Acute Respiratory Infections

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Introduction

Acute Respiratory Infections are one of the most common causes of death in children in developing countries. They are responsible for more than four million deaths that occur in children under 5 years of age each year. 2/3 of these deaths are in infants. 30-50% from the outpatient clinic are children with ARI and 30-40% from admission rates and hospitals. Pneumonia cases estimated to be one from each 50 ARI cases, and mortality rates from pneumonia among children is 10 to 20%

National ARI control program was launched late in 1989 in collaboration with international agencies WHO, UNECIF..

Classification

' Acute Upper Respiratory Infection:

- ¾ Common cold
- ¾ Rhinitis
- ¾ Sore throat
- ¾ Otitis media

' Acute Lower Respiratory Infection:

- ¾ Pnemonia
- ¾ Bronchitis
- ¾ Bronchiolitis

Epidemiology

Like other health problems studying by putting ARI in epidemiological triangle

- AGENT FACTORS

Acute respiratory infections are caused by a variety of pathogens including bacteria and viruses.

- VIRUSES Enterovirus, Influenza A, B, C, Measles, Parainfluenza ,RSV, Rhinovirus, Coronavirus
- BACTERIA: Bordetella pertussis, Corynebacterium diphtheriae, Hemophilus influenzae, Legionella pneumophila, Strep. Pneumoniae, Strep. pyogenes.

Epidemiology

HOST FACTORS

1. Low birth weight: Infants born with low birth weight, once infected, are more prone to death from pneumonia.
2. Malnutrition: The average duration of ARI illness in a malnourished child is significantly longer. The complications are more frequent and the prognosis more grave.
3. Lack of immunization: Pneumonia is a common complication associated with measles and whooping cough which can be prevented by appropriate immunization.
4. Antecedent viral infection: Such infections act by impairing the child's immune status. The bronchial epithelium is damaged and thus the clearing of the bacterial agent is impaired

Epidemiology

ENVIRONMENTAL FACTORS

1. Air pollution: Air pollution, both indoor and outdoor, is directly associated with an increased incidence of ARI. The inhalants in polluted air cause damage to tracheobronchial mucosa and bring about ciliary paralysis which might increase susceptibility to severe infection.

2. Passive smoking: Passive smoking predisposes a child to respiratory illness. Passive exposure to smoke in childhood has an important bearing on the development of respiratory function which, in turn, may predispose a child to increased risk from environmental agents later in life.

3. Pollution from biomass fuels: Heavy exposure to smoke from cooking and heating fires predisposes a child to severe ARI.

4. Overcrowding: In conditions of continued close contact in crowded families, an increased secondary attack rate for respiratory infections has been established

Danger signs of ARI:

1. Difficulty of breathing
2. Rapid respiratory rate for child's age
3. Inability to drink
4. General deterioration or toxicity

Evaluation of ARI:

- History:

1. Cough & its Duration?
2. Can the child drink?
3. Fever?
4. Convulsions?
5. Vaccination History?

' Physical examination:

1. Calculate Respiratory rate
2. Check for Chest indrawing
3. Listen to Chest wheezing
4. Listen to Stridor

Common cold and Rhinitis:

- Symptoms:
  - Cough but no difficult breathing
  - No increase in respiratory rate
  - No chest indrawing
  - No danger signs
- Management:
  - Counseling and education
  - No antibiotics
  - Remedy fluid
  - Antipyretics

Moderate Pneumonia:

'Symptoms:

* Cough or difficult breathing
* Increase in respiratory rate
* No chest indrawing

▪ Management:

1. Antibiotics:

a Erythromycin 15 mL/Kg/dose given 3 times daily for 7-10 days

b Amoxicillin 20 mL/Kg/dose given 3 times daily for 7-10 days

2. Counseling and education on home care O Follow up after 2 days

Severe Pneumonia:

'Symptoms:

- Cough or difficult breathing
- Increase in respiratory rate
- Indrawing chest
- No danger signs

▪ Management:

1. Give first dose of antibiotics:

a. Penicillin (600000 or 1200000 Units IM)
b. Ceftriaxone (50 mg/Kg in one dose IM)
c. Ampicillin (50 mg/Kg in one dose IM)

2. Refer to the hospital, including: Assessment, Findings and Medications received .

Sepsis:

- Symptoms:
  - * **Cough and difficult breathing**
  - ** **Any of the following danger signs:**

1. Inability to drink
2. Convulsions
3. Sleeping difficulty
4. malnutrition
5. stridor

- Management:

1. Give first dose of antibiotics.
2. Refer to the hospital immediately, including:

[All Children below 2 months should be referred to a specialist or to the hospital for management]

a. Assessment
b. Findings
c. Medications received

3. Start IV fluid rehydration in delayed hospital transfer.

Quiz

*what is / are aim and objectives of ARI program?
*What are the risk factors OF ARI?
*What are the forma of a referring chart?
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