Prescription Survey on Respiratory Tract Infection Disease Treatment by Different Antibiotics.

Submitted to:

DEPARTMENT OF PHARMACY
FACULTY OF ALLIED HEALTH SCIENCE
DAFFODIL INTERNATIONAL UNIVERSITY

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This Project, Prescription Survey on Respiratory Tract Infection Disease Treatment by Different Antibiotics. Submitted by **ID: 183-46-228** to the Department of Pharmacy, Daffodil International University, the outcome of this survey which was conducted and approved as its style and contents and has been accepted as satisfactory in partial fulfillment of the requirement for the degree of Master of Pharmacy. No part of this Project Report has been or is being submitted elsewhere for award of any Degree or Diploma.

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DECLARATION

I hereby declare that, this project report is done by me that covered by the superintendence of **Farhana Israt Jahan, Senior Lecturer,** Department of Pharmacy, Daffodil International University, positively fulfillment of the requirements for the degree of Master of Pharmacy. I am exposing that this Project is my own work. I also confirm that any part of this project has not been submitted elsewhere for the award of any degree.

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Md. Habibur Rahman
Author

Dedication

Dedicated to My parents

&

My Mentor

also

My Friends

who always support me and the one who brings out the best in me.

Abstract

Respiratory disease is the leading cause of death. Importantly, it remains the foremost cause of preventable death globally. The rise in respiratory diseases in Bangladesh is due to increasing air pollution.In Bangladesh, respiratory tract infection like pneumonia is responsible for the deaths of children under five years of age. Others are like bronchitis, acute exacerbation of chronic bronchitis, sinusitis, tonsillitis, pharyngitis and also in common cold cases antibiotics are more frequently prescribed for respiratory tract infectious diseases. The main objective of this survey was to analyze the prescribed group & generic of antibiotics that are use for respiratory tract infection diseases in Bangladesh.This study carried out at the outdoor of Shaheed Ahsan Ullah Master General Hospital, Tongi, Gazipur from June, 2019 to August, 2019 and finally 200 prescriptions (135 were male, 30 were female & 35 children‟s) selected from 235 that were completely respiratory tract disease drugs content which were prescribed by specialist and general physician. Statistical analysis reveals that Cephalosporin (Cefixime Trihydrate 34 %, Cefpodoxime + Clavulanic Acid 6.5 %, Cefuroxim Axetil 3 %, Cefuroxim Axetil + Clavulanic Acid 18.5 %) antibiotic are prescribed mostly than other class of drugs. Changes in patterns of respiratory tract disease management and drug use are changing day by day. Azithromycin 22 %, clarithromycin 5.5 %, levofloxacin 8 %, moxifloxacin 2.5 % drugs are also prescribed prominently. Further research and awareness program should be done in this area to decrease risk factors for respiratory tract disease. The study urges the physician to be more professional and careful when antibiotic is prescribed for the outpatients.

Chapter One:

Chapter Two:

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Chapter Four:

Chapter Five:

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Chapter Seven :

Introduction

1.0. Overview of Respiratory tract

Respiratory tract infections are infections that occur anywhere in the respiratory tract. Parts of the body that we use in the breathing process are referred to as the respiratory tract. The infection can be caused by bacteria, a virus or even fungi. They are a common cause of infection. The commonest respiratory tract infection is the common cold.

The parts of the respiratory tract is usually classified as belonging to two categories-

1. Upper respiratory tract
2. Lower respiratory tract

1.1. Upper respiratory tract

The upper respiratory tract consists of:

- **Nose**
- **Sinuses** is a air-filled cavities that are found inside the cheekbones and forehead
- **Mouth** including the tonsils
- **Throat**
- **Pharynx** - which is at the back of the throat
- **Larynx** or voice box

