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APPROPRIATE USE OF ANTIHYPERTENSIVE MEDICINES IN HYPERTENSION PATIENTS OF BPJS PARTICIPANTS

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ABSTRACT

Hypertension is a health disorder that is often encountered and includes public health that needs to be addressed immediately. Hypertension is a condition in which the blood pressure, either systolic or diastolic, is 140/90 mmHg. WHO (*World Health Organization*) data shows that there are around 1 billion people with hypertension worldwide. The prevalence of hypertension is predicted to continue to increase, by 2025 it is predicted that as many as 29% of adults have hypertension worldwide. Around 8 million people with hypertension die each year, of which 1.5 million deaths occur in Southeast Asia. This research is a descriptive research. Descriptive research method is a research method that is carried out with the main aim of making a picture or description of a situation objectively. Descriptive research methods are used to solve or answer the problems being faced in the current situation. The profile of the use of antihypertensive drugs in terms of gender is mostly women with a percentage of 57.7%, most patients are in the age group 40-60 years as much as 50.0%. The highest use of single antihypertensive drugs is sulfonylurea 33.6%, combination therapy mostly uses 3 drug classes by 63.6%, namely Alpha Glucoside Inhibitors, Sulfonylureas and Biguanides. For the administration of combination therapy, the most vasodilators are combinations of long- -acting and*vasodilators* rapid*acting* 85.7%. Evaluation of the use of antihypertensive drugs in patients with HYPERTENSION BPJS participants in the Outpatient Installation of RSUD Dr. H. Soewondo during 2021 according to Fornas BPJS showed that 91.33% or 274 drug items were written in accordance with National Fornas and 8.67% or 26 drug items were not appropriate.

Keywords: antihypertensive medicines; BPJS participants: hypertension

INTRODUCTION

Hypertension is a health disorder that is often encountered and includes public health that needs to be addressed immediately. Hypertension is a condition where the increase in blood pressure, both systolic and diastolic, is 140/90 mmHg (James et al., 2014). WHO (*World Health Organization*) data shows that there are around 1 billion people with hypertension worldwide. The prevalence of hypertension is predicted to continue to increase, by 2025 it is predicted that as many as 29% of adults have hypertension worldwide. Around 8 million people who suffer from hypertension die every year, of which 1.5 million deaths occur in Southeast Asia (Kemenkes RI, 2016).

Based on the results of the Basic Health Research (RisKesDas) the prevalence of hypertension in Indonesia in 2013 was 28.5%, while the prevalence of hypertension in Indonesia in 2017 increased to 30.9% according to the results of the National Health Indicators survey. The prevalence of hypertension in Indonesia is determined based on the measurement of blood pressure in the population aged 18 years (Kemenkes RI, 2017). Hypertension can lead to kidney failure, heart failure, stroke and death if not detected early and treated appropriately (James et al., 2014).

WHO data (2011) from 50% of known hypertensive patients, only 25% received treatment and only 12.5% were well treated. The 2017 Basic Health Research (Riskesdas) reported that the prevalence of hypertension in the population aged 18 years and over in Indonesia was quite high, reaching 31.7% where the population who knew they had hypertension was only 7.2% and those who took antihypertensive drugs were only 0.4%.

Hypertension is high blood pressure where blood pressure is at a value of 130/80 mmHg or more. This condition can be dangerous, because the heart is forced to pump blood harder throughout the body, which can lead to various diseases, such as kidney failure, stroke, and heart failure. Hypertension will interfere with the patient's daily life and tend to cause complications. Barriers to this treatment are caused by patients who are negligent, do not listen to the advice of doctors or pharmacists, lack of knowledge and understanding in taking drugs and lack of knowledge about the right drugs so that close collaboration between health workers and patients is needed. Misconceptions about hypertension treatment often occur due to lack of knowledge (Wibawa, 2021).

Compliance with taking medication in hypertensive patients is very important because blood pressure can be controlled by taking regular antihypertensive drugs, so that in the long term the risk of damage to important organs such as the brain, heart and kidneys can be reduced (BPOM, 2016). Non-adherence can cause the patient's therapeutic goals not to be achieved and an increase in health costs (CMSA, 2016). Compliance can be used as a parameter of the patient's level of knowledge carrying out instructions from medical personnel in the form of knowledge of prescriptions, taking medication regularly and appropriately and changing lifestyles. The purpose of treatment in patients with hypertension is to improve the quality of life, but many stop treatment when their bodies improve slightly, so it is necessary to comply with patients undergoing hypertension treatment in order to obtain a better quality of life for patients. Factors that affect patient compliance in treatment include the level of education, level of knowledge, level of income, ease of access to health facilities and the availability of health insurance that eases patients in paying medical expenses (Wibawa, 2021).

