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Identification of Antibiotic Dose Appropriateness in Patients with Non-Pneumonia Acute Respiratory Tract Infection at Community Health Center X

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ABSTRACT

An Non-pneumonia acute respiratory tract infection (ARTI) is one of the most common diseases in the community and a frequent cause of patient visits to healthcare facilities. Based on a preliminary study, non-pneumonia ARTI was among the ten most prevalent diseases at Community Health Center X, with 266 reported cases during the period of January–December 2025. The high incidence of non-pneumonia ARTI has led to increased antibiotic use. Therefore, antibiotics should be used rationally, including through appropriate dosing. Inappropriate antibiotic dosing may reduce therapeutic effectiveness and increase the risk of bacterial resistance. This study aimed to identify the appropriateness of antibiotic dosing in patients with non-pneumonia ARTI at Community Health Center X. This study employed a descriptive observational design with a retrospective approach. A total of 160 patients were selected using purposive sampling. Data were collected from the medical records of patients with non-pneumonia ARTI, and the appropriateness of antibiotic dosing was evaluated based on the Community Health Center X Formulary. Data were analyzed using univariate analysis. The results showed that, among the 160 patients with non-pneumonia ARTI, the largest age group was children aged 0–5 years, accounting for 46 patients (28.8%). Amoxicillin was the most frequently prescribed antibiotic (77%), followed by ciprofloxacin (23%). The most commonly prescribed dosage strengths were amoxicillin 500 mg (48.1%), amoxicillin 125 mg (18.8%), and ciprofloxacin 500 mg (23.1%). The most common dosing frequency was three times daily (76.9%), followed by twice daily (23.1%). Evaluation of antibiotic dose appropriateness showed that all 160 patients (100%) received appropriate antibiotic doses. In conclusion, all patients with non-pneumonia ARTI at Community Health Center X received appropriate antibiotic doses.

Key words: Antibiotics; Dose Appropriateness; Non-Pneumonia Acute Respiratory Tract Infection

INTRODUCTION

Acute Respiratory Tract Infection (ARTI) is an infectious disease that affects both the upper and lower respiratory tract. ARTI may present with varying degrees of severity, ranging from asymptomatic or mild infection to severe, life-threatening conditions (Ramadhani & Issusilaningtyas, 2019). According to Ramadhani and Issusilaningtyas (2019), ARTI is classified into three categories: pneumonia, severe pneumonia, and non-pneumonia. Non-pneumonia ARTI is an infection of the upper respiratory tract. The common clinical manifestations include cough, rhinorrhea (runny nose), and fever. This condition is characterized by the absence of lower chest wall indrawing and an increased respiratory rate

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(Sagita et al., 2025). Acute Respiratory Tract Infection (ARTI) remains a major global public health problem and is one of the leading causes of mortality worldwide. According to the World Health Organization (WHO), there are approximately 18.8 billion ARTI cases worldwide, resulting in about 4 million deaths annually. Furthermore, the incidence of ARTI in developing countries is estimated to be two to ten times higher than that in developed countries (Rullah et al., 2023). In Indonesia, ARTI remains a significant public health concern, with a prevalence of 23.5%, affecting approximately 877,531 individuals (SKI, 2023). In East Java Province, the prevalence of ARTI was reported to be 22.7%, with a total of 130,686 cases (SKI, 2023). In 2024, Jember Regency recorded 78,430 ARTI cases (Dinkes, 2025). Based on a preliminary study, non-pneumonia ARTI was among the ten most common diseases at Community Health Center X, with a total of 266 cases reported during the period of January to December 2025.

The increasing number of infectious disease cases has led to a rise in medication use, which may result in various drug-related problems if medications are not used appropriately and rationally. One of these problems is the use of antibiotics. Antibiotics are medications used to treat bacterial infections (Ruslin et al., 2023). The extensive use of antibiotics has become a global public health concern because it contributes to the increasing prevalence of antibiotic-resistant bacteria. One of the factors contributing to antibiotic resistance is inappropriate antibiotic dosing. Inappropriate doses may result in drug concentrations that are insufficient to effectively eliminate bacteria, allowing some bacteria to survive (Ministry of Health of the Republic of Indonesia, 2021).