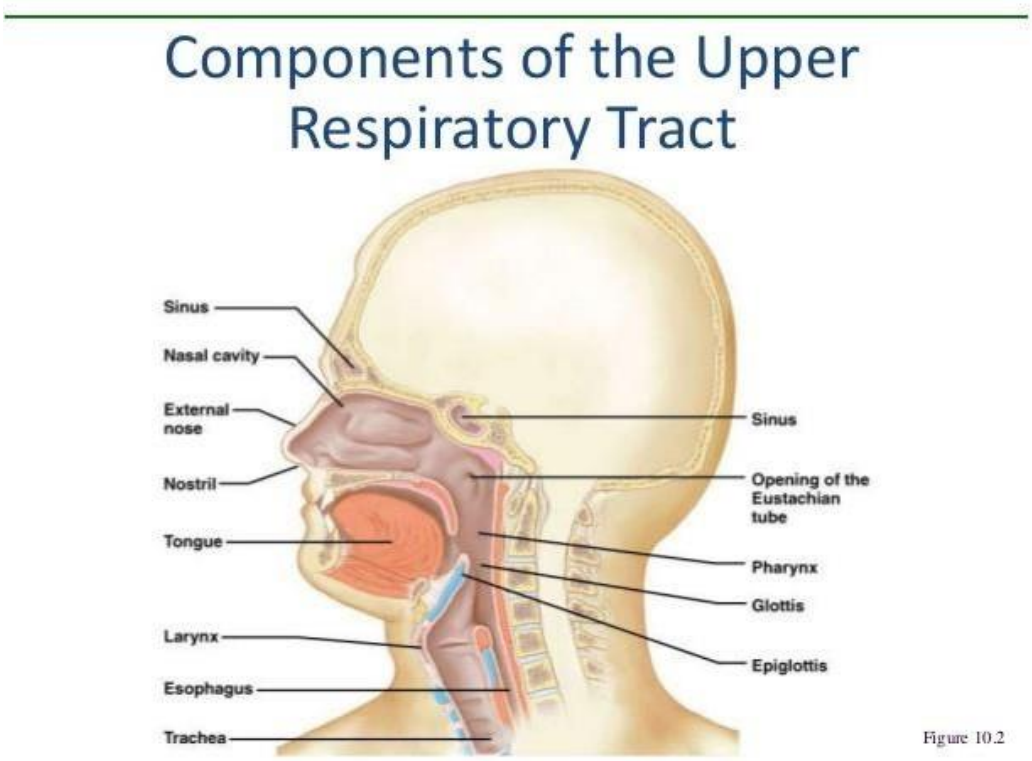


Figure 10.2

Infections of the upper respiratory tract include:

- Common cold- affecting the nose, throat, and chest
- Sore throat - usually due to an infection of the pharynx (pharyngitis)
- Tonsillitis - infection of the tonsils
- Sinusitis - infection of the sinuses
- Laryngitis - infection of the larynx
- Influenza (widespread infection which can affect the nose, throat and, occasionally, part of the lungs)
- Whooping cough (pertussis)

1.1.1. Pharyngitis [1]

Pharyngitis is more commonly known as a sore throat. Sometimes a sore throat is a symptom of a wider respiratory illness such as the common cold, but it can also be due to an infection only in your pharynx (throat).
Pharyngitis may be caused by bacterial or viral infections.

Causes of pharyngitis

There are numerous viral and bacterial agents that can cause pharyngitis. They include:

- Measles
- Adenovirus, which is one of the causes of the common cold
- Chickenpox
- Whooping cough
- Group A *streptococcus*

Viruses are the most common cause of sore throats. Pharyngitis is most commonly caused by viral infections such as the common cold, influenza, or mononucleosis. Viral infections don‟t respond to antibiotics, and treatment is only necessary to help relieve symptoms.

Less commonly, pharyngitis is caused by a bacterial infection. Bacterial infections require antibiotics. The most common bacterial infection of the throat is strep throat, which is caused by

group A *streptococcus* (Streptococcus pyogenes)

Rare causes of bacterial pharyngitis include gonorrhea, chlamydia, and corynebacterium.

Symptoms of pharyngitis

- Raw, irritated feeling in your throat
- Redness or inflammation of the throat
- Fatigue and general feeling of being unwell
- Pain when swallowing

Treatment

In some cases, medical treatment is necessary for pharyngitis. This is especially the case if it‟s caused by a bacterial infection. For such instances, your doctor will prescribe antibiotics. Such antibiotics are find in different prescription-

- Azithromycin
- Cefixime Trihydrate
- Cefuroxim Axetil
- Cefuroxim Axetil + Clavulanic Acid
- Clarithromycin

1.1.2. Tonsillitis [2]

Tonsils are the two lymph nodes located on each side of the back of your throat. They function as a defense mechanism. They help prevent your body from infection. When the tonsils become infected, the condition is called tonsillitis.

There are two types of tonsillitis:

- Recurrent tonsillitis: multiple episodes of acute tonsillitis a year
- Chronic tonsillitis: episodes last longer than acute tonsillitis in addition to other symptoms that include:
    - Chronic sore throat
    - Bad breath, or halitosis
    - Tender lymph nodes in the neck

Causes of Tonsillitis

Tonsils are your first line of defense against illness. It can be caused by a virus, such as the common cold, or by a bacterial infection, such as *Streptococcuspyogens.*

Symptoms of tonsillitis

- Sore throat
- Difficulty swallowing or painful swallowing
- Scratchy-sounding voice
- ever that‟s higher than 103˚F (39.5°C)
- Muscle weakness
- Neck stiffness

Treatment

Treatments for more severe cases of tonsillitis may include antibiotics that will be prescribed to fight a bacterial infection. It‟s important you complete the full course of antibiotics. Following are finding in different doctor prescription

- Azithromycin
- Cefixime Trihydrate
- Cefuroxim Axetil
- Cefuroxim Axetil + Clavulanic Acid

1.1.3. Laryngitis [3]

Laryngitis occurs when your voice box or vocal cords become inflamed from overuse, irritation, or infection. Laryngitis can be acute (short-term), lasting less than three weeks. Or it can be chronic (long-term), lasting more than three weeks.

Causes of laryngitis

Acute laryngitis can be caused by:

- Viral infections
- Straining your vocal cords by talking or yelling
- Bacterial infections

- Drinking too much alcohol

Chronic laryngitis can be caused by:

- Frequent exposure to harmful chemicals or allergens
- Acid reflux
- Frequent sinus infections
- Smoking or being around smokers
- Overusing your voice
- Low-grade yeast infections caused by frequent use of an asthma inhaler

Symptoms of laryngitis

The most common symptoms of laryngitis include:

- Weakened voice
- Loss of voice
- Hoarse, dry throat
- Constant tickling or minor throat irritation
- Lesions such as ulcers,
- Muscle tension dysphonia,
- Vocal cord paralysis

Treatment

If a virus has caused acute laryngitis, symptoms usually disappear without treatment within seven days. Doctors treat bacterial laryngitis with antibiotics-

- Azithromycin
- Cefixime Trihydrate

1.1.4. Sinusitis [4]

A sinus is a hollow space in the body. There are many types of sinus, but sinusitis affects the paranasal sinuses, the spaces behind the face that lead to the nasal cavity.Sinusitis occurs when mucus builds up and the sinuses become inflamed.
It can be acute or chronic.

