

The Description of Blood Pressure in The Elderly at Tresna Wredha Elderly Social Institution, Wana Sraya Denpasar and Santi Elderly Social Institution, Tabanan

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Abstract—The most common health problem due to aging process is hypertension. These health problems often occur in the elderly due to the decreased function of the heart, liver, and kidney organs as well as the increased function of the elderly body organs caused by the decreasing of needed body cell number. If hypertension is not treated well, it can arise various complications that can worsen the health. This study aims to learn the description of blood pressure in the elderly at Tresna Wredha Elderly Social Institution, Wana Sraya Denpasar and Santi Elderly Social Institution, Tabanan. The research design used was descriptive method. Total population of 50 elderly, 8 elderly did not meet the criteria so that it took 42 respondents. The research instrument used was observation sheets, Sphygmomanometer and Stethoscope. Data processing was done by using computerization. Data were presented textually and accompanied with a table. There were 21 respondents (50%) with normal blood pressure meanwhile 21 other respondents (50%) showed an increase in blood pressure ranging from high normal category, 1st degree hypertension and 2nd degree hypertension. Most of the elderly blood pressure shows normal blood pressure with a range of <130 - <85 mmHg of 21 respondents (50%).

Keywords— Blood Pressure, Elderly, Descriptive

I. INTRODUCTION

The aging process is a cycle of life characterized by the stages of decreased functions of various organs in the body. This is due to the increasing age therefore there are changes in the structure and function of cells, tissues and organ systems. These changes affect the deterioration of physical health which will ultimately affect the susceptibility to the diseases [1].

Health problems mainly found as the result of the aging process are hypertension. This health problem is often found in the elderly due to the function decrease of the body organs; the heart, kidneys due to the decreased number of the body cells. In general, hypertension is also a health problem because the elderly who have hypertension have a higher risk of morbidity and mortality. Hypertension is a condition where there is an increase in systolic blood pressure that reaches a number above 140 mmHg and a diastolic above 90 mmHg [2].

The prevalence of hypertension in Indonesia; found the prevalence of hypertension in the elderly aged 55-64 in Indonesia is quite high, 44.9%, at the age of 65-74 years as much as 57.6% and at the age of more than 75 years as

much as 63.8%. In the province of Bali, based on data from Bali Provincial Health Service on non-communicable diseases (PTM), recorded the number of cases of hypertension in the elderly detected in 2011 as many as 15,843 cases, in 2012 as many as 22,837 cases and in 2013 as many as 29,867 cases [3].

Uncontrolled hypertension can cause narrowing of the arteries leading to one of the kidneys resulting in kidney injury. At the same time, degenerative changes occur in the arterioles that bear high pressure continuously. Changes in blood supply to the myocardium to pump blood to the heart, heart must work hard to overcome the reverse pressure of the aortic estuary, as the result of this workload, the left ventricular muscle is hypertrophied or enlarged and it causes dilatation and enlargement of the heart [4].

Research Objectives: Knowing the Description of Blood Pressure in the Elderly at Tresna Wredha Elderly Social Institution, Wana Sraya Denpasar And Santi Elderly Social Institution, Tabanan.

II. METHODS

The type of research was a descriptive method. The research locations were at Tresna Wredha Elderly Social Institution, Wana Sraya Denpasar and Santi Elderly Social Institution, Tabanan. The sampling technique was purposive sampling. From the total population of 50 elderly, there were 8 elderly who do not meet the criteria for inclusion including elderly who suffered psychiatric disorders and elderly who were not willing to be respondents, so the number of samples in this study was 42 respondents. The research instrument was an observation sheet. The tools to measure blood pressure were a Sphygmomanometer and a Stethoscope. Data collection was in the form of primary data and secondary data. Data were collected through the following procedures: Implementing approaches to the research subjects; Explaining the aims and objectives of the research; Ensuring the legality of consent with an approval letter being the subject of research; Determining the sample; Observing respondents with an observation sheet; Measuring blood pressure; Recording the measurement results; Performing data processing. Data processing was done by using computerization. Data were presented textually, accompanied by tables.

