# *The Characteristics of Hypertension Patients at Puskesmas Waru, Pamekasan in 2018*

**Kiki Mellisa Andria[1)], Sri Widati[1)], Ira Nurmala[1)]**

[1] Department of Health Promotion and Behavior Science, Faculty of Public Health, Universitas Airlangga, Surabaya, Indonesia
Corresponding directed to e-mail: kiki.mellisa.andria-2018@fkm.unair.com

## ABSTRACT

***Background**: Hypertension is a hidden threat since it often occurs without symptoms. Hypertension disease is the main cause of stroke and heart disease, which affects most of the world's population. The prevalence of hypertension in developed countries is quite high by 37% while in developing countries by 29.9%. **Objective**: To know the hypertension patients' profile at Puskesmas Waru, Pamekasan on January to December 2018. **Method**: This research method used an observational descriptive-qualitative study with a case study research design. The sample was taken with total sampling method from 220 people. **Results**: Among 220 people, who was diagnosed by hypertension was mostly at 45-65 years old by 57.3% and female by 62.3%. For educational factors they mostly had junior high school education by 34.5%. Whereas for the occupational factor more often occured in housewives by 36.8%. Most of their main problems were headache by 41.8%. The most of hypertension diagnosed type is primary hypertension by 42% and Stage 2 hypertension by 55.4% then also followed by family comorbidity by 60%. **Conclusion**: The aging process in women creates the hormonal factors that trigger the occurrence of hypertension. This is because at the age of 45, blood vessels will start to narrow and become stiff. The lack of education causes the receiving process of information become not maximum so that it will impact on health status and one of the causes is due to the stress that is experienced by many housewives. Stress causes the headaches. Therefore, mostly hypertension patients have the headache. Most hypertension cases occur without any definite cause and with Stage 2 and the presence of family comorbidity due to genetic factors that influence it.*

***Keyword**: Age, Characteristics, Education, Gender, Hypertension, Job.*

## INTRODUCTION

Hypertension is a disruption to the vascular system that results in an increase of blood pressure. Hypertension is the main cause of heart disease and stroke. Hypertension can occur if the systolic pressure is ≥ 140 and diastolic pressure is ≥ 90 mmHg with an estimated age of 13 to 50 years, and if the systolic pressure and diastolic pressure are between 160 and 95 mmHg or more, hypertension can occur within age range of more than 50 years. Blood pressure can be checked at least twice to be sure of the results (Puspitasari, Hannan and Chindy, 2017).

According to *Joint National Committee* (JNC) VII, the degree of hypertension is divided into two groups, namely if blood pressure reaches 140/90 mmHg to 159/99 mmHg, it is categorized under first degree hypertension, and if the blood pressure is > 160/100 mmHg is grouped in second degree hypertension or prehypertension (Yulanda and Lisiswanti, 2017). Hypertension in female patients is in the order of the highest prevalence, which is around 37%, while for men it is 28%. Developed countries in the world show that the prevalence of hypertension is high enough to 37% and in developing countries it is 29.9% (Longo *et al.*, 2011).

In 2007, the prevalence of hypertension in Southeast Asia showed that Indonesia was in the first place, followed by Singapore, Thailand and Malaysia. Based on *Riset Kesehatan Dasar* (Riskesdas) or Basic Health Research 2018, Indonesia was in the highest rank with 31.7% of the total adult population. This data ranks first, followed by Singapore by 27.3%, Thailand by 22.7%, and Malaysia by 20% (Kementerian Kesehatan, 2018). The total number of people with hypertension in Asia in 2016 shows that Indonesia is in third place after Thailand with a total of


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23.6%, Myanmar with a total of 21.5%, Indonesia with a total of 21.3%, Vietnam with a total of 21%, Malaysia with a total of 19, 6%, the Philippines with a total of 18.6%, Brunei Darussalam with a total of 17.95 and Singapore with a total of 16% (World Health Organization (WHO), 2016).

East Java itself ranked 6th out of 34 provinces in Indonesia while the first was occupied by South Kalimantan in 2017. The prevalence of hypertension based on the results of the Riskesdas of East Java Province which is seen based on the measurement has decreased, in 2007 from a total of 37.4% to 8.59 % in 2013 and in 2018 it increased again to 36.3%. Based on the results of Riskesdas 2018, which can be seen from the doctor's diagnosis, there was an increase in the prevalence of hypertension. In 2007 the prevalence of hypertension was 8%, in 2013 it became 11% and in 2018 it became 27%. The number of people with hypertension in Pamekasan was 14.6% in 2016 and increased to 23.16% in 2017. The number of people with hypertension at the Puskesmas Waru, Sumenep alone reached 1,250 people (Dinas Kesehatan Provinsi Jawa Timur, 2018).