Causes

Sinusitis can be caused by viruses, bacteria (Streptococcus pneumoniae, Haemophilus influenzae, and Streptococcus pyogenes), fungi, allergies, or even an autoimmune reaction.

Symptoms

- Nasal congestion
- Thick yellow or green mucus discharge from the nose
- Sore throat
- Trouble smelling or tasting food and drinks
- Dry or hardened mucus blocking your nasal passages
- Mucus leaking down the back of your throat
- Headaches due to pressure and swelling in your sinuses
- Pain in your ears

Treatment

If your sinusitis is caused by an infection, your doctor may prescribe an antibiotic to treat the infection and relieve some of your symptoms. Following are find-

- Azithromycin
- Cefixime Trihydrate
- Cefuroxim Axetil
- Levofloxacin

1.1.5. Epiglottitis [5]

Epiglottitis is characterized by inflammation and swelling of your epiglottis. It‟s a potentially life-threatening illness.
The epiglottis is at the base of your tongue. It‟s made up of mostly cartilage. It works as a valve to prevent food and liquids from entering your windpipe when you eat and drink.
Epiglottitis is historically a condition more common in children, but it‟s becoming more frequent in adults.

Causes

A bacterial infection is the most common cause of epiglottitis.The most common strain of bacteria that causes this condition is *Haemophilus influenzae. O*ther bacterial strains are-

- *Streptococcus A, B,* or *C*
- *Streptococcus pneumoniae*.

Symptoms

The symptoms of epiglottitis that are common in children include:

- High fever
- Sore throat
- Hoarse voice
- Drooling
- Difficulty swallowing
- Painful swallowing
- Restlessness
- breathing through their mouth

Treatment

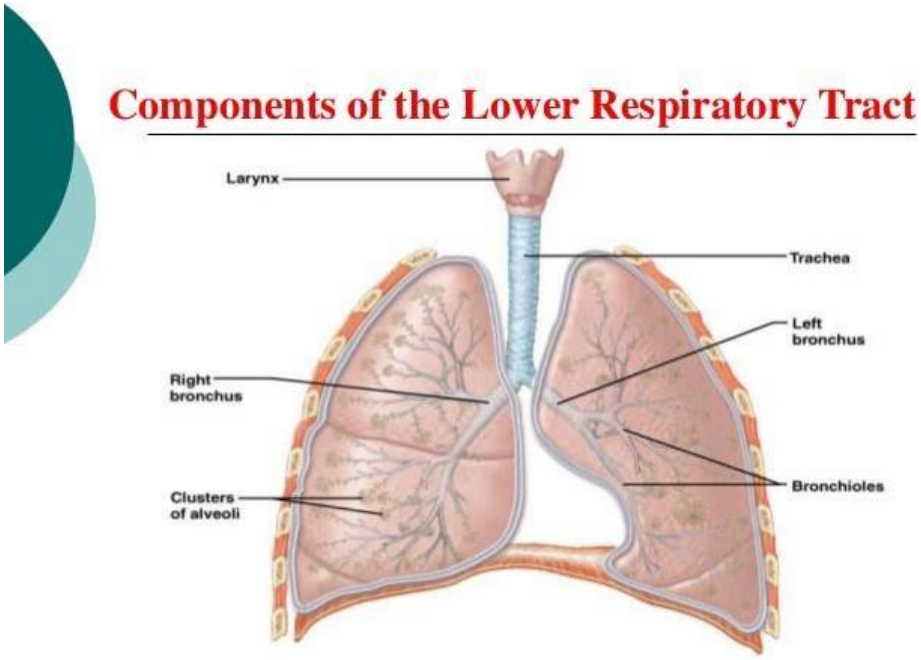
Treatments for epiglottis may include antibiotics that will be prescribed to fight a bacterial infection. It‟s important you complete the full course of antibiotics. Following are finding in different doctor prescription

- Ceftriaxone
- Cefixime Trihydrate

1.2. Lower respiratory tract

The major passages and structures of the lower respiratory tract include-

- Trachea or windpipe - is the tube that connects the throat to the lungs
- Bronchi - the two branches that the trachea divides into as it enters the lungs
- Bronchioles - the tiny airways that are found throughout the lungs
- Alveoli - tiny air sacs at the end of the bronchioles



Infections of the lower respiratory tract include:

- Bronchitis - infection of the bronchi
- Bronchiolitis- infection of the small airways or bronchioles
- Croup -infection of the trachea or windpipe in children
- Influenza -widespread infection of the upper and lower respiratory tract including the nose, throat and, occasionally, bronchi and lungs
- Pneumonia- infection of the alveoli and surrounding lung tissue

There are also certain types of infection, such as flu, that can affect both the upper and lower respiratory tract.

1.2.1. Bronchitis [6]

Bronchiolitis is an inflammatory respiratory condition. It‟s caused by a virus that affects the smallest air passages in the lungs (bronchioles). The job of the bronchioles is to control airflow in your lungs. When they become infected or damaged, they can swell or become clogged. This blocks the flow of oxygen.

The inflammation causes more mucus to be produced, which narrows the airway and makes breathing more difficult.

