

STUDY OF PRESCRIPTION PROFILE OF PATIENTS WITH BRONCHIAL ASTHMA AT PARSOBURAN COMMUNITY HEALTH CITY PEMATANGSIANTAR PERIOD JANUARY-MARCH 2017

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Abstract

Bronchial asthma has varying incidence rates in different countries, but there is a tendency for this disease to increase in number, even though asthma medications have been developed. This study aims to determine the pattern of treatment of bronchial asthma in patients at the Parsoburan Health Center, Pematangsiantar City for the period January-March 2017. This research was a non-experimental (observational) descriptive study conducted using a retrospective method. The data used are medical records of bronchial asthma patients. The results of the study showed that in the January-March 2017 period there were 18 cases of bronchial asthma. The gender distribution of bronchial asthma patients was 66.7% male and 33.3% female, while the age distribution of bronchial asthma patients was divided into 4 groups, namely, Toddlers (0≤5 years) by 33.3%, children (5<n<12 years) by 5.6%, adults (12<n<65 years) by 38.9%, and elderly (> 65 years) of 22.2% The general description of prescribing the highest number of drugs given to bronchial asthma patients in one prescription are 5 and 6 drugs each of 38.9%, the distribution of drug classes used for therapy includes, bronchodilators 25, 7%, mucolytic 18.5%, corticosteroid 15.5%, anti-microbial 15.5%, anti-hypoxemia 4.1%, analgesic 6.2%, anti-histamine 3.1% and accompanying drugs (anti-diabetic, anti-epileptic, anti-hypertensive, anti-angina, and vitamins) given at 1% each. Distribution of discrepancies in drug administration based on the Indonesian National Drug Informatorium standard of 17.5%, based on the Physicians Drug Handbook standard of 0%,

Keywords: asthma, bronchial asthma.

INTRODUCTION

Bronchial asthma is a disease characterized by hyperreactivity of the trachea and bronchi to various stimuli. The manifestation of this disease is in the form of wide airway narrowing and its degree can vary both spontaneously and as a result of treatment. Asthma can happen to anyone, young and old, men and women have the same potential. The incidence of asthma varies in different countries, it is estimated that 100 to 150 million people in the world have asthma and this number continues to increase by 180,000 people each year. In Indonesia, based on data released by the Ministry of Health in 2001, it was estimated that asthma sufferers reached 10 million people or 5% of Indonesia's population. The survey was conducted in several cities in Indonesia including Medan, Palembang, Jakarta, Bandung. Semarang, Yogyakarta, Malang and Denpasar show the prevalence (study per 100 thousand) of asthma in children aged 6-12 years reaches 10% or in other words if there are 10 children then one of them is an asthma sufferer. The treatment given to people with bronchial asthma, whether in the form of pharmacological or non-pharmacological treatment tends to only aim at preventing, reducing and controlling asthma symptoms.

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Pharmacists as health workers who have competence in the field of medicine are obliged to support medical services that are carried out both in hospitals and treatment that is carried out independently by the community. In connection with the management of bronchial asthma, the treatment of which tends to be preventive, reduces symptoms and lasts a relatively long time, the role of the pharmacist is needed in supporting the treatment process. Evaluation and assessment of the course of treatment is also the duty and authority of a pharmacist.

Formulation of the problem

Based on the description above, the problems to be studied will focus on the following problems:

- a. What are the characteristics of bronchial asthma patients at the Parsoburan Health Center, Pematangsiantar City for the January-March 2017 period which includes the distribution of the patient's gender and age?
- b. What is the general description of the prescription of bronchial asthma patients at the Parsoburan Health Center, Pematangsiantar City for the period January - March 7, which includes the number of types of drugs, drug classes, types of drugs and the method of administration given?
- c. Were there any discrepancies in drug administration based on the standards of the Indonesian National Drug Information, Physicians Drug Handbook and Drug Information Handbook, which include too low/too high doses and drug interactions in the management of bronchial asthma cases at the Parsoburan Health Center, Pematangsiantar City, January-March 2017?

RESEARCH METHOD

Types and Research Design

Research on the study of prescription management of bronchial asthma patients at the Parsoburan Health Center, Pematangsiantar City for the period January - March 2017 is a non-experimental (observational) descriptive study conducted using a retrospective method. This research is a non-experimental research because there is no treatment on the test subjects. The data used are medical records from bronchial asthma patients at the Parsoburan Health Center, Pematangsiantar City for the period January - March 2017.

