

Rationality of Use of Analgetic-Antipyretic Medicines in Northern Region Primary Health Centre of Kediri City

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ABSTRACT

One of the efforts carried out by the national rational drug use program is health services that ensure safety, effectiveness, and affordable costs for people who receive or receive treatment. It is said that the use of drugs is rational if the patient gets treatment according to clinical needs, the dose is as needed, the drug can be used for a sufficient period of time and at affordable costs. This study aims to determine the rationality of the use of analgesic-antipyretic drugs in the Northern Region Primary Health Centre of Kediri City which includes: right indication, right patient, right drug, right dose, and alert for drug side effects. This study is a descriptive study conducted by retrospective observation and data collection by looking at prescriptions and medical record data supported by interviews with pharmacists. Based on the results of the research in the Northern Region Primary Health Centre of Kediri City, it can be found that the use of analgesic-antipyretic drugs in 304 samples was obtained paracetamol 33.88%, paracetamol liquid 18.42%, Alpara 10.20%, ibuprofen 12.17%, acid mefenamic 8.88%, diclofenac sodium 7.24%, piroxicam 4.93%, and aspirin 4.28%. The percentage of rationality of using analgesic-antipyretic drugs in the Northern Region Primary Health Centre of Kediri City, got the results, namely: right indication, right patient, right drug, right dose, and alert for drug side effects by 100%.

Keywords : analgesic-antipyretic, rationality of drug use

INTRODUCTION

Pharmaceutical services are one of the services at the Primary Health Centre. Pharmacy services at Primary Health Centre have three main functions, there are centre for driving health-oriented development, a community empowerment centre, and a first-level health service centre consisting of individual health services and community services. Pharmaceutical service is a service that is directly responsible to patients related to pharmaceutical preparations with the aim of achieving definite results in improving the patient's standard of living. Medicines, medicinal ingredients, traditional medicines and cosmetics are in the form of pharmaceutical preparations. Drugs can be said as substances, materials or guide materials including biological products that are used in physiological and pathological systems to diagnose, prevent, cure, recover, improve health and contraception for humans. To improve the quality of pharmaceutical services, ensure legal certainty for pharmaceutical staff, protect patients and the public in the rational and irrational use of drugs in the context of patient safety, these are the goals of setting Pharmaceutical Service Standards at Primary Health Centre (Kementerian Kesehatan RI, 2016).

One of the efforts made by the national rational drug use program is health services which ensure safety, effectiveness, and affordable costs for people who receive or receive treatment (Kementerian Kesehatan RI, 2011). It is said to use rational drugs if the patient gets treatment according to clinical needs, the dose is as needed, the drug can be used for a sufficient period of time and at affordable costs (World Health Organization, 2007).

Drugs have a very important role in health services to achieve patient health, but rational use of drugs has not yet achieved effective and efficient therapy. According to the rational medicine module published by the Ministry of Health in 2011, indicators of rational drug use include: (1) correct diagnosis (2) correct indication of disease (3) correct drug selection (4) correct dose (5) correct administration method (6) proper administration interval (7) proper assessment of the patient's condition (8) alert for

side effects, (9) proper information (10) proper follow-up, (11) proper dispensing (drug delivery) (Kementerian Kesehatan RI, 2011).

There are several indicators to say that a drug administration is appropriate or rational. According to (Alaydrus, 2018) in his research, the indicators used were 4R 1A, namely, the right indication, the right patient, the right drug, the right dose and alert for drug side effects.

The results of the study (Soleha et al., 2018) regarding the Profile of the Use of Non-Steroid Anti-Inflammatory Drugs in Indonesia stated that the use of NSAID drug indications for various diseases shows the wide use of NSAID drugs so that information on the use of appropriate drugs is very useful for obtaining rational treatment so as not to adverse side effects occur. And in a study (H. et al Wahyuni, 2019) regarding the rationality of the use and completeness of prescription nonsteroidal anti-inflammatory drugs (NSAIDs) at three health centres in Gayo Lues district, it was stated that the results of the rationality of use and completeness of prescription non-steroidal anti-inflammatory drugs (NSAIDs) in three health centres in Gayo Lues Regency Gayo Lues District, namely in Blangkejeren Health Centre: 80% has not been said to be rational, only 80%, while the Debun Bracelet and Cinta Maju Health Centres are 100% rational and NSAID users are not rational.