Types

There are two types of bronchitis-

- Acute bronchitis
- Chronic bronchitis

Acute bronchitis

Acute bronchitis most often develops after you‟ve had a viral or bacterial infection. But, other irritants, such as smoke, dust, or fumes, can also cause acute bronchitis. It consists of a cough with mucus, chest discomfort or soreness, fever, and, sometimes, shortness of breath. Acute bronchitis usually lasts a few days or weeks.

Chronic bronchitis

Chronic bronchitis is a serious, ongoing illness characterized by a persistent, mucus-producing cough that lasts longer than 3 months out of the year for more than 2 years. People with chronic bronchitis have varying degrees of breathing difficulties, and symptoms may get better and worse during different parts of the year.

If chronic bronchitis occurs with emphysema, it may become chronic obstructive pulmonary disease (COPD).

Causes of bronchitis

Bronchitis is caused by the inflammation of the bronchial tubes, by viruses, bacteria, or other irritant particles.

Causes of acute bronchitis

Acute bronchitis is normally caused by viruses, typically those that also cause colds and flu. It can also be caused by bacterial infection and exposure to substances that irritate the lungs, such as tobacco smoke, dust, fumes, vapors, and air pollution.

Causes of chronic bronchitis

Chronic bronchitis is caused by repeated irritation and damage to the lung and airway tissue. Smoking is the most common causes of chronic bronchitis, with other causes including long-term exposure to air pollution, dust and fumes from the environment, and repeated episodes of acute bronchitis.

Symptoms

- Chest congestion, where your chest feels full or clogged
- A cough that may bring up a lot of mucus that's clear, white, yellow, or green
- Shortness of breath
- A wheezing or a whistling sound when you breath

Treatment

If you suffer from bronchitis that is caused by an infection, your doctor may prescribe an antibiotic to treat the infection. Following are find-

- Azithromycin
- Cefixime Trihydrate
- Cefuroxim Axetil
- Levofloxacin

1.2.2. Bronchiolitis [7]

Bronchiolitis is an inflammatory respiratory condition. It‟s caused by a virus that affects the smallest air passages in the lungs (bronchioles). The job of the bronchioles is to control airflow in your lungs. When they become infected or damaged, they can swell or become clogged. This blocks the flow of oxygen. Although it‟s generally a childhood condition, bronchiolitis can also affect adults.

Causes

There are different causes of viral bronchiolitis and bronchiolitis obliterans.

Causes of viral bronchiolitis
Viruses that enter and infect the respiratory tract cause viral bronchiolitis. Viruses are microscopic organisms that can reproduce rapidly and challenge the immune system. The following are common types of viral infections that may cause bronchiolitis: Respiratory syncytial virus (RSV), Adenoviruses, Influenza viruses.

Causes of bronchiolitis obliterans
This rare condition sometimes occurs for no known reason. Severe cases can lead to death if they‟re left untreated. A few causes have been identified and include:

- Fumes from chemical like ammonia, bleach, and chlorine

- Respiratory infections
- Adverse reactions to medications

Symptoms

Both viral bronchiolitis and bronchiolitis obliterans have similar signs and symptoms. These include:

- Shortness of breath
- Wheezing
- Bluish appearance of the skin from lack of oxygen
- Crackling or rattling sounds heard in the lungs
- Ribs that appear sunken during attempts to inhale (in children)

Treatment

Treatments for viral bronchiolitis

Many cases of viral bronchiolitis are mild and clear up without treatment. For more severe cases in infants, hospitalization may be necessary. A hospital can provide oxygen, a nebulizer, and intravenous fluid treatments. Antibiotic medications don‟t work against viruses, but some medications can help open your baby‟s airways.

Treatments for bronchiolitis obliterans

There‟s no cure for the scarring of bronchiolitis obliterans. Corticosteroids can help clear the lungs of mucus, reduce inflammation, and open up the airways. You may need oxygen treatments and immunosuppressant medications to regulate your immune system. Breathing exercises and stress reduction can help ease breathing difficulties.

1.2.3. Acute Exacerbation of Chronic Bronchitis (AECB) [8]

Acute exacerbations of chronic bronchitis (AECB) are a common cause of morbidity and mortality in this patient population . AECB is associated with frequent visits to physicians, up to 14 million doctor‟s office visits.

Causes

AECB causes due to infection, 3 classes of pathogens have been found: aerobic gram-positive and gram-negative bacteria, respiratory viruses, and atypical bacteria.

The most common bacteria associated with AECB are: Haemophilus influenzae, *Haemophilus parainfluenzae,* Moraxella catarrhalis, and Streptococcus pneumoniae .

Symptoms

An exacerbation of chronic bronchitis may be defined as the acute worsening of the clinical symptoms of the disease, *i.e.* breathlessness, wheezing and cough, associated with sputum production and/or sputum purulence.

The study of Anthonisen , proposed defining the presence and severity of AECB on the basis of “cardinal” symptoms: increased breathlessness, sputum production and/or sputum purulence, the presence of one to three of these allowing AECBs to be classified as type III to type I, respectively.

Treatment

There are many physician who really focus on new molecule and some have rely on the same generic over a period of time. Mostly found generic are-

- Cefixime Trihydrate
- Cefpodoxime + Clavulanic Acid
- Cefuroxim Axetil
- Cefuroxim Axetil + Clavulanic Acid
- Levofloxacin
- Clarithromycin

1.2.4. Pneumonia [9]

Pneumonia is an infection that inflames the air sacs in one or both lungs. The air sacs may fill with fluid or pus (purulent material), causing cough with phlegm or pus, fever, chills, and difficulty breathing. A variety of organisms, including bacteria, viruses and fungi, can cause pneumonia.

