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Antibiotic Use in Patients with Non-Specific Diarrhea at Tilongkabila Health Center, Bone Bolango Regency in 2023

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ABSTRACT

Antibiotics that are not used wisely can trigger resistance problems. According to the World Health Organization (WHO), every year more than 1.27 million people worldwide die due to resistance to antimicrobials. The tolerance limit for prescribing antibiotics in patients with non-specific diarrhea according to WHO prescribing indicators is 8%. This study aims to determine the use of antibiotics in patients with non-specific diarrhea at the Tilongkabila Health Center. This research method uses a quantitative approach. Data was taken retrospectively with descriptive analysis. The results of the study showed that the use of antibiotics for patients with non-specific diarrhea was 10.6% with the dominant type of antibiotic used being amoxicillin at 63.2%. It was concluded that the use of antibiotics for patients with non-specific diarrhea at the Tilongkabila Health Center was not rational because it exceeded the prescription tolerance limits set by WHO.

Keywords: *Antibiotics, Resistance, Diarrhea*

1. INTRODUCTION

Antibiotics are drugs used for infections caused by bacteria. Antibiotics that are not used wisely can trigger resistance problems [1]. Microbial resistance to antimicrobials has become a global problem, with various detrimental impacts that can reduce the quality of health services. The emergence and development of resistant microbes occurs due to selection pressures associated with the use of antibiotics [2].

According to the World Health Organization (WHO), every year more than 1.27 million people worldwide die due to resistance to antimicrobials [3]. Decades of misuse and use of antibiotics and other antimicrobials have made antibiotic drugs less effective in treating common infectious diseases, thereby accelerating the emergence and spread of antimicrobial resistance. In Indonesia, antibiotic drugs are used quite high and are used inappropriately, thereby increasing the incidence of antibiotic resistance [4]. Antibiotic prescriptions are more often found in patients with non-pneumonic ARI and non-specific diarrhea [5], [6].

Nonspecific diarrhea is the most common case in primary health care [7]. The use of antibiotics in cases of non-specific diarrhea should not be necessary because most of them are caused by viral infections, food and/or lactose intolerance [8]. The main therapy is the provision of sufficient rehydration fluids and electrolyte supplements, as well as the administration of absorbents to reduce the frequency of defecation [9]. Antibiotics are only given if diarrhea is accompanied by fever, slimy and bloody stools and a bacterial culture test has been carried out to determine the cause of the diarrhea [10]. The tolerance limit for prescribing antibiotics in patients with non-specific diarrhea according to WHO prescribing indicators is 8% [11], [12]. This study aims to determine the use of antibiotics in patients with non-specific diarrhea at the Tilongkabila Health Center.

2. METHODS

This study uses a quantitative approach. Data was taken retrospectively with research material in the form of a reporting form for non-specific diarrhea prescribing indicators from January to December 2023. The sampling technique was carried out using a total sampling method, namely by taking all data on Non-Specific Diarrhea sufferers at the Tilongkabila Community Health Center in 2023 who had met inclusion and exclusion criteria. Descriptive data analysis included the percentage of Non-Specific Diarrhea sufferers based on age group, percentage of antibiotic use, percentage of antibiotic use based on age and percentage of antibiotic use based on type of antibiotic.

3. RESULTS AND DISCUSSION

Based on data on visits by non-specific diarrhea sufferers at the Tilongkabila Health Center from January to December 2023, there were 180 sufferers recorded on the prescribing indicator reporting form. Based on age groups, 48.3% of non-specific diarrhea sufferers consisted of 0-5 years old, 16.7% 6-11 years old, 4.4% 12-16 years old, 8.9% 17-25 years old. %, 26-35 years as much as 6.1%, 36-45 years as much as 5.0%, 46-55 years as much as 5.0%, 56-65 years as much as 4.4% and over 65 years as much as 1.1% (table 1).

This age grouping is based on age categories according to the Indonesian Ministry of Health in 2009. Ages 0-5 toddlers, ages 6-11 children, ages 12-16 early teens, ages 17-25 late teens, ages 26-35 early adulthood, ages 36- 45 late adults, ages 46-55 early seniors, ages 56-65 late seniors and over 65 years old seniors. Based on table 1, it shows that non-specific diarrhea occurs most often in the 0–5-year age group, namely toddlers with data of 48.3%. This is likely because children at that age have digestive function that is not yet optimal and their immune system is not yet mature, because if there are pathogens or bacteria that enter, the rejection is not optimal so they are more susceptible to contracting disease.

Based on antibiotic use, there were 19 patients (10.6%) using antibiotics and 161 patients (89.4%) not using antibiotics (table 2). Antibiotic users are distributed in the age group 0 – 5 years as much as 31.6%, 6 – 11 years as much as 36.8% and 12 – 16 years, 17 – 25 years and 26 – 35 years respectively as much as 10.5% (table 3). The types of antibiotics used were Amoxicillin (63.2%), Cotrimoxazole (21.0%), Cifrofloxacin (10.5%) and Metronidazole (5.3%) (table 4).

Table 1. Distribution of Non-Specific Diarrhea Sufferers Based on Age

Age	Frequency	Percentage
0 – 5 years	87	48.3
6 – 11 years	30	16.7
12 – 16 years old	8	4.4
17 – 25 years	16	8.9
26 – 35 years	11	6.1
36 – 45 years old	9	5.0
46 – 55 years old	9	5.0
56 – 65 years old	8	4.4
> 65 years	2	1.1
Total	**180**	**100.0**

Table 2. Distribution of Non-Specific Diarrhea Sufferers Based on Antibiotic Use

Antibiotics	Frequency	Percentage
Yes	19	10.6
No	161	89.4
Total	**180**	**100.0**

Table 3. Distribution of Antibiotic Use Based on Age

Age	Frequency	Percentage
0 – 5 years	6	31.6
6 – 11 years	7	36.8
12 – 16 years old	2	10.5
17 – 25 years	2	10.5
26 – 35 years	2	10.5
Total	**19**	**100.0**

Table 4. Distribution of Antibiotic Use Based on Antibiotic Type

Types of antibiotics	Frequency	Percentage
Amoxicillin	12	63.2
Cotrimoxazole	4	21.0
Metronidazole	1	5.3
Cifrofloxacin	2	10.5
Total	**19**	**100.0**

The use of antibiotics when prescribed for patients with non-specific diarrhea may be due to doctors overestimating the symptoms of a disease so they prescribe antibiotics so that the symptoms disappear quickly, or due to the public's belief that by using antibiotics the disease will be cured.

CONCLUSION

The use of antibiotics in non-specific diarrhea sufferers at the Tilongkabila Health Center in 2023 will not be rational because it does not meet the WHO target provisions regarding the tolerance limit for the use of antibiotic prescriptions of 8%.

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