Drug dosage refers to the amount of an active pharmaceutical ingredient administered to a patient within a specified period to achieve the desired therapeutic effect. Appropriate drug dosing is determined not only by the amount of the active ingredient administered but also by the dosing frequency and duration of therapy. In addition, dose selection should consider the patient's clinical condition and individual characteristics, such as age, body weight, and organ function (Tyson et al., 2020).

Appropriate dosing refers to administering a drug in accordance with the patient's therapeutic needs based on established treatment standards or clinical guidelines. It includes the dose administered at each administration, the frequency of administration, and the duration of treatment to prevent overdosing or underdosing (Dewi et al., 2025). Inappropriate antibiotic dosing, whether lower or higher than recommended, may reduce treatment effectiveness and delay patient recovery. Furthermore, the use of antibiotics that does not comply with the recommended dose and dosing regimen may contribute to the development of bacterial resistance. Therefore, ensuring appropriate antibiotic dosing is essential to optimize treatment outcomes and minimize the risk of antibiotic resistance (Puspita et al., 2024).

Several studies have evaluated the appropriateness of antibiotic dosing in patients with non-pneumonia acute respiratory tract infection (ARTI). A study conducted by Sagita et al. (2025) reported that most children with non-pneumonia ARTI who received antibiotic therapy were prescribed appropriate doses, with a dose appropriateness rate of 95.35%. These findings indicate that antibiotic prescribing in the study was consistent with the recommended treatment guidelines. In contrast, Sugiharta et al. (2018) reported that many patients with non-pneumonia ARTI did not receive appropriate antibiotic doses. The study found that only 33.33% of patients received antibiotics at the appropriate dose, whereas 66.67% received inappropriate doses.

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Based on the background described above, the findings of the two previous studies indicate inconsistent results regarding the appropriateness of antibiotic dosing in patients with non-pneumonia acute respiratory tract infection (ARTI). These differences suggest that the appropriateness of antibiotic dosing in patients with non-pneumonia ARTI remains variable and requires greater attention to promote more rational antibiotic use. In addition, there has recently been an increase in non-pneumonia ARTI cases among children. Antibiotic therapy in pediatric patients requires particular attention because the dose should be adjusted according to body weight. Errors in dose determination may result in underdosing, leading to suboptimal therapeutic outcomes, or overdosing, which may increase the risk of adverse drug reactions. Therefore, considering the high incidence of non-pneumonia ARTI and the importance of appropriate antibiotic dosing in improving therapeutic outcomes, this study was conducted to identify the appropriateness of antibiotic dosing in patients with non-pneumonia ARTI at Community Health Center X.

METHODS

This study was an observational study with a descriptive approach using a retrospective design. A retrospective design was employed to analyze data by describing previously collected data based on observations of events that had already occurred. This approach was selected because the study was conducted without providing any direct treatment or intervention to patients and relied solely on medical record data available at Community Health Center X. The retrospective design involved reviewing the medical records of patients with non-pneumonia acute respiratory tract infection (ARTI) during the period of January–December 2025 to identify the appropriateness of antibiotic dosing.

The study population consisted of all outpatient medical records of patients diagnosed with non-pneumonia ARTI at Community Health Center X during 2025, comprising a total of 266 patients. The sample size was determined using the Slovin formula with a 5% margin of error, resulting in a sample of 160 patients. Participants were selected using a purposive sampling technique based on predetermined inclusion and exclusion criteria.

The inclusion criteria were patients diagnosed with non-pneumonia ARTI, with or without comorbidities, during the 2025 study period and those with complete medical records. The exclusion criterion was patients with incomplete medical records.

Data were analyzed using univariate analysis to describe the appropriateness of antibiotic dosing in patients with non-pneumonia ARTI. The results were presented as tables and percentages to facilitate data interpretation.