Types

Pneumonia can be classified in several ways, most commonly by where it was acquired or by location which are-

Community-acquired pneumonia: Streptococcus pneumoniae is the most common cause of community-acquired pneumonia worldwide.

Hospital-acquired pneumonia: Hospital-acquired pneumonia usually have underlying illnesses and are exposed to more dangerous bacteria, it tends to be more deadly than community-acquired pneumonia.

Causes

Bacteria and viruses are the main causes of pneumonia. Pneumonia-causing germs can settle in the alveoli and multiply after a person breathes them in. It may be caused by Bacteria, Bacteria-like organisms, Fungi, Viruses.

Symptoms

Pneumonia symptoms can be mild to life-threatening. They can include:

- Coughing that may produce phlegm (mucus)
- Sweating or chills
- Shortness of breath that happens while doing normal activities or even while resting
- Chest pain that‟s worse when you breathe or cough
- Feelings of tiredness or fatigue

Treatment

Treatment depends on the type and severity of the pneumonia. Most commonly find generics are-

- Cefixime Trihydrate
- Cefpodoxime + Clavulanic Acid
- Cefuroxim Axetil
- Cefuroxim Axetil + Clavulanic Acid
- Levofloxacin
- Ofloxacin
- Moxifloxacin
- Clarithromycin

Literature Review

2.1

Title

Bacteriology of acute lower respiratory tract infections

Author:

Aksel Schreiner, Asbjörn Digranes, Medical Department B and Department of Microbiology, Haukeland Hospital, N-5016 Haukeland Sykehus, Norway; DOI: https://doi.org/10.1016/S0163-4453(79)80028-6.

Abstract

Based on cultures of transtracheal aspirates in hospitalised patients, the bacteriology in acute pneumonia (*n* = 323) was found to be dominated by pneumococci (46·5 per cent of cases with pure culture), followed by *Haemophilus influenzae* (23·6 per cent). *Neisseria* spp. were also involved (10·7 per cent). In acute exacerbation of chronic bronchitis (*n* = 87), *H. influenzae* prevailed (35 per cent), followed by pneumococci (20.6 per cent). In this infection *Neisseria* spp.—including *N. meningitidis*—were even more prominent (17·5 per cent). In nonpulmonary disease (*n* = 121), and in pulmonary embolism (*n* = 38), the demonstration of bacteria reflecting the oropharyngeal flora in approximately 10 per cent indicated that the broncho-tracheal clearing mechanism may be impaired in some of these patients.

Title

Respiratory Tract Infections in Adults

Author

Michael R. Achong, Journal List, Can Fam Physician, v.25; 1979 Oct,PMC2383214

Abstract

Most upper respiratory tract infections are caused by viruses, but recognition of the cause of a particular illness is impossible based on clinical findings alone. Epiglottitis caused by type B *Hemophilus influenzae* can occur in adults with the same threat to upper airway obstruction as in children. An approach to the diagnosis of pneumonia is outlined and pneumonias caused specifically by viruses, mycoplasma, and bacteria are described.

Title

Disease Course of Lower Respiratory Tract Infection with a Bacterial Cause

Authors
Jolien Teepe, Berna D. L. Broekhuizen, Katherine Loens, Christine Lammens, Margareta Ieven, Herman Goossens, Paul Little, Christopher C. Butler, Samuel Coenen, Maciek Godycki-Cwirko, and Theo Verheij; doi: 10.1370/afm.1974.

Abstract

Purpose

Bacterial pathogens are assumed to cause an illness course different from that of nonbacterial causes of acute cough, but evidence is lacking. We evaluated the disease course of lower respiratory tract infection (LRTI) with a bacterial cause in adults with acute cough.

METHODS

We conducted a secondary analysis of a multicenter European trial in which 2,061 adults with acute cough (28 days‟ duration or less) were recruited from primary care and randomized to amoxicillin or placebo. For this analysis only patients in the placebo group (n = 1,021) were included, reflecting the natural course of disease. Standardized microbiological and serological analyses were performed at baseline to define a bacterial cause. All patients recorded symptoms in a diary for 4 weeks. The disease course between those with and without a bacterial cause was compared by symptom severity in days 2 to 4, duration of symptoms rated moderately bad or worse, and a return consultation.

RESULTS

Of 1,021 eligible patients, 187 were excluded for missing diary records, leaving 834 patients, of whom 162 had bacterial LRTI. Patients with bacterial LRTI had worse symptoms at day 2 to 4 after the first office visit (P = .014) and returned more often for a second consultation, 27% vs 17%, than those without bacterial LRTI (P = .004). Resolution of symptoms rated moderately bad or worse did not differ (P = .375).

CONCLUSIONS

Patients with acute bacterial LRTI have a slightly worse course of disease when compared with those without an identified bacterial cause, but the relevance of this difference is not meaningful.