The Northern Region Primary Health Centre of Kediri City based on previous research conducted by Istifadatul Zulfa in 2017 regarding the Analysis of Drug Use Planning and in 2018 by Siti Bahrina Ilmi regarding the Evaluation of Drug Planning Methods, it was found that the Northern Region Primary Health Centre of Kediri City carried out drug planning using the consumption method. The highest planning results for analgesic-antipyretic drugs that are widely used are paracetamol in 2016 as many as 303,447 tablets, in 2017 as many as 289,589 tablets, and in 2018 as many as 151,578 tablets.

Many or frequently prescribed analgesics containing paracetamol, Ibuprofen, Mefenamic acid, Diclofenac sodium. If used in the long term, opioids will cause addiction and NSAIDs can cause gastritis which, if it is severe, will cause gastrointestinal bleeding, acid-base disorders, inhibit uric acid extraction, agranulocytosis and impaired platelet function (Mita and Husni, 2017).

Based on the description above, in this study it is important to conduct research on the rationality of the use of Analgesics-Antipyretics in the Northern Region Primary Health Centre of Kediri City in terms of the accuracy of the indications, the right patient, the right drug, the right dose, and alert for side effects of the drug. So that it can be a reference for the rationality of drug use for the next period. This study aims to determine the rationality of the use of Analgesic-Antipyretic drugs in terms of indicators of the right indication, right patient, right drug, right dose, alert for side effects.

METHODS

This research is a type of descriptive research, namely research aimed at describing a phenomenon, in this case it is carried out by means of observation. Data collection was carried out retrospectively, namely data collection that had occurred in the past. Retrospective method is research that seeks to look backwards (backward looking), meaning that data collection starts from the effects or consequences that have occurred or data collection is based on existing data (Notoatmodjo, 2018). In this case, it was done based on existing data from prescriptions and medical record data for the treatment of patients using analgesics-antipyretics at the Northern Region Primary Health Centre of Kediri City.

The location of the study was carried out at the Northern Region Primary Health Centre of Kediri City which is located at Sam Ratulangi Street No. 12th Kediri City. The time of the study was carried out on March 25, 2021 until May 21, 2021 and started again on June 21, 2021 until June 29, 2021. The data used were drug use data for the period March 2021.

The entire object to be studied is the population (Notoatmodjo, 2018). The population in this study were prescriptions and medical record data of patients who used analgesic-antipyretic drugs at the Northern Region Primary Health Centre of Kediri City. The sample is the object to be studied and is considered to represent the entire population being studied

(Notoatmodjo, 2018). The sample in this study were analgesic-antipyretic drugs at the Northern Region Primary Health Centre of Kediri City.

The sampling technique in this study is total sampling, namely sampling where all members of the population are sampled. The total sampling technique is carried out if the research wants to make generalizations with very small errors (Sugiyono, 2019). The total sampling used in this study were all items of analgesic-antipyretic drugs in the Northern Region Primary Health Centre of Kediri City.

The variables in this study were the use of drugs and the rationality of using analgesic-antipyretic drugs. The independent variable or independent variable in this study was the use of analgesic-antipyretic drugs in the Northern Region Primary Health Centre of Kediri City. While the dependent variable or dependent variable in this study is the rationality of the use of analgesic-antipyretic drugs in the Northern Region Primary Health Centre of Kediri City.

The data collection or processing technique used in this study was primary data collection with interview guidelines and secondary data, namely by looking at prescriptions and medical record data of patients using analgesic-antipyretic drugs.

Data analysis in this study was conducted by analysing prescriptions and medical record data of patients using analgesics-antipyretics. After the data is obtained then the data will be analysed descriptively percentage by doing manual calculations with the help of formulas. The data will be expressed in the form of a percentage which is carried out by observing and evaluating the use of analgesics-antipyretics then compared with standard indicators (4R 1A), namely the right indication, the right patient, the right drug, the right dose and alert for drug side effects. After analysing the data in the form of a percentage, then the data is displayed in the form of tables and narratives.