RESULT AND DISCUSSION

This study employed a descriptive observational design with a retrospective approach, in which previously collected data from past events were analyzed. The study used secondary data obtained from the medical records of patients diagnosed with non-pneumonia acute respiratory tract infection (ARTI).

Based on the medical records of patients with non-pneumonia ARTI at Community Health Center X during the period of January–December 2025, the study population consisted of 266 patients. The sample size was calculated using the Slovin formula, resulting

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in a sample of 160 patients. After applying the predetermined inclusion and exclusion criteria, all selected samples met the eligibility criteria and were included in the study.

The collected data were subsequently analyzed to describe patient characteristics, patterns of antibiotic use, and the appropriateness of antibiotic use in patients with non-pneumonia ARTI at Community Health Center X.

Characteristics of Patients with Non-Pneumonia Acute Respiratory Tract Infection (ARTI)

The collection of patient characteristic data was conducted to provide an overview of the demographic profile of patients with non-pneumonia acute respiratory tract infection (ARTI) who received antibiotic therapy at Community Health Center X. In this study, the patient characteristic analyzed was age, as recorded in the patients' medical records.

Patient age in this study was classified into nine groups based on the age categories established by the Indonesian Ministry of Health. As shown in table I, the highest proportion of patients with non-pneumonia acute respiratory tract infection (ARTI) at Community Health Center X was found in the toddler group (0–5 years), comprising 46 patients (28.8%). The children group (6–11 years) ranked second, with 32 patients (20.0%). The late older adult group (56–65 years) accounted for 16 patients (10.0%). Meanwhile, the middle-aged adult group (36–45 years) consisted of 14 patients (8.7%), followed by the young adult group (26–35 years) and the early older adult group (46–55 years), each with 12 patients (7.5%). The late adolescent group (17–25 years) included 11 patients (6.9%), the early adolescent group (12–16 years) comprised 9 patients (5.6%), and the elderly group (>65 years) consisted of 8 patients (5.0%). These findings indicate that non-pneumonia ARTI occurred most frequently among toddlers, followed by children.

The findings of this study are consistent with those reported by Ningrum et al (2022) at Mantang Community Health Center, Central Lombok, which showed that most patients with non-pneumonia ARTI were toddlers. The study reported that, of the 45 participants, 38 patients (84.4%) were aged 0–5 years. Similar findings were reported by Ramadhani & Issusilaningtyas (2019), who stated that ARTI is one of the most common diseases among children and is a leading cause of visits to community health centers for both inpatient and outpatient care. Children under five years of age are particularly susceptible to non-pneumonia ARTI because their immune system has not yet fully developed (Sukarto et al., 2016). Likewise, Lahope et al (2023), in a study conducted at Airmadidi Community Health Center, reported that children aged 0–59 months constituted the age group with the highest number of non-pneumonia ARTI patients receiving antibiotic therapy.

The high incidence of non-pneumonia acute respiratory tract infection (ARTI) among toddlers may be attributed to several factors, one of which is their immature immune system, which has not yet fully developed and is therefore less capable of fighting infections effectively (Sukarto et al., 2016). In addition, toddlers begin to engage in more physical activities and interact more frequently with their surroundings, increasing their likelihood of exposure to respiratory droplets containing viruses or bacteria. Arna et al (2024) reported that ARTI is transmitted through airborne respiratory droplets carrying infectious microorganisms, and that children are more susceptible to exposure because of their high level of daily activity.

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In addition to toddlers, the children age group (6–11 years) represented the second-largest proportion of patients, accounting for 20.0% of the study population. In this age group, the risk of transmission increases because children begin attending school, where frequent interaction with their peers facilitates the spread of respiratory infections (Chen et al., 2024).