Purpose of this study

3.1. Purpose of the Study:

The purpose of this study was to describe the prevalence of respiratory tract infectious diseases and associated utilization of medicines. [10]

The study evaluated:

- The prevalence of any respiratory tract infectious disease among children & adults in Bangladesh;
- Identification of various age group who are “at risk” for respiratory tract disease due to pathogens or other causes
- Identification of various therapeutic classes of medications which are used to treat respiratory tract diseases.
- Inpatient, outpatient emergency department, and office-clinic visit utilization rates specific to respiratory tract diagnosis.
- Identify the guidelines for the prevention, detection and management of respiratory tract diseases
- Identify clinical guidelines for respiratory diseases management.
- Use of medications to treat respiratory tract diseases.
- Prevalence of several coexisting conditions.

Methodology

4.1 Methodology

There was number of steps taking to carry out the Project Protocol and Methodology. Ideal 200 prescriptions were elected in between 2 months from Shaheed Ahsan Ullah Master General Hospital, Tongi, Gazipur.

235 prescriptions was collected from Shaheed Ahsan Ullah Master General Hospital outdoorand then 200 prescriptions elected that contains drugs absolutely for respiratory tract disease which were prescribed by physician.

To find out the real scenario this information was absolutely essential. Among the 200 prescriptions 135 were male, 30 were female who"s are adults of more than thirty years of age and there were 35 children"s whose age were not more than 10 years. Patient"s consent was taken orally and their disease and medication history was collected in written form. Besides this, there also some information"s was assembled. For collecting data, basically two sources were used. All data was collected from the representative of drug house, hospital and direct interview of patient.

Results

5.1 Results and Discussion:

Out of 200 patients who came to visit Shaheed Ahsan Ullah Master General Hospital, Tongi, Gazipur, patients were male 67.5 %, female were 15 % & children were 17.5 %. Approximately maximum patients were rural area whereas minimum patients came from urban area and the difference was found to be statically in significant. The patients above thirty years of age were 90%.

Table-1: Prevalence of respiratory tract disease according to the Patients age.

Age(Years)	Prescriptions
01-09	35
10-19	00
20-30	02
31-39	20
40-59	70
60-79	61
80+	12

Table 2: Comprehensive list of all types of prescribed antibiotic treatment alone (n=200)

Therapeutic Class	**No. of prescriptions**	**Percentage (%)**
Macrolide	55	27.5
Floroquinolone	21	10.5
Cephalosporin	124	62

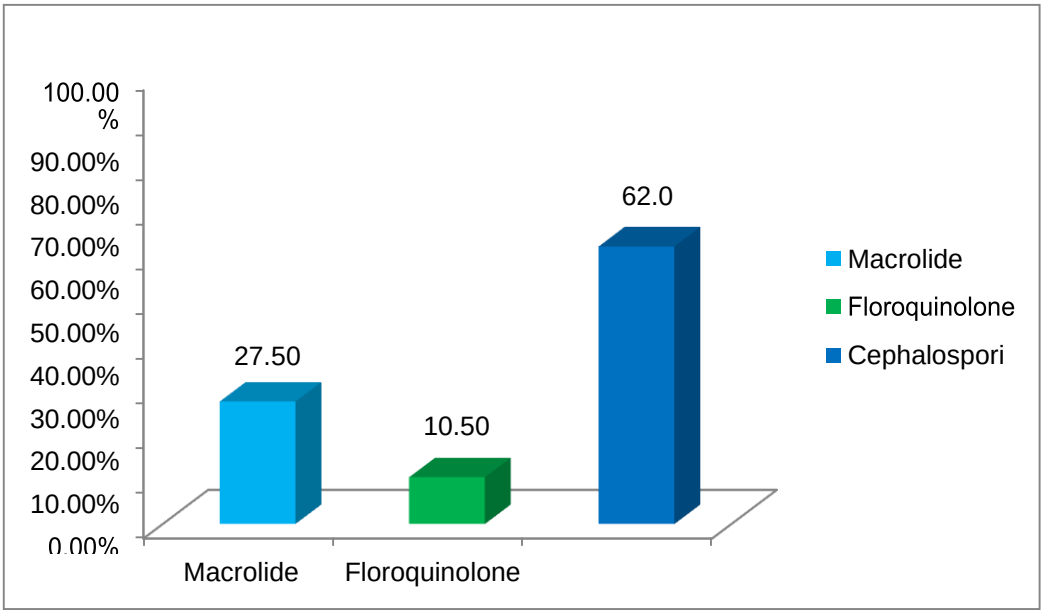


Fig : Graphical comparison of prescribed different Therapeutic Class of Antibiotic

Table 3: Different respiratory disorder (n=200)

Disease name	No. of Patients(n=200)	Percentage (%)
Common cold	17	8.5
Sore throat	6	3
Pharyngitis/Tonsillitis	16	8
Sinusitis	20	10
Bronchitis	48	24
AECB	32	16
Pneumonia	61	30.5

