

Prevalence of hypertension among adults in Kintamani Subdistrict-Bali

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Abstract. Hypertension is one of the biggest risk factors for cardiovascular disease and causes of death. WHO data shows that one-third of deaths in the world are caused by heart disease and blood vessels. Riskesdas showed an increased prevalence of hypertension in Indonesia at the age of 18 years in the population in Indonesia. This research aims to determine the prevalence of hypertension in adults. The design of this research is descriptive using secondary data. The sample is all hypertensive patients in 2017 in the work area of the Public Health Center VI in Kintamani subdistrict. The collected data is then analyzed descriptively. The results of this study showed that most hypertensive patients aged above 70 years (42%), followed by age 60-69 years by 34%, age 45-54 years by 10.5%, age 20-44 years of 7.1% and age 55-59 years by 6.9%. Based on the gender, the prevalence of hypertension in men is slightly higher than for women (men 50.7% and 49.3% women). The prevalence of hypertension in adults is still high, especially over the age of 70 years and only slightly higher in men than women.

1. Introduction

Hypertension is a disease of high blood pressure with an unclear etiology and pathogenesis. In the United States, hypertension is a major cause of cardiovascular disease and is a major cause of death [1,2]. According to World Health Organization (WHO) data in 2012, worldwide mortality cases are caused by cardiovascular disease around 17.5 million (30.97%) of 56.5 million people. Based on data from World Health Statistics WHO (2015) on the global prevalence of high blood pressure in Indonesia, the incidence of hypertension at age over 18 years is 24% in males and 22.6% in females. Based on *Riset Kesehatan Dasar* in 2013, the prevalence of hypertension at age above 18 years is 25%. This prevalence increases to 30% by 2016 [3].

There are four classifications of hypertension in adults (age 18 years) according to JNC-8 Guideline 2015, i.e. not hypertensive / normal (defined as systolic blood pressure <120 mmHg and / or diastolic blood pressure <80 mmHg), prehypertension (defined as systolic blood pressure 120-139 mmHg or diastolic blood pressure 80-89 mmHg), stage I hypertension (defined as systolic blood pressure 140-159 mmHg or diastolic blood pressure 90-99 mmHg), and stage 2 hypertension (defined as systolic blood pressure 160 or diastolic blood pressure 100) [4]. In general, the cause of hypertension is influenced by several factors, namely lifestyle, social economy and other factors such



as genetic, smoking, alcohol and drugs. The incidence of hypertension can be decreased by controlling for these risk factors [5-7].

Based on the etiology, hypertension is divided into two, namely primary (essential) hypertension and secondary hypertension [8,9]. Primary hypertension is the most common, covering 90-95% of patients with hypertension. The pathogenesis of primary hypertension is multifactorial and multi complication. Where, genetic factors here also play a role in it. Environmental factors such as lifestyle, stress, smokers, obesity, salt and alcohol consumption also significantly affect. In addition, other factors affecting primary hypertension are hyperactivity reactions of the Renin-Angiotensin-Aldosterone system and the sympathetic nervous system, the abnormal production of natriuretic peptides, and the presence of substantial deficiencies in the endothelial vasodilation process. Approximately 5-10 percent of patients are diagnosed with secondary hypertension. Differentiating the diagnosis of hypertension in patients is very important, considering the management of secondary and primary hypertension is different by treating the cause. The causes of secondary hypertension include renal disease, obstructive sleep apnea disease, primary aldosteronism disease, Chusing's Syndrome disease, pheochromocytoma disease, aortic coarctation (uncommon), pregnancy-related hypertension, estrogen use, and other causes such as by the consumption of drugs or toxic due to treatment [8-11]. This study aims to determine the prevalence of hypertension in adulthood.

2. Research Methods

The design of this study was descriptive using secondary data of patients in the work area of Community Health Center VI in Kintamani subdistrict in 2017. Data tabulated and analyzed, then presented in tables and graphs.

3. Results

The results of this study showed that most hypertensive patients age 70 years (42%), followed by age 60-69 years by 34%, age 45-54 years by 10.5%, age 20-44 years of 7.1% and age 55-59 years by 6.9%. Based on the gender, the prevalence of hypertension in men is slightly higher than for women (men 50.7% and 49.3% women). These results can be seen in Table 1.