The early adolescent group (12–16 years) consisted of 9 patients (5.6%), whereas the late adolescent group (17–25 years) included 11 patients (6.9%). The young adult group (26–35 years) and the middle-aged adult group (36–45 years) comprised 12 patients (7.5%) and 14 patients (8.7%), respectively. The occurrence of non-pneumonia acute respiratory tract infection (ARTI) among adults indicates that this disease is not limited to children but also affects individuals of productive age. A study conducted by Wibowo & Lukas (2024) reported that non-pneumonia ARTI was commonly observed among adults aged 19–59 years, which may be attributed to their frequent engagement in outdoor activities, such as attending school, working in offices, and participating in social interactions, all of which increase the risk of exposure to respiratory infectious agents. In addition, exposure to environmental factors, including dust, air pollution, vehicle emissions, and cigarette smoke, may further increase an individual's susceptibility to ARTI.

The early older adult group (46–55 years) consisted of 12 patients (7.5%), the late older adult group (56–65 years) included 16 patients (10.0%), and the elderly group (>65 years) comprised 8 patients (5.0%). Among older adults, the age-related decline in immune function (immunosenescence) increases their susceptibility to infections, including non-pneumonia acute respiratory tract infection (ARTI) (Chen et al., 2024).

The variation in the number of cases across age groups indicates that non-pneumonia ARTI can occur at any age. This variation may be attributed to differences in exposure patterns and risk factors among the various age groups. Therefore, preventive strategies should be tailored to the characteristics of each age group. For toddlers and children, prevention efforts should focus on improving immunization coverage, optimizing nutritional status, and reducing exposure to cigarette smoke (Wibowo & Lukas, 2024). Among adults, preventive measures should emphasize smoking cessation and minimizing exposure to air pollution in the workplace (Wibowo & Lukas, 2024).

Antibiotic Use Profile in Patients with Non-Pneumonia Acute Respiratory Tract Infection (ARTI)

Antibiotic use in patients with non-pneumonia acute respiratory tract infection (ARTI) should follow established treatment guidelines to ensure therapeutic effectiveness and prevent the development of antibiotic resistance. Therefore, the rational use of antibiotics is essential to minimize the emergence of antibiotic-resistant bacteria resulting from inappropriate or irrational antibiotic use. In this study, antibiotic use was evaluated according to the formulary guidelines of Community Health Center X. The antibiotic use profile was described based on the type of antibiotic prescribed, dosage strength, and dosing frequency recorded in the prescriptions of patients with non-pneumonia ARTI. These data were used to provide an overview of antibiotic prescribing patterns among patients with non-pneumonia ARTI at Community Health Center X during the period of January–December 2025.

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Antibiotic Use by Drug Name

The identification of antibiotic use by drug name was conducted to determine which antibiotics were most frequently prescribed to patients with non-pneumonia acute respiratory tract infection (ARTI) at Community Health Center X. Based on the data presented in table II, amoxicillin was the most frequently prescribed antibiotic for patients with non-pneumonia acute respiratory tract infection (ARTI), accounting for 123 patients (77.0%), followed by ciprofloxacin, which was prescribed to 37 patients (23.0%). The frequent use of amoxicillin is consistent with its recommendation as the first-line antibiotic for the treatment of non-pneumonia ARTI in primary healthcare settings (Ihsan *et al.*, 2019). Amoxicillin is a broad-spectrum penicillin antibiotic that is effective against a wide range of bacteria causing respiratory tract infections. In addition, amoxicillin has good oral absorption that is not affected by food intake and is associated with a lower incidence of antibiotic-associated diarrhea (Tuloli *et al.*, 2024). Amoxicillin exerts its antibacterial effect by inhibiting bacterial cell wall synthesis through binding to penicillin-binding proteins (PBPs), thereby disrupting peptidoglycan formation, the main structural component of the bacterial cell wall, ultimately leading to bacterial cell lysis and death (Katzung & Vanderah, 2021).

