EVALUATION OF THE USE OF AMLODIPIN IN HYPERTENSION PATIENTS IN THE HOSPITAL OF RSUD Drs. H. AMRI TAMBUNAN

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Abstract

Hypertension is a chronic disease that often becomes a problem in health. One of the treatment patterns for hypertension patients that is often received by patients at the RSUD Drs. H. Amri Tambunan is Amlodipine from the CCB (Calcium Channel Blocker) group. The goal of hypertension treatment is to prevent morbidity and mortality due to high blood pressure by reducing pressure to as low as possible so as not to interfere with kidney function, brain function and quality of life. Hypertension is a disease that occurs due to an increase in systolic and diastolic blood pressure values of more than 130/80 mmHg on two measurements with an interval of five minutes in a calm state. Hypertension is a condition in which a person experiences an increase in blood pressure above normal, namely systolic blood pressure 140 mmHg or diastolic blood pressure 90 mmHg. Every 10 kg weight loss of obese patients can reduce 5-20 mmHg Systolic Blood Pressure (TDS). The purpose of this community service activity is so that people who seek treatment at Drs. H. Amri Tambunan can monitor his health condition. With the evaluation of the drug amlodipine, participants become more aware of matters related to hypertension and can take advantage of herbal plants that grow around their homes to prevent or treat hypertension.

Keywords : *Hypertension; Compliance; Right dose; Right drug; Right patient*

1. Introduction

Hypertension is a disease that occurs due to an increase in systolic and diastolic blood pressure values of more than 130/80 mmHg on two measurements with an interval of five minutes in a calm state (Kemenkes RI & Arinie, 2019).

Hypertension is a condition of a person experiencing an increase in blood pressure above normal, namely systolic blood pressure 140 mmHg or diastolic blood pressure 90 mmHg (James, et al, 2014).

Hypertension has general symptoms that cause headaches, heaviness in the neck, difficulty sleeping, and dizzy eyes. Symptoms of hypertension can be prevented by losing excess weight (obesity), doing regular exercise, quitting smoking, and taking medication regularly. The goal of hypertension treatment is to prevent the occurrence of morbidity and mortality due to high blood pressure by reducing the pressure to as low as possible so as not to interfere with kidney function,

brain function and quality of life. Every 10 kg weight loss of obese patients can reduce 5-20 mmHg Systolic Blood Pressure (TDS). Consuming fruits and vegetables and reducing salt and total fat consumption can reduce TDS by 8-14 mmHg (Sassen and Carter, 2015).

Amlodipine is an antihypertensive drug belonging to the Calcium Channel Blocker (CCB) class in tablet dosage form. Amlodipine is often used in combination with other antihypertensive drugs, such as the Angiotensin Converting Enzyme Inhibitor (ACEI) group or with antihyperlipidemic drugs, such as the statin group (atorvastatin, simvastatin). Amlodipine is often given as an oral route of administration. This causes the concentration in the blood to be low. Therefore, it was necessary to re-examine the patients with hypertension taking amlodipine. Drug interactions are defined as the pharmacokinetic or pharmacodynamic effects of drugs on each other where a substance can affect the activity of a drug, so that its effect is increased or decreased, or produces new effects that are not produced by itself (Pemmu et al, 2017).

The purpose of this community service activity is so that people who seek treatment at Drs. H. Amri Tambunan can monitor his health condition. With the evaluation of the drug amlodipine, participants become more aware of matters related to hypertension and can take advantage of herbal plants that grow around their homes to prevent or treat hypertension.

Evaluation of the use of amlodipine can be seen in Figure 1 below.

Figure 1. Community Service

2. Method
Research Material

The patient's medical record at the RSUD Drs. H. Amri Tambunan with the main diagnosis of Hypertension for the period December 2021 to February 2022.

Location

This research was conducted in RSUD Drs. H. Amri Tambunan whose address is at Jl. Mh. Thamrin No.126, Lubuk Pakam Pekan, Kec. Lubuk Pakam, Deli Serdang Regency, North Sumatra 20518.

Research Flow

The sample of this study were respondents who were given antihypertensive drugs, especially the administration of Amodipine in the period December 2021 to February 2022. Based on the medical record number obtained, the medical record was then searched in the data storage room. medical records at Drs. H. Amri Tambunan.

