

Evaluation of the Rationality of Antibiotic Use in the General Hospital Dr. Zainoel Abidin 2018

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Abstract: Antibiotics are the most widely used class of drugs in the world related to the many occurrences of bacterial infections. In general antibiotic prescribing is often suboptimal, not only in developing countries but also in developed countries. Data related to the rationality of the use of antibiotic drugs in Indonesia is still limited. In this study on May-June 2018 period, were 9 types of antibiotics used in Obstetric and Gynaecology ward in General Dr. Zainoel Abidin Hospital. Total 588 DDD per 378 days of care. Phosphomicyn is the most widely used antibiotic. Phosphomicyn is a broad-spectrum antibiotic whose resistance level is at the General Hospital Dr. Zainoel Abidin is still low. Phosfomicyn is suitable for use especially in postoperative patients, both Obstetrics and Gynecology. Followed by Cefazolin, Ceftriaxon as the top 3 antibiotic uses.

1. INTRODUCTION

Antibiotics are the most widely used class of drugs in the world related to the many occurrences of bacterial infections. About 10-40% of the world's health budget is used to procure medical expenses. Based on WHO data in 2004, almost half of medicines including antibiotics were used inappropriately, which worsened the economic situation for poor and developing countries (WHO, 2007).

Generally, antibiotic prescribing is often suboptimal, not only in developing countries but also in developed countries. Widespread improper use of antibiotics is a major issue in public health and patient safety. Improper use of antibiotics can cause various problems, including treatment will be more expensive, side effects are more toxic, widespread resistance and the incidence of superinfection is difficult to treat (Gyssens, 2005; Gerber et al, 2010).

Data related to the rationality of the use of antibiotic drugs in Indonesia is still limited. The Amrin team's research at two teaching hospitals in Indonesia received only 21% of antibiotic prescriptions that were classified as rational (Hadi et al, 2008). Several pathogens studied in Indonesia are

known to be resistant to antibiotics (Lestari et al, 2008; Tjaniadi et al, 2003).

Studies conducted in Indonesia during 1990-2010 regarding antibiotic resistance, resistance occur in almost all important pathogenic bacteria. This is a negative impact of irrational use of antibiotics, use of antibiotics with unclear indications, inappropriate dosages or duration of use, improper use, drug status is unclear, and excessive use of antibiotics (Febriana, 2012). Controlled use of antibiotics can prevent the emergence of antimicrobial resistance and save on antibiotic use, which in turn will reduce the burden of patient care costs, shorten the length of treatment, save for hospitals and increase hospital services (Ministry of Health, 2011).

To ensure rational use of antibiotics, evaluation is needed. One method that can be used to evaluate antibiotic use is DDD (Defined Daily Dose). DDD method is a quantitative drug use evaluation technique. The quantity measurement data can be an early prediction of the rationality of drug use (Nouwen, 2006; Republic of Indonesia Ministry of Health, 2011). Research on evaluating the rationality of antibiotic use in in Dr. Zainoel Abidin General Hospital has been evaluated in 2017 and an annual evaluation is needed. Therefore, further research was made in 2018 to evaluate the rationality of antibiotic use in the in Obstetric and Gynaecology ward of Dr. Zainoel Abidin. General Hospital.

1.1. Objective

- 1) Knowing the rationality of antibiotic use in the Inpatient Room of General Hospital Dr. Zainoel Abidin in 2018.
- 2) Knowing the relationship between the rationality of antibiotic use and the outcomes of inpatient clinics in the inpatients of the Obstetric and Gynaecology ward in Dr. Zainoel Abidin General Hospital in 2018.

1.2. Target

The target to be achieved is that it can be used as a guide to the use of antibiotics as well as a more rational use of antibiotics so that it can prevent the occurrence of antibiotic resistance in Dr. Zainoel Abidin General Hospital.

2. METHODOLOGY

This research is a descriptive observational with a cross sectional using retrospective study taken from 100 patient's medical records to assess the quality of antibiotic use. The quality of antibiotics was assessed using DDD (Defined Daily Dose) category. The sampling method uses random sampling. There are several inclusion and exclusion criteria that must be fulfilled to become a research sample, namely:

Inclusion criteria are:

1. Medical record of hospitalized patients in the Obstetric and Gynaecology ward of Dr. Zainoel Abidin General Hospital who uses antibiotics that are treated in the Obstetric and Gynaecology ward of Dr. Zainoel Abidin. General Hospital for the period May - July 2018.
2. Medical records of hospitalized in Obstetric and Gynaecology ward of Dr. Zainoel Abidin General Hospital is clearly legible and complete.