Ciprofloxacin was prescribed less frequently than amoxicillin because it is generally used as an alternative antibiotic in certain clinical situations, such as in patients with a documented allergy to amoxicillin (Sari *et al.*, 2024). Ciprofloxacin exerts its antibacterial activity by inhibiting topoisomerase II (DNA gyrase) and topoisomerase IV, enzymes that play essential roles in bacterial DNA replication, transcription, and repair. Inhibition of these enzymes disrupts DNA synthesis, thereby preventing bacterial proliferation and ultimately leading to bacterial cell death (Katzung & Vanderah, 2021). Ciprofloxacin has a broad antibacterial spectrum and is active against a wide range of Gram-negative and Gram-positive bacteria, including several strains that are resistant to other antibiotics. However, the use of ciprofloxacin in patients with non-pneumonia acute respiratory tract infection (ARTI) should be carefully considered because these infections are generally mild and can usually be treated effectively with narrow-spectrum antibiotics (Kemenkes RI, 2021).

Among pediatric patients, amoxicillin was prescribed more frequently than ciprofloxacin. This prescribing pattern may be influenced by differences in safety profile, spectrum of activity, and dosage form availability. Ciprofloxacin belongs to the fluoroquinolone class and is relatively contraindicated in children because animal studies have demonstrated a potential risk of arthropathy, particularly cartilage damage. Therefore, ciprofloxacin should be reserved for specific clinical indications when no appropriate alternative therapy is available (Patel & Goldman, 2016). In contrast, amoxicillin has a well-established safety profile, provides appropriate antimicrobial coverage against the common pathogens causing non-pneumonia acute respiratory tract infection (ARTI), and is available as a dry syrup formulation, which facilitates dose adjustment in pediatric patients (Tuloli *et al.*, 2024).

The findings of this study are consistent with those reported by Putra & Wardani (2017) at Kediri II Community Health Center, where amoxicillin was the most frequently prescribed antibiotic for patients with non-pneumonia ARTI. Their study found that amoxicillin accounted for 92.76% of all antibiotic prescriptions. Similar findings were reported by Ihsan *et al.* (2019), who found that amoxicillin was the most commonly prescribed antibiotic across all community health centers in Kendari City, with 2,663 prescriptions (86.38%) among a total of 2,083 patients. These consistent findings indicate that amoxicillin remains the



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primary antibiotic used for the treatment of non-pneumonia ARTI in primary healthcare facilities across Indonesia.

A study evaluating drug utilization patterns by Effendi & Evelin (2020) also reported that amoxicillin 500 mg and ciprofloxacin 500 mg were included in the Drug Utilization 90% (DU90%) segment, representing the group of medicines that accounted for up to 90% of total antibiotic consumption. This finding indicates that both antibiotics constitute an important component of routine antibiotic prescribing practices in clinical settings.

Antibiotic Use by Dosage Strength

The identification of antibiotic use by dosage strength was conducted to determine the variations in antibiotic dosage strengths prescribed for patients with non-pneumonia acute respiratory tract infection (ARTI) at Community Health Center X. Based on table III, several antibiotic dosage strengths were prescribed in this study. Amoxicillin was prescribed in 500 mg and 125 mg/5 mL dosage strengths, whereas ciprofloxacin was available only as a 500 mg dosage strength. Amoxicillin 500 mg was the most frequently prescribed dosage strength, accounting for 77 patients (48.1%), followed by amoxicillin 125 mg/5 mL syrup prescribed for 46 patients (28.8%), and ciprofloxacin 500 mg prescribed for 37 patients (23.1%).

At Community Health Center X, amoxicillin was available as 500 mg tablets and 125 mg/5 mL dry syrup, whereas ciprofloxacin was available only as 500 mg tablets. The availability of these dosage forms supports antibiotic therapy across different age groups. Amoxicillin 500 mg tablets are particularly suitable for adult patients because they can be administered directly without compounding, making pharmaceutical services more practical and efficient. In addition, amoxicillin 500 mg tablets can be compounded into pulveres (powder papers). Pulveres are divided powder preparations produced by crushing or mixing drug products or active pharmaceutical ingredients into approximately equal doses and packaging them individually in suitable wrappers. These preparations are commonly used to facilitate dose adjustment for pediatric patients (Aztriana et al., 2022). Besides the tablet formulation, amoxicillin is also available as a 125 mg/5 mL dry syrup, which is more suitable for children because it is easier to administer and allows more accurate dose adjustment according to therapeutic needs (Purnama et al., 2026). In contrast, ciprofloxacin is available only as a 500 mg tablet, limiting its use primarily to adults or pediatric patients who are able to swallow tablets.