RESULTS

The collection of patient characteristics data obtained from outpatient of the Northern Region Primary Health Centre of Kediri City in the March 2021 period aims to determine the identity and profile of patients using analgesic-antipyretic drugs. Figure 1 and Table 1 are description of the patient characteristics by gender and age.

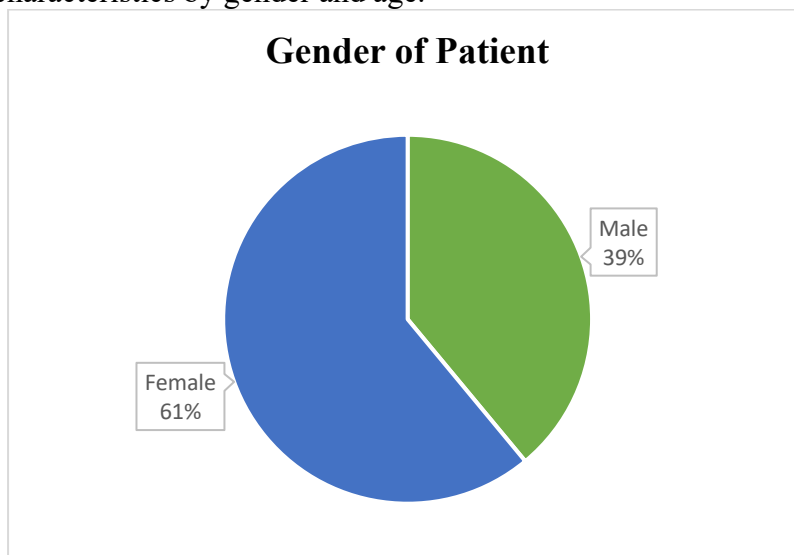


Figure 1. Patient characteristics by gender

Table 1. Patient characteristics by age

Interval of Age	Frequency	Percentage (%)
0-5 years	58	20%
6-17 years	4	1%
18-59 years	100	34%
More than 60 years	133	45%
Total	295	100%

Data regarding the frequency characteristics based on the dosage form of patients taking analgesic-antipyretic samples at the Northern Region Primary Health Centre of Kediri City for the March 2021 Period, are shown in figure 2.