III. RESULTS

Characteristics of Respondents at Tresna Wredha Elderly Social Institution, Wana Sraya Denpasar And Santi Elderly Social Institution Elderly, Tabanan it showed that in

the female gender (73,81%) more than the male gender (26.19%). The elderly group with a range 75-90 year being the age group with the most respondents is 21 respondents (50%). The level of education is not school with the most respondents is 29 respondents (69.05%) (Table 1).

The results of blood pressure measurements, it showed that 21 respondents (50%), with normal blood pressure, 14 respondents (33,33%) with hypertension degree 1, 6 respondents (14,29%) with normal high blood pressure and 1 respondent with hypertension degree 2 (Table 2). The Distribution of Blood Pressure Frequency by Gender showed that most of the male gender have normal high blood pressure as many 5 respondents (23.80%), so as on female gender most of have normal high blood pressure as many 16 respondents (76.20%) (Table 3).

Distribution of Blood Pressure Frequency Based on age group, shows the elderly group (75-90 years) being the age group with the most varied blood pressure results, is 10 respondents (47.62%) with normal blood pressure, 5 respondents (83.30%) with normal height, 5 respondents (35.71%) with hypertension degree 1, and 1 respondents (100%) with hypertension degree 2 (Table 4).

From the results of blood pressure measurements, it showed that 21 respondents (50%), with normal blood pressure meanwhile other 21 respondents (50%) showed an increase in blood pressure ranging from high normal categories, hypertension degree 1 and hypertension degree 2. Research in 2013, showed that 30 cases of hypertension from a total of 58 elderly population samples or around 51.7% [5]. Research in 2015, showed that the frequency of elderly hypertension who suffered hypertension in Rendang Community Health Center in the period of February 25th to March 14th, 2015 showed that grade I hypertension of 26 cases (43.3%) and grade II hypertension of 34 cases (56.7%) with a total of 60 samples (100%) [6].

The Distribution of Blood Pressure Frequency by Gender showed that in the male gender, 5 respondents (23.80%) were with normal blood pressure, 3 respondents (50%) with Normal High blood pressure, 3 respondents (21.43%) with hypertension degree 1, whereas in the female gender, 16 respondents (76.20%) were with normal blood pressure, 3 respondents (50%) with Normal High blood pressure, 11 respondents (78.52%) with hypertension degree 1 and 1 respondent (100%) with 2nd degree hypertension. In this study, female respondents experienced more increases in blood pressure. The average woman will have an increased risk of high blood pressure after menopause [7].

Distribution of Blood Pressure Frequency Based on age group, it shows middle age group (45-59) with 5 respondents (23.81%) in normal category, 1 respondent (16.70%) in normal high category; The elderly group (60-74) showed 6 respondents (76.20%) in the normal category, 8 respondents (57.14%) in the category of hypertension grade 1; the elderly group (75-90) showed 10 respondents (47.62%) normal categories, 5 respondents (83.30%) high normal categories, 5 respondents (35.71%) first degree hypertension and 1 respondent (7, 15%) 2nd degree hypertension; very old age group (> 90) shows 1 respondent (100%) first degree hypertension. In the elderly will be prone to experience high blood pressure or hypertension, this happens because it is related to the aging process that

occurs in the body. As a person ages, blood pressure tends to increase. It is caused as the arteries lose their elasticity with age.

That the increase in blood pressure was caused by arterial pressure **which** increased with age, the occurrence of aortic regurgitation, and the presence of degenerative processes, which were more common at old age. When there is an increase in age until reaching old age, there is also an increased risk of diseases which include neurological / psychiatric disorders, heart and blood vessel abnormalities as well as the decrease of five sense function and metabolic abnormalities in the body [8]. According to Irza, the incidence of hypertension increased in the age group > 40 years [9].

Treatment of hypertension and prevention of hypertension in the elderly is very important to reduce risk factors, break the chain of hypertension and its complications. Prevention of hypertension can be done through two approaches: 1. Providing education about hypertension. Hypertension health problems are not only caused by individual neglect, but can also be caused by ignorance as a result of lack of information about hypertension. 2. Lifestyle Modifications. An unhealthy lifestyle can be a cause of hypertension such as physical activity, eating patterns, and stress.

The risk of elderly to get hypertension can be reduced by checking blood pressure regularly; maintain ideal body weight; reduce salt consumption; do not smoke; exercise regularly; reduce stress; and avoid fatty foods. Running a healthy lifestyle for at least 4-6 months has been shown to reduce blood pressure and reduce the risk of cardiovascular problems [10].