1. Determination of Drug Criteria, the drug criteria analyzed for interactions in this study is the drug amlodipine.

2. Determination of Patient Criteria, the criteria for patients in this study are:
Inclusion criteria, namely all outpatients, male and female gender who suffer from hypertension with the use of amlodipine alone or in combination.

3. Data Processing Method

   a. Checking data (editing), what is meant by checking or editing process is checking data from data collection results. The results of the medical record sheets that have been recorded are then rechecked for completeness to find out that the data collected is good enough.

   b. Tabulating data (Tabulating), what is meant is compiling and organize the data in such a way that it will be able to easily summed, compiled and presented in tabular form.

   c. Data analysis, the analysis was carried out quantitatively and qualitatively, namely:

   Data analysis

   The analysis in this study followed a non-experimental descriptive design. The data obtained included medical record numbers, patient names, age, gender, main and accompanying diagnoses, date of admission and date of discharge from the hospital, physical examination, data on drug administration (drug name, dose, and frequency of administration). The drug data used is also processed descriptively and evaluatively to obtain an overview of the pattern of drug use which includes the selection of classes and types of drugs (Yulanda, 2017).

3. Results and Discussion
Characteristics of Hypertensive Patients

1. Distribution of patients by sex

The results of grouping based on gender were 100 cases consisting of 64 female patients and 36 male patients (see Figure 2).
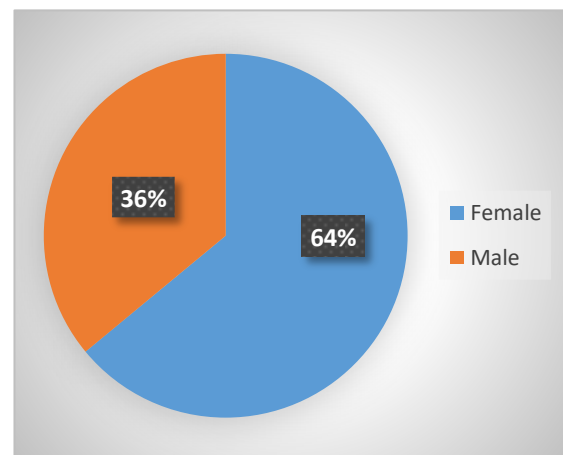

Figure 2. Distribution of Patients by Gender

1. Distribution of patients by age The age characteristics of patients in this study were divided into four age groups, namely 0-18 years, 19-40 years, 41-65 years, and more than 65 years, to see the relationship between increasing age and the prevalence of hypertension. The percentage incidence of hypertension occurs in the age group 19-40 years, which is 61%. Patients older than 65 years had a lower percentage, which

was 23%. The percentage of patients in the age group 41 – 65 years was 14%. The lowest percentage of patients in the 0-18 year age group is only about 2%.

2. Distribution of patients based on blood pressure The JNC 8 Report classifies blood pressure into four levels, namely normal, prehypertension, grade 1 hypertension, and grade 2 hypertension. The research data showed that most of the patients admitted to the hospital had grade 2 hypertension, which was 79%. Patients with grade 1 hypertension were 16% and isolated systolic hypertension was 4%. Patients admitted to the hospital with blood pressure at the level of prehypertension were only 1% (see table I).

Table 1. Distribution of patients based on blood pressure

No	Types Comorbidities	Types of Patients Suffering
1.	No co-morbidities	10
2.	No Complications	15
	Vertigo	9
	Anemia	8
	Digestive tract	6
	Cephalgia	5
	Epistaxis	5
	Febris	3
	Liver Disorder	2
	Osteogastritis	

3. Distribution of Patients Based on Concomitant Diseases of Hypertension without Complications

Patients whose comorbidities do not affect the choice of antihypertensive drugs include patients with HHD (Hypertensive Heart Disease) and patients with other diseases, including: cephalgia, epistaxis, vertigo, fever, digestive tract diseases (gastroesophagal attack (GEA), gastritis, and constipation), bone disease (osteoarthritis and osteoporosis), etc.