Table 1. Prevalence of hypertension in adults in the work area of Community Health Center VI in Kintamani subdistrict.

Characteristics		Frequency	Percent
Gender	Man	406	50.7%
	Woman	395	49.3%
Age (year)	20-44	57	7,1%
	45-54	84	10,5%
	55-59	55	6,9%
	60-69	270	34%
	70	335	42%

Based on age and sex, most hypertensive patients were women as many as 177 people (22%) and men as many as 158 people (19%) at age 70 years. These results can be seen in Figure 1.

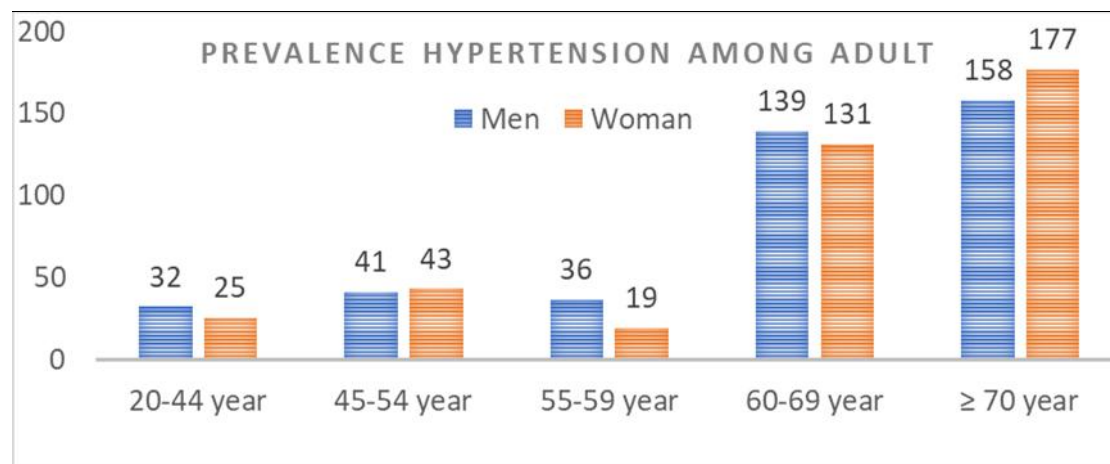


Figure 1. Graph of prevalence of hypertension in men and women by age.

4. Discussion

Based on this study, people with hypertension occur at age above 20 years. Most patients are aged more than or equal to 70 years. Based on data surveys in Canada in 2011, most people with hypertension are age above or equal to 20 years. This hypertension case increased by 25.5% from 2006. The survey also showed an increase in the amount of hypertension in both women and men as age increases [7,10].

In this study, the prevalence of hypertension in men is not much different from women. The prevalence of hypertension in men is slightly higher than for women. This is in line with WHO data in New York society in 2011, that the incidence of hypertension is greater in males than females [7].

In general, the cause of the occurrence of hypertension is influenced by several factors. Lifestyle risk factors such as consuming foods containing lots of fat and salt, and consuming less fruits and vegetables, excessive alcohol consumption, lack of exercise, and poor stress management are the most important factors. Hypertension has a 2 to 3 times greater risk in women using oral contraceptives, especially women with a history of elevated blood pressure during pregnancy, family history with hypertension, smokers, obesity, and presence of accompanying diabetes [12-15].

Hypertension is very rarely symptomatic, and most patients are undiagnosed. Even if the patient has been diagnosed with hypertension, most patients rarely routinely check their health, so the treatment becomes uncontrolled. This is influenced by many factors, either from the family economy, or other social problems related to access to health services, as well as the geographical factors of the patient's residence area. Increased incidence of hypertension can increase the occurrence of cardiovascular disease [13].

5. Conclusions

Based on this study, the prevalence of hypertension in adults is still high, especially over the age of 70 years. By gender, the prevalence of hypertension is slightly higher in males than in females. Further research is needed to determine the relationship of various risk factors related to hypertension in adults.

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