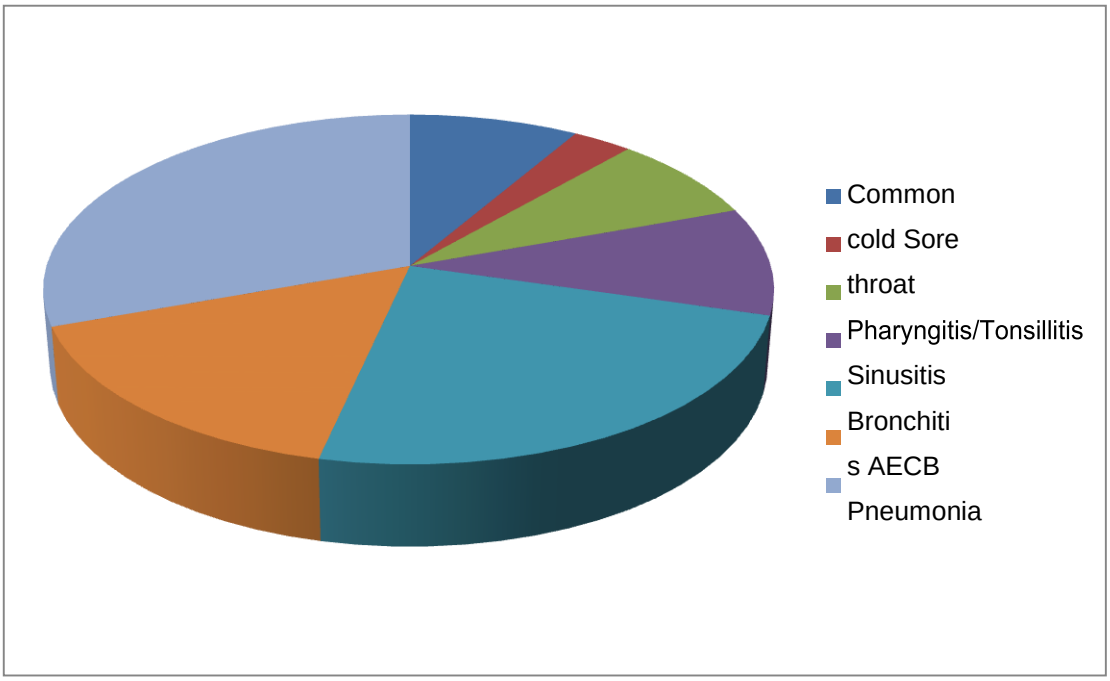


Fig : % of respiratory tract infectious diseases over 200 patients.

Table 4 : % of prescription from Macrolide group in respiratory tract infection

Generic Name	No. of prescriptions	Percentage (%)
Azithromycin	44	22
Clarithromycin	11	5.5

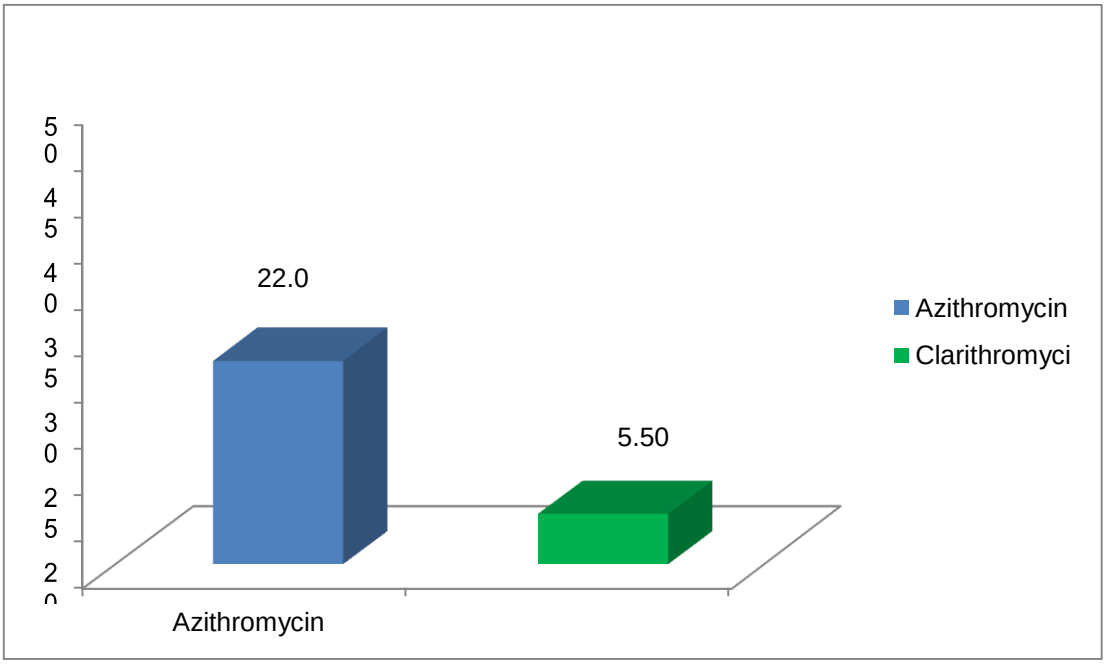


Fig : Rate of prescription from macrolide group.

Table 5: % of prescription from Fluroquinolone group in respiratory tract infection.

Generic Name	No. of prescriptions	Percentage (%)
Levofloxacin	16	8
Moxifloxacin	5	2.5