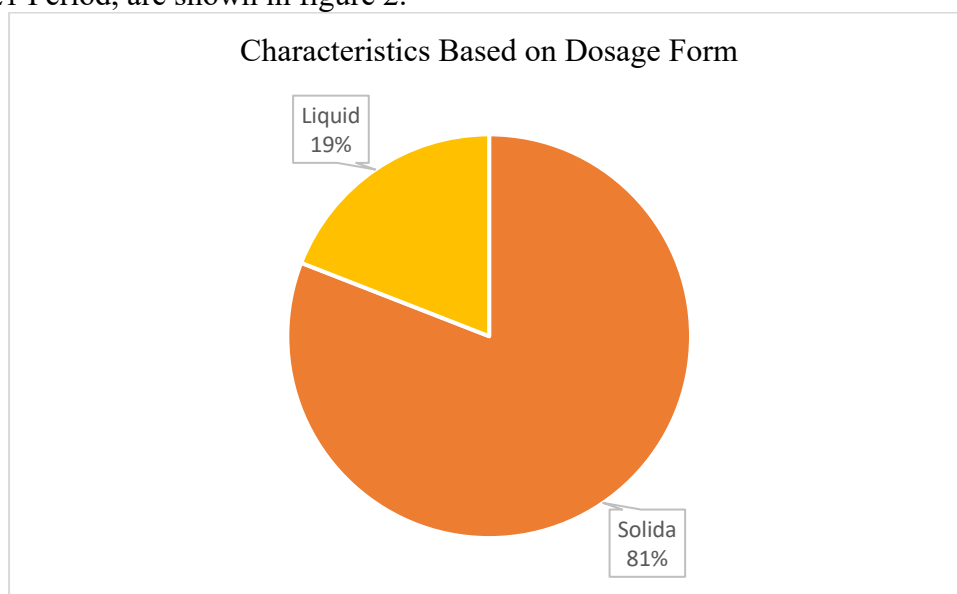


Figure 2. Characteristics based on dosage form

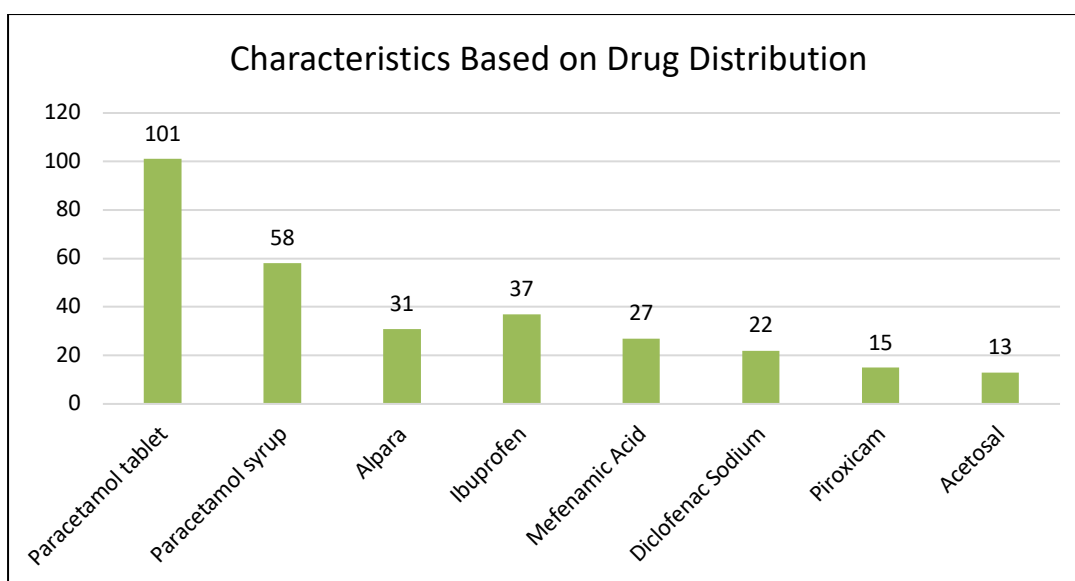


Figure 3. Characteristics based on drug distribution

Table 2. Rationale for prescribing analgesics-antipyretics based on 4T 1A criteria

Rationality criteria	Frequency	Percentage (%)
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	Appropriat e	Not appropriate	Appropriate	Not appropriate
The right indication	304	0	1	0
The right patient	304	0	1	0
The right drug	304	0	1	0
The right dose	304	0	1	0
Alert for drug side effects.	304	0	1	0

Based on the results of the data obtained, it shows that the rationality of using analgesic-antipyretic drugs in the Northern Region Primary Health Centre of Kediri City for the March 2021 Period is 100% rational.

DISCUSSION

Figure 1. Patient characteristics by gender

Based on the results of interviews with pharmacists, it was stated that the frequency of patients with female sex was more likely to spend more time on health services. This is in accordance with the theory which states that women have lower employment rates than men. Women's demand for health services is higher than men's because women have a higher incidence of disease than men and are willing to spend more time on health services than men (Rahma Puspita *et al.*, 2021). In gender there are also paediatric patients. Gender is not a risk factor for disease occurrence. Diseases can be suffered by male and female patients depending on the immune system of each individual (Sari, 2020). According to (Kristianingsih, Sagita and Suryaningsih, 2019) Most of the mother's knowledge about disease management was obtained from previous experience, both from family and relatives, to treat it as quickly as possible when the child has a fever and the mother does not go down, the mother will take her to a health facility.

Starting at the age of 30, a person will experience a decrease in function Physiological and structural changes cause a decrease in muscle strength and a person's ease of suffering from disease (Darajatun, *et al* 2017). One of the people who are at high risk of suffering from inflammation is those who are more than 45 years old. The prevalence of inflammation will increase with increasing age, up to the elderly group (Wahyuni, *et al* 2019). According to (Jannah and Muhasshanah, 2018) stated that infant immunization is the provision of vaccines to infants who are less than 5 years old because they are vulnerable to risk of contracting and contracting the disease. The immunization program since 1956 is a public health effort in Indonesia which is considered cost effective.