Results analysis stage

Data were analyzed descriptively then the results were presented in tabular form along with explanatory descriptions. The analysis is based on:

- a. Gender, age
- b. Drug class and type
- c. Evaluate cases of bronchial asthma that occur by looking at the data on medical record.

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RESULTS AND DISCUSSION

The goal of bronchial asthma treatment is to relieve asthma symptoms or attacks as quickly as possible, to ensure that asthmatics can carry out their daily lives normally, and to prevent or reduce the severity and number of subsequent asthma attacks. This can be achieved by treating bronchial asthma attacks by considering several parameters such as: the amount of drug, drug class, method of drug administration and the rationale for treatment related to drug related problems (DRPs).

Evaluation of treatment is absolutely necessary, considering the length of therapy given to patients with bronchial asthma because bronchial asthma is a disease that cannot be completely cured and is a hereditary disease. Evaluation will make the handling of bronchial asthma patients better (rational) this is because the evaluation will provide an in-depth study of the treatment that was carried out, whether it was successful (patients recovered) or failed (patients did not recover). Assessment of each treatment process by looking at treatment management through medical records will provide a clear picture of the treatment process that has been undertaken so that the causes of success or failure of a therapy process for bronchial asthma patients at Parsoburan Health Center Pematangsiantar City can be identified from January to March 2017.

The role of the pharmacist in evaluating treatment is absolutely necessary, in accordance with the obligations and authorities listed in the 2004 Indonesian Pharmacy Competency Standards issued by ISFI (Indonesian Association of Pharmacy Scholars). Five of them regulate the pharmacist's authority to review drug use in the therapeutic process, the five points read:

1. Review drug use through patient medical records, prescriptions and/or other pharmaceutical records.
2. Identify, ensure the truth and goodness of a drug.
3. Calculate the dose, determine the most suitable preparation.
 - a. Make a professional decision regarding whether or not there is an error with the drug and its resolution.
 - b. Monitor drug use and evaluate drug use. In

In a treatment management, it is necessary to know the general description of the treatment that has been carried out.

Dosage Mismatch

In the dose suitability test, the authors compared the drug doses prescribed to bronchial asthma patients at the Parsoburan Health Center, Pematangsiantar City for the period January-March 2017 with the doses listed in three supporting books which are the standard of therapy used both on a national scale, the Indonesian National Drug Informatorium (IONI) as well as on an international scale, Physicians Drug Handbook (PDH) and Drug Information Handbook (DIH). The purpose of this comparison is to find out how much appropriateness of the dose given by doctors, as medical personnel who are responsible for treating cases of bronchial asthma at the Parsoburan Health Center, Pematangsiantar City. By obtaining appropriate dose comparisons,

1. Non-compliance test based on IONI standard (Indonesian National Drug Information)

In prescribing drugs for bronchial asthma patients at the Parsoburan Health Center, Pematangsiantar City for the period January-March 2017, when compared to the standards listed in the IONI, there are several discrepancies regarding the doses that must be given. In this study, it was recorded that 17 types of drugs were prescribed or 17.5% did not comply with the standard dosage stated in the IONI.

2. Non-compliance test based on PDH standard (Physicians Drug Handbook)

In prescribing drugs for bronchial asthma patients at the Parsoburan Health Center, Pematangsiantar City for the period January-March 2017 when compared to the standards stated in the PDH (Physicians Drug Handbook) there were no types of drugs in the prescription that did not comply with the standard doses listed in the PDH.

3. Non-compliance test based on DIH (Drug Information Handbook) standards

In prescribing drugs for bronchial asthma patients at the Parsoburan Health Center, Pematangsiantar City for the period January-March 2017, when compared with the standards listed in the DIH (Drug Information Handbook), there are some discrepancies regarding the dose that must be given. In this study, 8 types of drugs were recorded in the prescription or 8.2% of the drug in the prescription does not comply with the standard dosage stated in the DIH.

(DIH) of 8.2%. While the standard for doctors is the Physicians Drug Handbook (PDH) of 0%. This shows that the doses of drugs prescribed by doctors for bronchial asthma patients at the Parsoburan Health Center, Pematangsiantar City for the January-March 2017 period are in accordance with their rationale.