There are more and more people with hypertension in the community, long-term compliance is one of the main factors in the management of hypertension. To be able to change behavior in adherence to medication for hypertension sufferers, it can be seen from the internal factors that exist in the patient and external factors. Management of hypertension requires support from various parties and a strong desire. Data obtained from Sukomulyo Village, South Kaliwungu District, Kendal Regency. The number of hypertension patients in 2019 was 345 people from 1,535 hypertension patients at the Soewondo Kendal Hospital. Research conducted by Nanurlaili (2014) showed that the compliance of hypertensive patients in taking medication was also shown to be quite poor (53.8%) resulting in no significant improvement in the results of measuring blood pressure.

METHOD

This research is a descriptive research. Descriptive research method is a research method that is carried out with the main aim of making a picture or description of a situation objectively. Descriptive research methods are used to solve or answer the problems being faced in the current situation (Notoatmodjo, 2010). This study was conducted to determine the evaluation of the suitability of the use of antihypertensive drugs in patients with HYPERTENSION BPJS participants at the Outpatient Polyclinic of RSUD Dr. H. Soewondo Kendal in 2021.

RESULTS

Table 1.
Distribution of Hypertension patients of BPJS participants by gender

Gender	f	%
Female	30	**57,7**
Male	22	42,3
Total	52	100

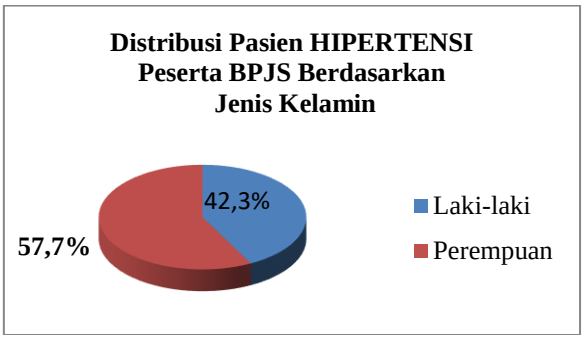

Figure 1. Distribution of Hypertension patients BPJS participants by Gender

Based on table 1 and figure 1, it is known that HYPERTENSION patients are mostly experienced by female patients. This is because the level of sensitivity to the work of vasodilators works by making the muscles in the walls of blood vessels relax. Estrogen is a hormone that is owned by women. According to Brunner & Suddart (2014), increased and decreased levels of the hormone estrogen can affect blood levels, this is because when levels of the hormone estrogen increase, the body becomes resistant to insulin. *The National Health and Nutrition Evaluation Survey* (NHANES) reports that the tendency of the prevalence of hypertension to increase with age and is more common in women than men (Dipiro *et al*., 2005).

Table 2.
Distribution of Hypertension Patients BPJS Participants by Age

Age	f	%
0 – 1 year	0	0
1 – 6 year	0	0
6 – 10 year	0	0
10 – 20 year	0	0
20 – 40 year	5	9,6
40 – 60 year	26	50,0
60 years and over	21	40,4