IV. CONCLUSION

Blood pressure measurements showed that 21 respondents (50%) with normal blood pressure meanwhile other 21 respondents (50%) showed an increase in blood pressure starting from the category of high normal, 1st degree and 2nd degree hypertension; Distribution of Blood Pressure Frequency by Gender showed that woman elderly experienced more blood pressure increase; Distribution of Blood Pressure Frequency Based on age group, it showed that the elderly group (75-90) experienced more blood pressure increase.

It is expected that the manager of Tresna Wredha Elderly Social Institution, Wana Sraya Denpasar And Santi Elderly Social Institution Elderly, Tabanan will always pay attention to the health condition of the elderly; It is expected that there will be monitoring / measuring of blood pressure and blood sugar consistently; It is expected that the elderly can do light exercise regularly and increase physical activity such as gardening, or doing their favorite hobbies; For Educational Institutions through the results of this study, they are expected to provide scientific information that is useful for students and lecturers.

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Table 1. Characteristics of Respondents at Tresna Wredha Elderly Social Institution, Wana Sraya Denpasar And Santi Elderly Social Institution Elderly, Tabanan

| Variable | Amount | Percentage (%) |
|--------------------------|-----------|----------------|
| Gender | | |
| Male | 11 | 26,19 |
| Female | 31 | 73,81 |
| Age Group (Year) | | |
| Middle Age (45 – 59) | 6 | 14,29 |
| Elderly (60 – 74) | 14 | 33,33 |
| Old (75 – 90) | 21 | 50 |
| Very Old (>90) | 1 | 2,38 |
| Education Degrees | | |
| No School | 29 | 69,05 |
| Primary School | 10 | 23,81 |
| Junior High School | 1 | 2,38 |
| Senior High School | 2 | 4,76 |
| Total | 42 | 100 |

Source: Primary Data

Table 2. Blood Pressure Measurement Results

| Categories | Amount | Percentage (%) |
|--|-----------|----------------|
| Normal: < 130 - <85 mmHg | 21 | 50 |
| Normal Height: 130/140 - 85/90 mmhg | 6 | 14,29 |
| First Degree Hypertension: 140/159 - 90/99 mmHg | 14 | 33,33 |
| Second Degree Hypertension: 160/179 - 100/109 mmHg | 1 | 2,38 |
| Total | 42 | 100 |

Source: Primary Data

Table 3. Distribution of Blood Pressure Frequency by Gender

| Gender | Normal: < 130 - <85 mmHg | | Normal Hight: 130/140 - 85/90 mmhg | | First Degree Hypertension: 140/159 - 90/99 mmHg | | Second Degree Hypertension: 160/179 - 100/109 mmHg | |
|--------------|--------------------------|------------|------------------------------------|------------|---|------------|--|------------|
| | f | % | F | % | f | % | f | % |
| Male | 5 | 23,80 | 3 | 50 | 3 | 21,43 | | |
| Female | 16 | 76,20 | 3 | 50 | 11 | 78,52 | 1 | 100 |
| Total | 21 | 100 | 6 | 100 | 14 | 100 | 1 | 100 |

Source: Primary Data

Table 4. Distribution of Blood Pressure Frequency by Age Group

| Age | Normal: < 130 - <85 mmHg | | Normal Hight: 130/140 - 85/90 mmhg | | First Degree Hypertension : 140/159 - 90/99 mmHg | | Second Degree Hypertensio n: 160/179 - 100/109 mmHg | |
|----------------------|--------------------------|-------|------------------------------------|-------|--|-------|---|-----|
| | f | % | f | % | f | % | f | % |
| Middle Age (45 – 59) | 5 | 23,81 | 1 | 16,70 | | | | |
| Elderly (60 – 74) | 6 | 28,57 | | | 8 | 57,14 | | |
| Old (75 – 90) | 10 | 47,62 | 5 | 83,30 | 5 | 35,71 | 1 | 100 |
| Very Old (>90) | | | | | 1 | 7,15 | | |
| Total | 21 | 100 | 6 | 100 | 14 | 100 | 1 | 100 |

Source: Primary Data