This study aims to determine the characteristics of patients with hypertension at Puskesmas Waru, Pamekasan in 2018. The next objective is to describe the characteristics of hypertensive patients based on gender, age, latest education, employment status, family history of disease, major complaints, type of hypertension and degree of hypertension.

## METHODS

The research method used was descriptive qualitative observational with case studies in the research design. The population was all of patients with hypertension at Puskesmas Waru in 2018. The sample was the patients hospitalized at Puskesmas Waru and were included in the inclusion and exclusion criteria for the study.

Inpatient hypertension patients at Puskesmas Waru, Pamekasan were the criteria taken in this study, while outpatient hypertension patients were included in the exclusion criteria in this study. The technique for determining the sample in this study was total sampling. The research was conducted at Puskesmas Waru, Pamekasan in September 2019.

Secondary data collection in this study was from the results of medical examinations of patients with hypertension who were hospitalized at Puskesmas Waru, Pamekasan in 2018. Secondary data collection and grouping are in tables form, then secondary data that had been obtained was analyzed for later conclusions.

## RESULTS AND DISCUSSION

The data from the results of medical records of patients with hypertension at Puskesmas Waru, Pamekasan in 2018 obtained as many as 220 people with hypertension status. The sample characteristics are presented in Table 1.

### Respondents' Characteristics

The characteristics of patients with hypertension at Puskesmas Waru, Pamekasan in 2018 are presented in Table 1 below.

**Table 1.** The Characteristics of Patients with Hypertension

| Characteristics | n | % |
|---|---|---|
| **Age (Years Old)** | | |
| 20-45 | 65 | 29.5 |
| 46-65 | 126 | 57.3 |
| >65 | 29 | 13.2 |
| **Gender** | | |
| Male | 83 | 37.7 |
| Female | 137 | 62.3 |
| **Latest Education** | | |
| Elementary School | 27 | 12.2 |
| Middle School | 76 | 34.5 |
| High School | 27 | 12.4 |
| Academics | 49 | 22.2 |
| Bachelor | 41 | 18.7 |
| **Occupation** | | |
| Housewife | 81 | 36.8 |
| Farmer | 33 | 15 |
| Civil worker/National Soldiers/Police/Private worker/Pensionary | 43 | 19.6 |
| Entrepreneur/merchant | 63 | 28.6 |
| **Total** | 220 | 100 |

Table 1 explains that people with hypertension are dominated by people aged 45 to 65 years old (57.3%). This is because people aged > 45 years old have atherosclerosis and this condition allows the narrowing of the blood vessels and thus stiffen the blood vessels.


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Patients with hypertension were dominated by women as many as 137 people (62.3%). This is due to hormonal factors in women as they age. The latest education were mostly junior high school graduates as many as 76 people (34.5%). This was the result of information processing was not maximized yet and affected the health status. Based on the occupation, most of the patients were housewives by 81 people (36.8%). This was because the stress experienced by housewives has an impact on their health status.

Research conducted in 2016 showed that hypertension occurrence is linear with aging (Artiyaningrum, 2015). Age groups > 40 years old have a high risk of uncontrolled hypertension compared to the 18 - 40 years old age group. The elasticity of the arteries begins to decrease at > 40 years old, making it easier to narrow or stiffen due to plaque buildup and are susceptible to high blood pressure. During 18-40 years old, physical condition is still stable, the enthusiasm for doing physical activities is better, so that the health condition tend to be normal (Sutanto, 2011).

Women will be free from hypertension before menopause, this has an effect on reducing estrogen hormone which has an impact on decreasing HDL (High Density Lipoprotein) levels. The artery blockage occurs due to low HDL cholesterol levels. One of the functions of estrogen is to protect women's blood vessels from damage. This function will gradually disappear with the arrival of premenopause. This process will naturally continue according to the age. Estrogen changes its function in women at the age of 45-55 years old (Anggraini, 2012). Women at > 50 years old are more at risk of hypertension. On the other hand, at the younger ages, the one with more risk of hypertension is the men (Angesti, 2018).