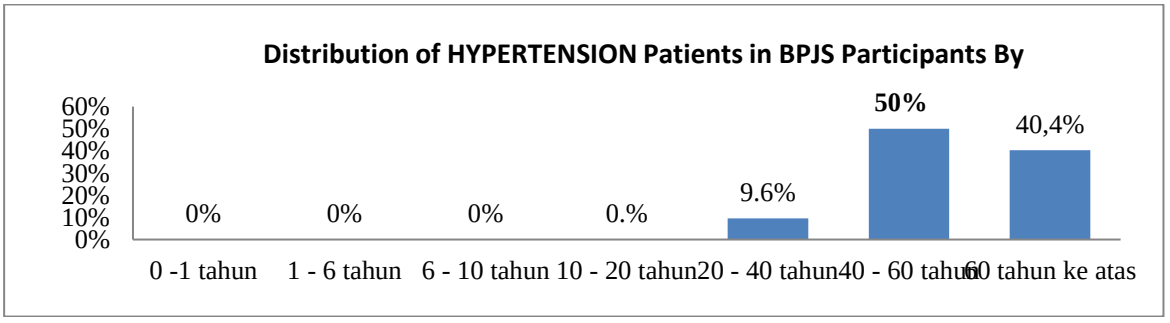

Figure 2. Distribution of Hypertension Patients in BPJS Participants by Age

The distribution of hypertension patients based on age in Table 2. and Figure 4.2, the data obtained were mostly suffered by middle-aged (prasenium) patients aged 40-60 years, as many as 50.0% or 26 patients. This is due to the aging process which reduces the ability of pancreatic -cells to produce vasodilators (Budhiarta *et al*., 2005). Certain non-communicable diseases such as cardiovascular disease, hypertension and others are closely related to age. The older a person is, the greater the disease will be (Small Crab, 2012). The risk of developing hypertension will increase with age, especially over 40 years (Tandra, 2008).

Table 3.
Distribution of Hypertension Patients of BPJS Participants Based on Types of Drug Therapy

Kinds of Drugs	f	%
Single Antihypertensive Drugs	9	17,3
Combination Antihypertensive Drugs	43	82,7

Table 4.
Distribution of hypertension Patients in BPJS Participants by Type of Drug Class

Kinds of Drugs	f	%
1 Class of Diuretic Drugs	7	13,5
2 classes of renin angiotensininhibitors	11	21,1
3 Classes of Adrenergic Inhibitor Drugs	15	28,8
	10	19,2
	4	7,7
	2	3,8
	3	5,8

Table 5.
Percentage of Hypertension Patients of BPJS Participants by Class of Drugs Used

Drug Class	f	%
Thiazide	24	18,3 %
Loop diuretik	44	**33,6 %**
Ace Inhibitor	8	6,1 %
Angiotensin reseptor bloker	15	11,5 %
Direct renin inhibitor	12	9,2 %
Beta adrenergic blocker	3	2,3 %

Table 6.
Percentage of Combination of Two Classes of Oral Antihypertensive Drugs

Drug Class	f	%
Valsartan + HCT	6	42,9
Candesartan + HCT	8	**57,1**

Table 7. Percentage of Combination Use of Oral Antihypertensive Drugs

Drug Class	f	%
Amplodipin + valsartan	7	**63,6**
Amplodipin + atorvastatin	3	27,3
Sulfonilurea + Biguanid + Thiazolidine	1	9,1

Table 8.

Percentage of Use of Combination of Two Vasodilators

Drug Class	f	%
Long Acting Vasodilator+ *Rapid Acting*	6	**85,7**
Vasodilator	1	14,3
Long Acting + *Mix* Vasodilator		

Table 9.
Distribution of Hypertension Types

Drug Class	f	%
E10 (Hipertensi Tipe 1 dengan koma)	10	19,2
E11.1 (Hipertensi Tipe 2 dengan ketoasidosis)	1	1,9
E11.7 (Hipertensi Tipe 2 dengan komplikasi ganda)	13	25,0
E11.8 (Hipertensi Tipe 2 dengan komplikasi tidak jelas)	5	9,6
E11.9 (Hipertensi Tipe 2 tanpa komplikasi)	9	17,3
E14.9 (Hipertensi tidak spesifik tanpa kompilkasi)	14	**26,9**

DISCUSSION

The various kinds of antihypertensive drugs received by patients from the results of the study, they can be grouped based on variations, types, and classes of drugs which are discussed below: The distribution of patients based on the type of ACE INHIBITOR therapy in table 3. is the most widely used combination antihypertensive. A single ACE INHIBITOR is an antihypertensive given in a single dose. The administration of ACE INHIBITOR always starts with a low dose, and then gradually increases it according to the response to blood glucose levels. If a single administration, the blood target is not achieved, a combination antihypertensive can be given (Perkeni, 2015). The distribution of patients based on various classes of antihypertensive drugs in table 4. is the most widely used combination of 3 drug classes (28.8 %). According to the 2015 PERKENI standard, therapy with combination antihypertensive drugs must choose two types of drugs from groups that have different mechanisms of action. If the target blood sugar level is not achieved with a combination of two types of antihypertensives, a combination of three ACE INHIBITORS from different groups can also be given.