The findings of this study are consistent with those reported by Vidiani et al (2023), who found that amoxicillin 500 mg was the dosage strength most frequently prescribed for patients with non-pneumonia acute respiratory tract infection (ARTI). This prescribing pattern was attributed to the versatility of the tablet formulation, which can be administered directly to adult patients or compounded into pulveres to provide individualized doses for pediatric patients.

Antibiotic Use by Dosing Frequency

Based on table VI, the most frequently prescribed dosing regimen was amoxicillin 3x1 which was prescribed to 45 patients (28.0%), followed by ciprofloxacin 2x1 tablet prescribed to 36 patients (22.5%), and amoxicillin 3x1 cth (teaspoonful) prescribed to 35 patients (22%). The frequent prescription of amoxicillin as 3x1 tablet indicates that this antibiotic was most commonly administered in tablet form, which is generally prescribed for

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adult patients. According to the *Pharmaceutical Care Guideline for Respiratory Tract Infections*, amoxicillin is recommended to be administered three times daily to maintain therapeutic drug concentrations in the bloodstream, thereby optimizing treatment effectiveness. This dosing frequency is also consistent with the recommendations provided in the formulary of Community Health Center X, which serves as the prescribing guideline for healthcare services at the center. In addition, amoxicillin was prescribed as 3x1 pulv for 17 patients (11%) and 3x1 1/2 tablet for 15 patients (9%). These dosage regimens were adjusted for pediatric patients who were unable to swallow tablets.

Meanwhile, amoxicillin syrup was prescribed with several dosing regimens, including 3x1 cth for 35 patients (22%), 3x1 1 1/2 cth for 4 patients (2,5%), 3x1 1/2 cth for 6 patients (3,8%), dan 3x1 1 1/4 cth for 1 patient (0,6%). These variations indicate that the syrup formulation was frequently used, particularly in pediatric patients who required individualized dose adjustments based on body weight and age, as the dose can be easily measured using a teaspoon (Tyson *et al.*, 2020).

In contrast, ciprofloxacin was prescribed as 2x1 tablet for 36 patients (22%) and as 2x1 pulv for 1 patient (0,6%). A dosing frequency of 2x1 is commonly recommended for ciprofloxacin because this antibiotic has a longer elimination half-life than amoxicillin, allowing 2x1 administration to maintain plasma drug concentrations above the minimum inhibitory concentration (MIC) for susceptible bacteria. Obat dalam darah di atas konsentrasi hambat minimum terhadap bakteri target (Gonzalez *et al.*, 2016). These differences in dosing frequency demonstrate that antibiotic regimens should be tailored to the pharmacokinetic characteristics of each drug as well as the therapeutic needs of individual patients.

Appropriateness of Antibiotic Dosing in Patients with Non-Pneumonia Acute Respiratory Tract Infection (ARTI)

The appropriateness of antibiotic dosing is an essential component of the rational use of medicines, ensuring that antibiotic therapy is both effective and safe for all patient groups. Appropriate antibiotic dosing enhances therapeutic effectiveness, reduces the risk of adverse drug reactions, and helps prevent the development of antibiotic resistance. Antibiotic resistance is a major public health concern that may result from inappropriate antibiotic use, including incorrect dose selection. Therefore, evaluating the appropriateness of antibiotic dosing is necessary to ensure that the prescribed therapy complies with established treatment standards. In this study, the appropriateness of antibiotic dosing was assessed by comparing the prescribed antibiotic doses with the standards specified in the formulary of Community Health Center X.

