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Advisory for the Prevention and Control of Pertussis

Background:

Pertussis (whooping cough), is a highly contagious vaccine preventable disease with >80% of secondary attack rates among the susceptible contacts. It is caused by toxins produced by a bacterium *Bordetella pertussis* which infects the mucosal layer of respiratory system. According to World Health Organization, Pertussis is endemic all across the globe and is more prevalent in developed countries. As with other countries, pertussis is also endemic in Pakistan and sporadic cases are reported from all across the country throughout the year. Enhancing routine immunization coverage and infection prevention and control measures can greatly reduce the surge of cases and may limit the potential and scale of outbreak.

Objectives of the Advisory:

The objective of this advisory is to alert and facilitate the health authorities and other stakeholders for ensuring timely preventive and control measures encompassing preparedness to deal with increased workload expected in the outpatient and in-patient departments during next few months specifically late winter and spring.

Mode of transmission:

Pertussis infected person usually spreads this disease through respiratory droplets by coughing and sneezing while in close contact with others. The incubation period for the disease is usually 7 to 10 days, with a range of 4 to 21 days. The clinical course of the illness is divided into three stages: catarrhal, paroxysmal, and convalescent.

Clinical Presentation:

The clinical course of the illness is divided into three stages: catarrhal, paroxysmal, and convalescent. **The first catarrhal stage**, is characterized by the insidious onset of Flu-like illness including coryza (runny nose), sneezing, low-grade fever, and a mild, occasional cough similar to the common cold. The cough gradually becomes more severe

The second paroxysmal stage, begins after 1-2 weeks and the patient might have bursts, or paroxysms, of numerous, rapid coughs, apparently due to difficulty expelling thick mucus from the tracheobronchial tree. At the end of the paroxysm, a long inspiratory effort is usually accompanied by a characteristic high-pitched whoop and the patient may become cyanotic. Children and young infants, especially, might appear very ill and distressed. Vomiting and exhaustion might follow the episode.

The third convalescent stage, usually follows recovery and cough becomes less paroxysmal and disappears in 2 to 3 weeks. However, paroxysms often recur with subsequent respiratory infections for many months after the onset of pertussis.

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The most common complications are secondary bacterial pneumonia, otitis media, anorexia, and dehydration. Neurologic complications such as seizures and encephalopathy may occur as a result of hypoxia from coughing, or possibly from pertussis toxin.

Sample Collection and Transportation:

Nasopharyngeal swab for culture or for PCR should only be obtained using sterile polyester, rayon or nylon flocked swabs. Amies-Transport medium with charcoal is generally used as the transport medium. Specimens should be transported at room temperature and plated at the laboratory within 24 hours.

Laboratory Confirmation:

PCR is a rapid test and has excellent sensitivity while culture is considered the gold standard laboratory test and is the most specific of the laboratory tests for pertussis.

Clinical Management:

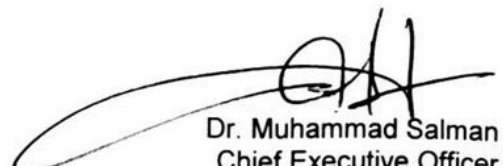
The clinical management of pertussis patients is primarily supportive however antibiotics may prevent or mitigate pertussis when given during the incubation period or the early catarrhal stage. Recommended antibiotics are azithromycin, clarithromycin, and erythromycin. Trimethoprim-sulfamethoxazole can also be used. Although antimicrobial drugs do not change the clinical course during the paroxysmal phase of the disease but may eliminate bacteria from the nasopharynx and thus reduce transmission.

Prevention and Control Measures:

Vaccination is one of the earliest and most effective way to prevent pertussis infection and its severe outcomes particularly in high risk groups. Unvaccinated or incompletely vaccinated persons should begin or complete active immunization with DTaP. Vaccination for pertussis is included in routine immunization schedule and 03 doses are given as 6th, 10th and 14th week after the birth on EPI centers across the country. If someone is sick or has been in close-contact with suspected pertussis patient, following preventive measures are recommended to curb pertussis transmission:

- Frequent and thorough hand washing with soap and water and use of hand sanitizer if soap and water are unavailable.
- Awareness to exercise respiratory etiquettes through covering mouth and nose while sneezing or coughing with elbow must be ensured.
- Suspected cases should avoid contact with young children and women in late pregnancy, especially the unimmunized, until at least five days of antibiotics are taken.

This advisory may please be widely distributed among all concerned and NIH may please be kept informed of the measures undertaken in respective areas of jurisdiction.


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