The purpose of this percentage is to determine the treatment of HYPERTENSION patients in the use and types of ACE INHIBITOR groups given to patients. The percentage of ACE INHIBITOR groups in table 5, the most widely used drug class is Sulfonylureas, which is 33.6% or 44 total perceptions. Sulfonylureas work by stimulating the release of stored vasodilators, lowering blood pressure, and increasing vasodilator secretion. Captopril is used to lower blood pressure (Tandra, 2008). Sulfonylureas are one of the most widely used oral ACE inhibitors in Indonesia because they are quite effective in stimulating vasodilator secretion, thereby reducing hyperglycemia, easy to obtain and affordable prices. This drug stimulates the beta cells of the pancreas to produce more.

Hypertension patients in therapy using two classes of oral diuretics given to patients. From the results of the percentages in table 6, the data obtained that the most use of two classes of oral diuretics, namely the combination of valsartan and HCT groups as much as 57.1% or 8 patients. According to the American Hypertension Association (2014), the combination of antihypertensives that is most often used is the combination of Valsartan and HCT which is a commonly used combination because Valsartan will stimulate pancreatic secretion which can provide an opportunity for HCT compounds to work effectively, so that they have a mutually supportive effect.The purpose of this percentage is to determine the treatment of

The purpose of this percentage is to determine the treatment of HYPERTENSION patients in therapy using three classes of oral ACE INHIBITOR given to patients. From the results of the percentages in table 7, data obtained that the most use of three classes of oral ACE INHIBITORS, namely the combination of Alpha Glucosidase Inhibitors, sulfonylureas and biguanides, was 63.6% or 7 patients. According to the 2015 PERKENI standard, HYPERTENSION treatment is individual, if single therapy has not reached the target, it is increased to 3 drug combination therapy. The purpose of this percentage is to determine the treatment of HYPERTENSION patients in therapy using a combination of two vasodilators given to patients. From the percentage results in table 8, the most data obtained is the use of a combination of 2 vasodilators, namely long acting vasodilators and rapid acting vasodilators, which is 85.7% or as many as 6 patients. Therapy with vasodilators can prevent endothelial damage, suppress the inflammatory process, reduce the incidence of apoptosis, and improve lipid profiles (Hongdiyanto et al, 2013). Single or combination vasodilator therapy is tailored to the patient's needs and individual response, which is assessed from the results of daily glucose levels (Perkeni, 2015).

The distribution of HYPERTENSION based on the patient's diagnosis can be seen in table 9. The distribution of HYPERTENSION types is mostly experienced by HYPERTENSION patients with a diagnosis of non-specific HYPERTENSION without complications of 26.9% or 14 patients. In improving the quality of drug services to patients at RSUD Dr. H. Soewondo Kendal refers to the Decree of the Minister of Health of the Republic of Indonesia No. 328/MENKES/SK/VIII/2013 concerning National Team. A prescription is said to be in accordance with the formulary if there is no one or more drug items in a prescription drug sheet that are not contained in the BPJS national formulary. In conducting this research, the number of samples taken from January–December 2021 that were included in the inclusion were 52 prescription sheets with a total of 90 recipe sheets. From the recipe sheet, the number that was said to be appropriate was only 30 sheets and 22 sheets were said to be inappropriate. based on the prescription sheet in January - December 2021, the appropriate data was obtained, namely 57.7% or 30 patients and the inappropriate data was 42.3% or 22 patients. From the results obtained, it means that the prescriptions made by doctors are not in accordance with the Decree of the Minister of Health Number 129/Menkes/SK/II/2008 regarding the minimum service standard for hospitals, which is 100%.

CONCLUSION

The profile of the use of antihypertensive drugs in terms of gender is mostly women with a percentage of 57.7%, most patients are in the 40-60 year age group as much as 50.0%. The highest use of single antihypertensive drugs is sulfonylurea 33.6%, combination therapy mostly uses 3 drug classes by 63.6%, namely Alpha Glucoside Inhibitors, Sulfonylureas and Biguanides. For the administration of combination therapy, the most vasodilators are combinations of long- -acting and*vasodilators* rapid*acting* 85.7%. Evaluation of the use of antihypertensive drugs in patients with HYPERTENSION BPJS participants in the Outpatient Installation of RSUD Dr. H. Soewondo during 2021 according to Fornas BPJS showed that 91.33% or 274 drug items were written in accordance with National Fornas and 8.67% or 26 drug items were not appropriate.

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