Drug Interactions

a. Aminophylline and erythromycin

In a test of 12 patients, it was found that giving aminophylline together with erythromycin resulted in an increase in plasma levels of aminophylline by 28% and the clearance of aminophylline decreased by 22%. However, this is contrary to what was experienced by erythromycin, co-administration with aminophylline actually made the plasma levels of erythromycin fall by more than 30%. At the Parsoburan Health Center, Pematangsiantar City for the period January-March 2017, out of 18 patients, 2 patients received aminophylline which was given together with erythromycin. The patient is a patient with Medical Record No. 040827 and 044741.

b. Methyl prednisolone and erythromycin

Simultaneous administration of methyl prednisolone and erythromycin can reduce the clearance of methyl prednisolone by 46% (range 28-61%) and extend the $t_{1/2}$ of erythromycin by 51% (from 2.34 hours to 3.45 hours) at the Parsoburan Health Center, Pematangsiantar City, January-March 2017. Of the 18 patients, there were 1 patient who received Methyl prednisolone which was given together with erythromycin. The patient is a patient with Medical Record Number 040827.

CLOSING

Based on the results of the research and discussion on the management of prescriptions for bronchial asthma patients at the Parsoburan Health Center, Pematangsiantar City for the period January-March 2017, it can be concluded as follows:

- a. The gender distribution of bronchial asthma patients was 66.7% male and 33.3% female, while the age distribution of bronchial asthma patients was divided into 4 groups, namely, toddlers (0-5 years) 33.3%, children children (5-n 12 years) by 5.6%, adults (12 m 65 years) by 38.9%, and elderly (> 65 years) by 22.2%.
- b. The general description of the prescription includes:
 - a. The highest number of drugs given to bronchial asthma patients in one prescription were 5 and 6 drugs at 38.9% respectively
 - b. The distribution of drug classes used for therapy includes bronchodilators 25.7%, mucolytics 18.5%, corticosteroids 15.5%, anti-microbials 15.5%, anti-hypoxemia 4.1%, analgesics 6.2%, anti- histamine 3.1% and accompanying drugs (anti-diabetic, anti-epileptic, anti-hypertensive, anti-angina, and vitamins) were given 1% each.
 - c. The distribution of discrepancies in drug administration based on the Indonesian National Drug Informatorium standard was 17.5%, based on the Physicians Drug Handbook standard 0%, and the Drug Information Handbook 8.2% and drug interactions occurred in the administration of aminophylline and erythromycin, methyl prednisolone and erythromycin.

REFERENCES

- Anonymous, 2004, Indonesian Pharmacist Competency Standards, 14-15, ISFI, Jakarta
- Anonymous, 2000, Indonesian National Drug Information 2000 (IONI), Ministry of Health of the Republic of Indonesia, Director General of Drug and Food Control 2000, CV. Agung Seto, Jakarta, Indonesia.
- Barnes P., Rodger L, Thomson, 1998, Asthma third edition: Mechanisms and Clinical Management, Academic Press, California USA
- Basmajian, JV, Slonecker, CE., 1995. Grant's Method of Anatomy, translated by Widjaja, S., kindagen, K. Hardjasudarma, M., Santoso GMS
- Gunadi, H., Edition II, pp. 52-55., FKUI Publisher Center, Jakarta.
- Bratawidjaya, K, 1990, Bronchial Asthma in waspadji, suparman (ED), Internal Medicine, edition II, 28-38, FKUS Publication Center, Jakarta
- Bonin E., 2003, adapting your practice treatment and recommendations for homeless patients with asthma Hearth care for the homeless clinicians network

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- Clayton TC, 2003, Physicians Drug Handbook 10th edition, Lippicott Williams & Wilkins, United States of Amnerica
- Charles FL, of all, 2003, Drug Information Handbook 11th edition, American Pharmaceutical Association, Lexi-comp inc, United state of America.
- Ganong, WG, 1995, Medical Physiology, pages 635-660 translation Petrus Andriano, EGC medical book publisher, Jakarta
- Lusius LF, 2002, Prescribing Study of Adult Patients with Non-Complicated Bronchial Asthma at the Inpatient Installation of Panti Rapih Hospital, Yogyakarta, 2000, Thesis, USD, Yogyakarta
- Mutschler E, 1991, Drug Dynamics: Textbook of Pharmacology and Toxicology fifth edition, ITB Publisher, Bandung
- Nasution HR, Lubis, YM1992, Introduction to Pharmacology 76-79, Widyasarana Library, Medan
- Neal MJ, 2006, At a Glance Medical Pharmacology Fifth Edition, Erlangga Publisher, Jakarta