Hypertension with complications Patients with comorbidities that can affect the choice of antihypertensive drugs. These complications are Ischemic Heart Disease (IHD), Heart Failure, Diabetic Hypertension, Chronic Kidney Disease, Cerebrovascular Disease (Stroke), Respiratory tract diseases including asthma, bronchitis (acute and chronic), and chronic obstructive pulmonary disease (COPD). others, including obesity and the metabolic syndrome.
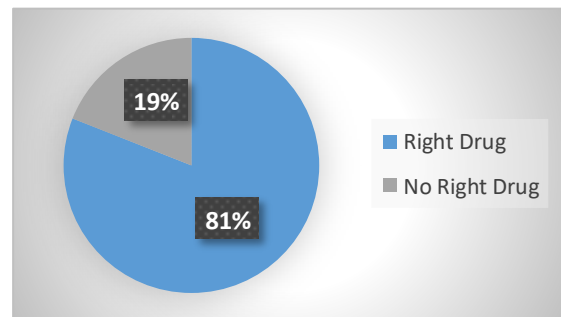
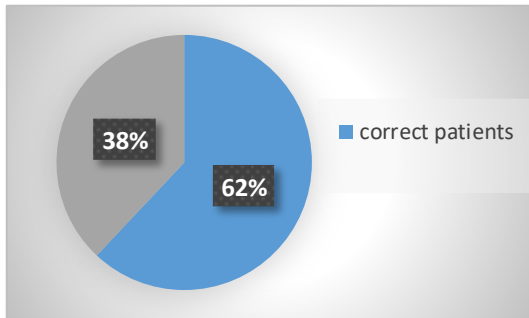

Figure 3. Percentage of Drug Accuracy
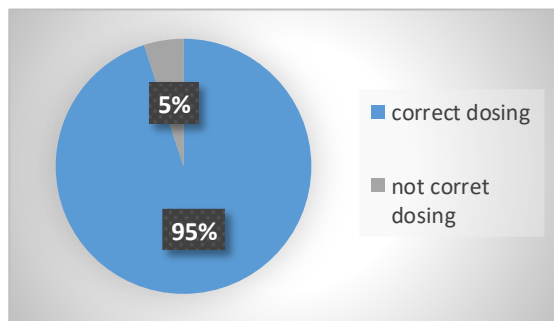
Figure 4. Patient Accuracy Presentation

Figure 5. Percentage of Dosage Accuracy

Evaluation of the Appropriate Use of Antihypertensive Drugs

1. Evaluation of drug accuracy in the use of antihypertensives

The accuracy of the drug is the suitability of the selection of the class and type of drug with the choice of drug in the RSUD Drs. H. Amri Tambunan and The JNC 8 Report. All data on hypertension patients, both uncomplicated and complicated at the Inpatient Installation of RSUD Drs. H. Amri Tambunan showed that 81 cases were declared to be on the right drug and 19 cases were declared to be not on the right medication (see Figure 3).

2. Evaluate the patient's appropriateness on the use of antihypertensives

The drug is called the right patient if the drug given is not contraindicated with the physiological and pathological conditions of the individual patient, in this case including comorbidities. The results obtained showed that 62 cases were correct patients and 38 cases were not correct patients (see Figure 4).

3. Evaluate the accuracy of the dose on the use of antihypertensives

Evaluation of the accuracy of the dose is related to the method of administration, the size of the dose, the frequency and duration of administration, as well as the method of use that is the safest, most effective, and easy to follow by the patient. The results of the evaluation showed that 95 patients experienced correct dosing (see Figure 5).

From the results of the evaluation of the use of antihypertensive drugs: 81% of cases were on the right drug, 62% of cases were right on the patient, and 95% of cases were on the right dose. The condition of the patient who was discharged from the hospital was improved by 69% and recovered by 31%. Fifty patients can achieve target blood pressure or about 50%. While the other 50 patients, although they have experienced a decrease in blood pressure, have not been able to reach the target pressure (50%).

4. Conclusion

Antihypertensive drugs used by patients at the RSUD Drs. H. Amri Tambunan, among other groups: CCB (amlosipin and others). The most commonly prescribed antihypertensive

drug is the ACE class, namely Captopril (73%). The results of the evaluation of the use of antihypertensive drugs: 81% of cases were on the right drug, 62% of cases were right on the patient, and 95% of cases were on the right dose. The condition of the patient who was discharged from the hospital was improved by 69% and recovered by 31%. Fifty patients can achieve target blood pressure or about 50%. While the other 50 patients, although they have experienced a decrease in blood pressure, have not been able to reach the target pressure (50%).

After evaluation and counseling related to the use of hypertension drugs, it is expected that there will be an increase of about 10% in knowledge about hypertension. With there is socialization about hypertension, participants become more aware of the things that associated with hypertension, and can take advantage of herbal plants that grow in around the place of residence to prevent or treat hypertension.

5. References

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