Based on table V, all patients with non-pneumonia acute respiratory tract infection (ARTI) at Community Health Center X received appropriate antibiotic doses, with 160 patients (100.0%) meeting the recommended dosing criteria. This finding indicates that all antibiotic prescriptions were consistent with the dosing recommendations specified in the formulary of Community Health Center X. The high level of dosing appropriateness observed in this study may be attributed to the use of the Community Health Center X formulary as the primary prescribing guideline, providing healthcare professionals with clear recommendations for determining appropriate doses according to patient characteristics. In addition, the availability of various antibiotic formulations, including amoxicillin 500 mg tablets, amoxicillin 125 mg/5 mL dry syrup, and ciprofloxacin 500 mg tablets, facilitated appropriate dose selection for both adult and pediatric patients (Purnama *et al.*, 2026). The

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complete documentation of patients body weight in the medical records also supported accurate body weight-based dose calculations, particularly for pediatric patients (Tyson et al., 2020). These findings suggest that healthcare professionals at Community Health Center X prescribed antibiotics rationally and in accordance with established treatment standards.

Several methods can be used to determine antibiotic doses for pediatric patients, including the Young's formula, Dilling's formula, and body weight-based dosing. In general, Young's formula is used to calculate doses for children aged 1–8 years, whereas Dilling's formula is applied to children aged 9–18 years (Shargel & YU, Andrew, 2016). Age-based dosing methods, such as Young's and Dilling's formulas, may be used when body weight data are unavailable in the patient's medical records (Wade & Martinez, 2023). However, because body weight information was available in the medical records of all patients included in this study, body weight-based dosing (mg/kg body weight), as recommended in the formulary of Community Health Center X, was used as the reference standard for dose evaluation. The body weight used for dose assessment was the value recorded in the patient's medical record rather than the patient's most recent body weight.

CONCLUSION

Based on the findings of this study, it can be concluded that all patients with non-pneumonia acute respiratory tract infection (ARTI) at Community Health Center X received appropriate antibiotic doses.

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TABLE

Table 1. Patient Characteristics by Age

Age Category	Age Range	Number	Percentage (%)
Toddlers	0-5 years	46	28,8
Children	6-11 years	32	20
Early Adolescents	12-16 years	9	5,6
Late Adolescents	17-25 years	11	6,9
Young Adults	26-35 years	12	7,5
Middle-Aged Adults	36-45 years	14	8,7
Early Older Adults	46-55 years	12	7,5
Late Older Adults	56-65 years	16	10
Elderly	> 65 years	8	5
Total		160	100

Tabel 2. Antibiotic Use by Drug Name

Drug Name	Number	Percentage (%)
Amoxicillin	123	77
Ciprofloxacin	37	23
Total	160	100

Table 3. Antibiotic Use by Dosage Strength

Drug Name	Dosage Strength	Standard Dose	Number	Percentage (%)
Amoxicillin	125 mg	Amoxicillin	46	28,8
	500 mg	Adults: 250–500 mg Children: 20–40	77	48,1

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		mg/kg/day Frequency: 3 times daily		
Ciprofloxacin	500 mg	Ciprofloxacin Adults: 250– 500 mg Children: 6– 10 mg/kg/day Frequency: 2 times daily	37	23,1
Total			160	100

Tabel 4. Antibiotic Use by Dosing Frequency

Drug Name	Frequency	Number	Percentage (%)
Amoxicillin	3x1 tablet	45	28
Amoxicillin	3x1 1/2 tablet	15	9
Ciprofloxacin	2x1 tablet	36	22,5
Amoxicillin	3x1 pulv	17	11
Ciprofloxacin	2x1 pulv	1	0,6
Amoxicillin	3x1 cth	35	22
Amoxicillin	3x1 1 1/2 cth	4	2,5
Amoxicillin	3x1 1 1/4 cth	1	0,6
Amoxicillin	3x1 1/2 cth	6	3,8
Total		160	100

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Table 5. Appropriateness of Antibiotic Dosing

Category	Number	Percentage (%)
Appropriate dose	160	100
Inappropriate dose	0	0
Total	160	100