Good or bad behavior is influenced by a person's education level in receiving and processing information that will have an impact on their health status. A person's knowledge influences one's behavior in preventing hypertension. A person's good knowledge regarding the causes, risk factors, signs and symptoms of hypertension as well as the limits of stable and unstable blood pressure, will make a person avoid the triggers (Notoatmodjo, 2010).

Stressful situations such as family problems, work problems and financial crises can trigger high blood pressure. An increasing need with a stagnant income is one of the stress causes for housewives. The difficulty in managing financial flow properly can emerge stress (Santoso, 2016).

Essential hypertension occurs under the influence of stress. Hypertension is affected by stress processed by sympathetic nerve activity. When someone carries out physical activity, the nerve system will be activated (Andria, 2013). Stress happens when arterial pressure increased twice by the normal state in a couple of seconds. The continuous stress can result in hypertension (Nugraha *et al.*, 2015).

**Main Problems of People with Hypertension**

**Table 2.** Main Problems of People with Hypertension

| Main Problems | n | % |
|---|---|---|
| Diarrhea | 5 | 2.3 |
| Edema | 7 | 3.2 |
| Nausea and vomit | 1 | 0.4 |
| Chest pain | 26 | 11.8 |
| Waist pain | 18 | 8.2 |
| Blurred vision | 44 | 20 |
| Migraine | 92 | 41.8 |
| Dyspnea | 27 | 12.3 |
| **Total** | 220 | 100 |

Table 2 shows that people with hypertension tend to experience headache with a total of 92 people (41.8%). This condition caused by hypertension often appears as a result of abnormal vascular phenomena. Research conducted by Sumaryati also stated that most respondents with hypertension often had headache symptoms (Sumaryati, 2018).

Hypertension is the third biggest cause of premature death. Moreover, the cause of congestive heart failure and cerebrovascular disease is also hypertension. Symptoms that appear such as dizziness, nausea, vomiting, weakness, decreased consciousness and even sudden nosebleeding. Incorrect life habits are the cause of this disease. Most of hypertension cases are discovered when doing medical check up from another disease, therefore hypertention is often called as “the silent killer” since it usually


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comorbids with complication in the brain, heart, and kidney diseases (Saputra, Rahayu and Indrawanto, 2013).

The main symptom of several body disorders, both organic and functional, is headache. Emotions can be affected by headache, whether or not followed by tissue damage as the main cause of organ abnormalities. The onset of migraines is due to pain stimuli arising from inside the head cavity or outside the head cavity (Ballenger, 2010).

Migraine caused by hypertension is classified as pain in the cavity of the head, which is a type of migraine headache. Headaches result from abnormal vascular phenomena. Prodromal sensation is one of the signs of headache, such as blurred vision, nausea, auravisual, and sensory hallucinations. The appearance of these symptoms is usually between 30 and 60 minutes before the headache. Reflex vasospasm can arise due to prolonged tension and causes a lack of blood flow to parts of the brain, resulting in migraine head pain (Hall, 2012).

Prevention of migraine can be done through pharmaceutical therapy and non-pharmaceutical therapy. Taking medication as a method of pain relief is the assumption of most patients or members of the healthcare team. Some therapies can also be carried out without giving drugs to treat pain but not as a substitute for drugs (Smeltzer and Bare, 2013).

One of the non-pharmaceutical therapy is relaxation. The part of the body that is feeling pain should be relaxed in order to reduce the onset of pain. When the muscles relax, prevention can be done by slowing the inner abdominal breathing technique with tension in orders. If the relaxation technique carried out correctly, the risk of developing hypertension can be minimized. In addition, it can also reduce excessive heart rate, can reduce muscle tension, reduce tension headaches, and improve well-being. Good cooperation and individual participation can determine the success and effectiveness of relaxation (Potter and Perry, 2010).

**Respondents' Types of Hypertension**

Data on patients with hypertension based on type of hypertension at Puskesmas Waru, Pamekasan in 2018 are presented in Table 3 below.

**Table 3.** Respondents' Type of Hypertension

| Types of Hypertension | n | % |
|---|---|---|
| Primary | 121 | 55 |
| Secondary | 99 | 45 |
| **Total** | 220 | 100 |

Table 3 shows that the majority of the respondents suffer from primary hypertension with a total of 122 people (55%). Most cases of hypertension are primary while 5% of the rest are categorized as secondary.