Exclusion criteria are:

1. Patients who get antibiotics forcibly before the patient's antibiotic program is completed
2. Patients undergoing chemotherapy
3. Immunocompromised patient

2.1. Setting

This research was conducted at the Medical Record Installation of in Dr. Zainoel Abidin General

Hospital by examining the status of patients treated in the Obgyn ward. Collecting data start from 1st May 2018 until 31th July 2018.

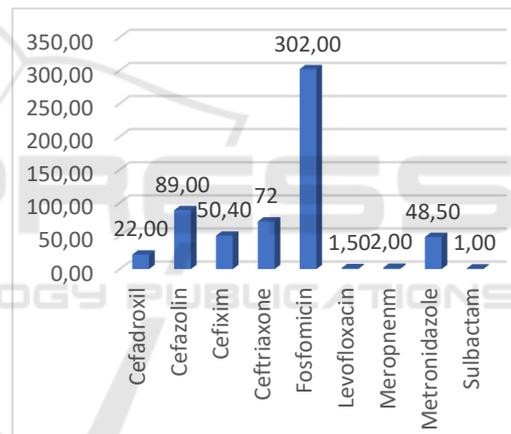
2.2. Output

The output of this study is:

1. Knowing the rationality profile of antibiotic use of inpatients in the ward of General Hospital Dr. Zainoel Abidin in 2018.
2. The Result as consideration to arrange a guidelines for the antibiotics use in hospitalized patients in the inpatient unit of the Dr. Zainoel Abidin.General Hospital

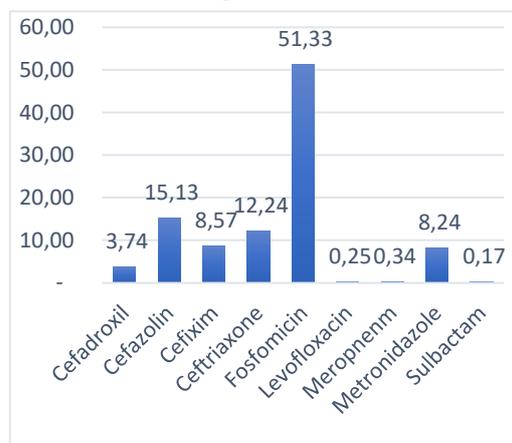
3. RESULT

Graph 1: Total Defined Daily Dose.



The results of the study 100 Patient was teated in Obstetric and Gynaecology ward of Dr. Zainoel Abidin General Hospital, with 378 days of care use 588 Define Daily Doses. There were 9 types of antibiotics used in Dr. Zainoel Abidin General Hospital. Total 588 DDD per 378 days of care. Phosphomycin is the most widely prescribed antibiotic with a total of 302 DDD. Followed by Cefazolin, Ceftriaxon as the top 3 antibiotic uses. The least antibiotic prescribes is Sulbactam.

Graph 2: Quantitative Analysis of the Use of Antibiotics in Dr. Zainoel Abidin General Hospital in 2018



From the distribution Quantitative analysis of the use of antibiotics at Dr. Zainoel Abidin General Hospital in 2018, there are 9 types of antibiotics used in the May-June 2018 period. Among the 9 types of antibiotics, phosphomicyn is the most widely used antibiotic in the Obstetrics and Gynecology Ward of the General Hospital dr. Zainoel Abidin. The use of Phosfomicyn antibiotics exceeds more than half of the total number of antibiotics used (51.33%). This makes the most popular antibiotics used. This is because phosphomicyn is a broad-spectrum antibiotic whose resistance level is at the General Hospital Dr. Zainoel Abidin is still low. Phosfomicyn is suitable for use especially in postoperative patients, both Obstetrics and Gynecology. The second most use is cefazolin (15.3%), which is a class of second generation Cefalosporin antibiotics. The least use is Ampicillin Sulbactam which is only used as much as 0.17%.

4. CONCLUSION

From 100 Patient was teated in Obstetric and Gynaecology ward of Dr. Zainoel Abidin General Hospital, we got 378 days of care use 588 Define Daily Doses. Phosphomycin is the most widely prescribed antibiotic with a total of 302 DDD (51.33%) of 9 types of antibiotics in period May until July.

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