Figure 2. Characteristics based on dosage form

The advantages of tablet preparations are practical, efficient, tablet dosage forms are more suitable and economical for large-scale production, tablet preparations are also available in various forms, one of which is the caplet form (Elisa, 2018). Another advantage is that tablets are the most widely circulated preparations in the community, guaranteeing the stability of the active ingredients compared to liquid form. Bottle packaging, especially glass bottles, is also prone to breakage and when drinking it also requires a situation that is as calm as possible (Madury, *et al*, 2013).

Data regarding the characteristics based on the distribution of drugs from patients using analgesics-antipyretics who were sampled at the Northern Region Primary Health Centre of Kediri City for the March 2021 Period, are shown in Figure 3.

This data is in accordance with previous research, namely that conducted by Istifadatul Zulfa in 2017 regarding the Analysis of Drug Use Planning and in 2018 conducted by Siti Bahrina Ilmi regarding the Evaluation of Drug Planning Methods, it was found that the Northern Region Primary Health Centre of Kediri City carried out drug planning using the consumption method. The highest planning results for analgesic-antipyretic drugs that are widely used are paracetamol in 2016 as many as 303,447 tablets, in 2017 as many as 289,589 tablets, and in 2018 as many as 151,578 tablets.

Figure 3. Characteristics based on drug distribution

Management of acute pain and chronic pain requires different therapeutic approaches. In patients with acute pain, drugs that can relieve pain are needed quickly. Patients are more able to tolerate the side effects of the drug than the pain. In patients with chronic pain, patients are less able to tolerate the side effects of drugs (Suwondo, Meliala and Sudadi, 2017).

The right indication is the accuracy of drug administration between the indication and the doctor's diagnosis (Kemenkes RI, 2011). In this study, the data that shows the accuracy of indications in the Northern Region Primary Health Centre of Kediri City, have 100% accurate indications and 0% incorrect indications.

Drug response in each individual is different. Patient accuracy is the accuracy in choosing drugs that consider the patient's condition so that it does not cause contraindications to individual patients (Kemenkes RI, 2011). In this definition, patient accuracy can be said as a provision of health interventions by looking at the patient's condition. If the drug prescribed to the patient is not contraindicated with the patient's condition when receiving treatment from health services, then the treatment is said to be rational in the right patient. The data that shows a picture of the accuracy of patients at the Northern Region Primary Health Centre of Kediri City, with 100% correct patients.

Drug accuracy can be assessed as appropriate if the drug is selected based on drug pharmacotherapy after the diagnosis of the disease is correctly established. The drug selected must have a therapeutic effect according to the spectrum of the disease, drug administration is said to be appropriate if the type of drug is assessed based on consideration of benefits and risks (Kemenkes RI, 2011). Data that shows a description of the accuracy of drugs in patients who use analgesics-antipyretics at the Northern Region Primary Health Centre of Kediri City, have 100% of the right drugs and 0% of the wrong drugs.

Dosage is one of the most important aspects in determining drug efficacy. If the dose is too high, especially for drugs that have a narrow therapeutic range, there will be a high risk of side effects. On the other hand, if the dose given is below the therapeutic range, it does not guarantee that the desired therapeutic effect will be achieved (Kemenkes RI, 2011). The data that shows the description of the accuracy of the dose in patients using analgesic-antipyretic in the Northern Region Primary Health Centre of Kediri City, the correct dose is 100%.

Drug administration has the potential to cause side effects. Undesirable effects that arise in the administration of drugs with therapeutic doses (Kemenkes RI, 2011). From the results of the interview, information was obtained about being aware of drug side effects using guidelines for providing information about unexpected drug side effects. Data that shows an alert picture of side effects in patients using analgesics-antipyretics at the Northern Region Primary Health Centre of Kediri City as much as 100%, there are no reports of unexpected side effects and 0% of side effects occur.

CONCLUSION

The percentage of rationality of using analgesic-antipyretic drugs in the Northern Region Primary Health Centre of Kediri City, got the results, namely: right indication, right patient, right drug, right dose, and alert for drug side effects by 100%.

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