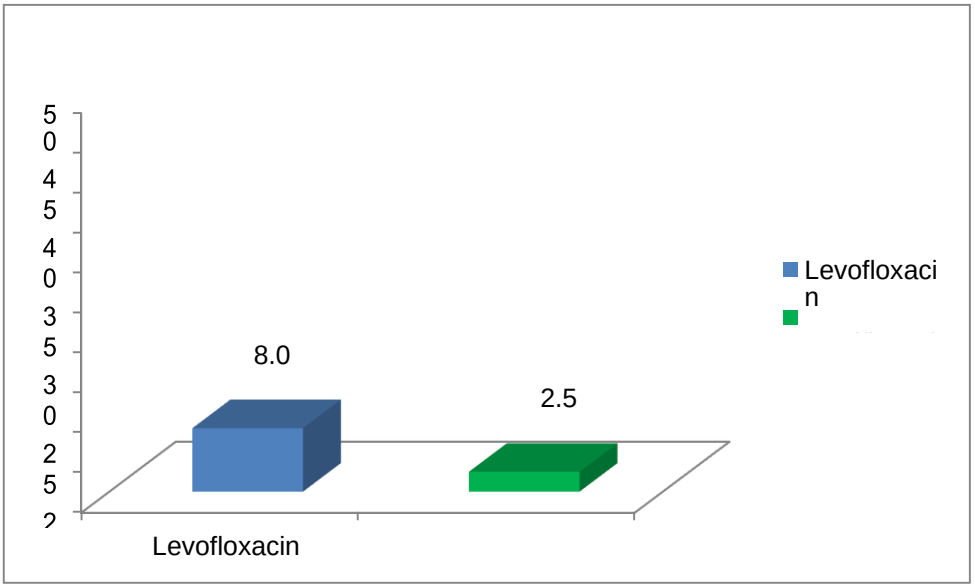


Fig : Graphical presentation of prescription rate from fluoroquinolone group.

Table 6: % of prescription from Cephalosporin group in respiratory tract infection.

Generic Name	No. of prescriptions	Percentage (%)
Cefixime Trihydrate	68	34
Cefpodoxime + Clavulanic Acid	13	6.5
Cefuroxim Axetil	6	3
Cefuroxim Axetil + Clavulanic Acid	37	18.5

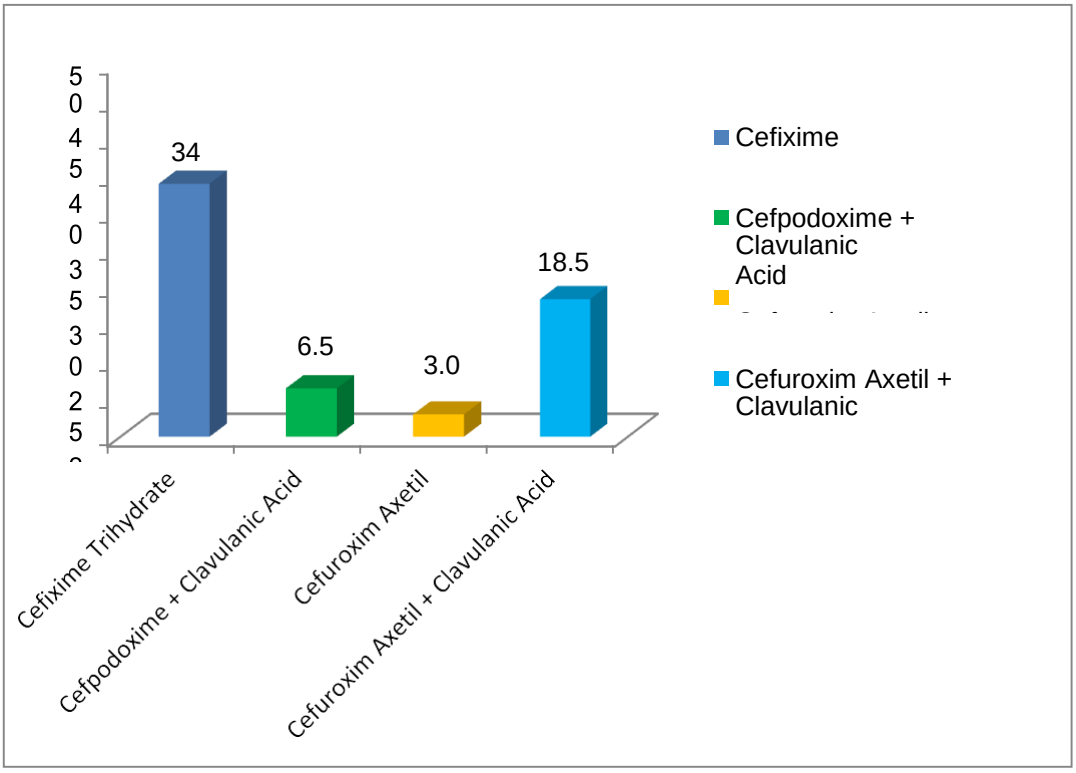


Fig : Graphical presentation of prescription rate from cephalosporin group.

Conclusion

Conclusion

Respiratory disease is the leading cause of death. Importantly, it remains the foremost cause of preventable death globally. In Bangladesh, pneumonia is responsible for around 28% of children of the deaths. The rise in respiratory diseases in Bangladesh is due to increasing air pollution. Dhaka scored 556 in the Air Quality Index (AQI), which is categorized as „extremely unhealthy".

Major focal points of this study, is to find out the pattern of prescription writing in Shaheed Ahsan Ullah Master General Hospital, Tongi, Gazipur. Out of 200 prescriptions, data were analyzed.

In this survey, it was clearly identified that the physician are more frequently prescribed beta-lactum antibiotic Cephalosporin than other class of drugs. Changes in patterns of respiratory tract disease management and drug use are changing day by day. Followed by then Azithromycin, clarithromycin, levofloxacin, moxifloxacin drugs are also prescribed prominently.

Moreover, the study based on a tertiary level hospital, may not accord with the data to other generalized hospitals. Further research and consideration into the role of the clinical pharmacists in implementing interventions targeted at decreasing risk factors for respiratory tract disease is warranted. The study also urges the physician to be more professional and careful when antibiotic is prescribed for the outpatients.

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