Primary Hypertension is the kind of hypertension with unknown cause. The one with known cause is called secondary hypertension such as endocrine hypertension or renal hypertension. Most of hypertension occurred by 90% are primary hypertension (Longo *et al.*, 2011). Joint Committee 8 (JNC 8) is used worldwide as standard for hypertension classification (James *et al.*, 2014).

**Respondents' Stages of Hypertension**

**Table 4.** Respondents' Degree of Hypertension

| Stages of Hypertension | n | % |
|---|---|---|
| Stage 1 | 98 | 44,6 |
| Stage 2 | 122 | 55,4 |
| **Total** | 220 | 100 |

Table 4 shows that the majority of respondents with Stage 2 hypertension were as many as 122 people (55.4%), therefore patients tend to have > 160/100 mmHg blood pressure. JNC VII explains that Stage 1 hypertension occurs when the blood pressure reaches more or less 140/90 mmHg to 159/99 mmHg and > 160/100 mmHg for Stage 2 hypertension (Yulanda and Lisiswanti, 2017).

Based on research administered in 2011 at RSUD Jombang, it was known that from 337 people with hypertension, there were 53.8% included in Stage 2 hypertension (Saputra, Rahayu and Indrawanto, 2013). The research also stated that the most respondents were with Stage 2 hypertension by 59.4% (Sedayu, Azmi and Rahmatin, 2015). This was on contrary with research by Saleh which stated that respondents with hypertension were mostly having criteria for Stage 1 hypertension (Saleh and Huriani, 2014).


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**Respondents' Family Comorbidity**

**Table 5.** Hypertension Based on Respondents' Family Background

| Family Comorbidity | n | % |
|---|---|---|
| **Comorbid** | 132 | 60 |
| **Not Comorbid** | 88 | 40 |
| **Total** | 220 | 100 |

Table 5 shows that the majority of respondents as many as 132 people (60%) were having family hypertension comorbidity. In other words, they were more prone to hypertension. This was caused by genetic factors. When one's having hypertension in a family, then the other family members may also be at risk having hypertension. The low ratio between potassium and sodium and the high intracellular sodium are the cause of this. Someone with family hypertension comorbidity is more at risk having hypertension compared to people with no family comorbidity (Widyartha, Putra and Ani, 2016).

Research conducted by Taslima in 2017 at Puskesmas Kuta Alam, Banda Aceh showed that from 68 people with hypertension, there were 52.9% with family hypertension comorbidity (Taslima and Husna, 2017). The research conducted by Linda also stated that relatives hypertension comorbidity is increasing the risk of having hypertension especially the primary hypertension. Linda's research showed as many as 70.6% respondents with hypertension had relatives hypertension comorbidity (Linda, 2017).

**Medicine Consumption in People with Hypertension**

**Table 6.** Medicine Consumption in People with Hypertension

| Medicine Consumption | n | % |
|---|---|---|
| Regular | 200 | 91 |
| Irregular | 20 | 9 |
| **Total** | 220 | 100 |

Table 6 shows that most of the patients tended to consume the medicine regularly as many as 200 people (91%). This condition was resulted from the health workers who always monitored their medicine consumption schedule.

One of the indicators of success for a medication can be observed from the betterment of the patients' condition. The research conducted by Tyashapsari in 2012 showed that as many as 69% got better while 31% of the patients were recovered after consuming medicine punctually and regularly (Tyashapsari and Zulkaranain, 2012).

## CONCLUSION

The majority of patients at Puskesmas Waru, Pamekasan out of a total of 220 people diagnosed with hypertension and undergoing hospitalization at most were aged 45-65 years old and female. The education level of respondents was dominated by junior high school level with "houswife" as the most occupational status. The most experienced problems was headache. The most common type of hypertension is primary hypertension with degree two, followed by a family history.

This research is expected to be used as a reference in an effort to cure hypertension with a healthy lifestyle and have a positive attitude to improve a healthy lifestyle to avoid hypertension. Health workers are expected to provide information so that patients do not wake up too often in the middle of the night, reduce caffeine, reduce smoking, and maintain a healthy diet. Another way is to often socialize with colleagues or neighbors so one do not get bored easily and avoid stress.

Future studies are expected to deepen the causative factors associated with the degree of hypertension. This research can also be used by Puskesmas Waru, Pamekasan as a reference for improving the PTM Posbindu program or Posyandu for the elderly at Puskesmas Waru, Pamekasan.

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