Suprajitno. (2014). *Application of Family Nursing Care in Practice.* Jakarta: ECG.

Susriyanti. (2014). The Relationship between Family Support and Hypertension Care Behavior in the Elderly in Gamping Sleman, Yogyakarta. *Publication Manuscript of the Nursing Study Program, College of Health Sciences, 'Aisyiyah Yogyakarta*, 1-15.

Suwandi, Y. D. (2016). The Relationship between Family Support in Hypertension Diit and the Frequency of Hypertension Recurrence in the Elderly in the Working Area of the Posyandu Blimbing Village, Sukoharjo. *Publication Manuscript of S1 Nursing Study Program, Faculty of Health Sciences, University of Muhammadiyah Surakarta*, 1-15.

Tangkin Hong, Panutporn Ruangchoengchum. 2024. Analyzing the Impact of Performance Metrics on Profitability: A Case Study of SMEs in Cambodian Food, Beverage, and Tobacco Industries. Pakistan Journal of Life and Social Sciences. E-ISSN: 2221-7630; P-ISSN: 1727-4915, Pak. j. life soc. Sci. (2024), 22(1): 394-408. https://www.pjlss.edu.pk/pdf_files/2024_1/394-408.pdf

Tarigan, A. R., Lubis, Z., & Syarifah. (2018). The Effect of Knowledge, Attitude and Family Support on Hypertension Diet in Hulu Village, Pancur Batu District in 2016. *Journal of Health Vol 11 No 1*, 10-17.

Triyanto, E. (2014). *Integrated Nursing Services for Hypertension Patients.* Yogyakarta: Graha Ilmu.

Whelton, P. K., Carey, R. M., Aronow, W. S., Casey, D. E., Collins, K. J., Himmelfarb, C. D., et al. (2018). 2017 ACC/AHA/AAPA/ABC/ACPM/AGS/APhA/ASH/ASPC/NMA/PCNA Guideline for the Prevention, Detection, Evaluation, and Management of High Blood Pressure in Adults. *Journal of The American College of Cardiology, Vol. 71, No. 19*, E13-E115.

WHO. (2018). *Elder Abuse.* Fact Sheets of WHO.

WHO. (2019). *Hypertension.* Fact Sheets of WHO.

Wijaya, A. S. (2013). *KMB Medical Surgical Nursing (Adult Nursing).* Yogyakarta: Nuha Medika.

Wulandhani, S. A., Nurchayati, S., & Lestari, W. (2014). The Relationship between Family Support and Motivation of the Elderly with Hypertension in Checking Their Blood Pressure. *Let's Psik Vol. 1 No. 2* , 1-10.

Yulanda, G., & Lisiswanti, R. (2017). Management of Primary Hypertension. *Majority Journal, Volume 6, Number 1*, 25-33.