PHILIPPINE PEDIATRIC SOCIETY INC.
PEDIATRIC INFECTIOUS DISEASE SOCIETY OF THE PHILIPPINES

PPS-PIDSP JOINT POSITION STATEMENT ON THE INCREASING CASES OF PERTUSSIS IN THE COMMUNITY: GUIDANCE FOR HEALTHCARE PROVIDERS

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The Philippine Pediatric Society (PPS) and the Pediatric Infectious Disease Society of the Philippines (PIDSP) recognize pertussis as a significant public health concern, particularly in infants and children, and call on the public to seek early consultation and complete their immunizations, including boosters at appropriate ages, to ensure adequate protection of the most vulnerable groups. Physicians are also enjoined to ensure their patients are protected through updated vaccination, early diagnosis and prompt treatment for suspected cases of pertussis.

Pertussis, commonly known as "whooping cough", is a highly contagious respiratory illness caused by the bacterium *Bordetella pertussis*. Despite the availability of vaccines, the resurgence of pertussis remains a cause of morbidity and mortality worldwide, and 90% of the 30 to 50 million annual cases of pertussis occur in resource-limited countries including the Philippines.[1] The true burden of pertussis remains unclear in Southeast Asian countries and is most likely to be largely underestimated.[2] Further, pertussis is usually underreported and underdiagnosed in adults, thus, actual incidence may likely be higher.[1,6]

Based on the local data of the Department of Health (DOH), for the year 2023 (MW 48), there were a total of 705 cases and 48 deaths from pertussis. This was a sharp rise compared to 2022 with 48 cases and 2 deaths.[3] For the first 10 weeks of 2024 a total of 453 cases and 35 deaths have already been noted.[3,4] This poses a significant threat, particularly to infants and young children who are at risk of severe and life-threatening disease. Unprotected infants and younger children may contract the bacteria from infectious older adults. Pertussis is transmitted via respiratory droplets with an incubation period ranging from 1 to 3 weeks (typically 7 to 10 days). Complications among infants may include pneumonia, pulmonary hypertension and severe coughing spells associated with conjunctival bleeding, hernia and hypoxia. Case-fatality rates are approximately 1.6% in infants younger than 2 months and less than 1.2% in infants 2 through 11 months of age. [6]

Early Recognition and Prompt Treatment

Clinicians should be able to recognize signs and symptoms of pertussis, but must note that clinical presentation may vary with age and immunity, and some may have an asymptomatic infection that may contribute to transmission between household contacts.

The classic presentation of pertussis includes paroxysms of coughing, inspiratory whoop and posttussive vomiting.[7] However, **for infants <4 months,** pertussis should be suspected (regardless of vaccination status or wheezing) if with a cough illness, with or without low grade fever, and have:[8]

- *cough of any duration (with or without paroxysmal) that is not improving*
- *nasal discharge that remains watery*
- *apnea, seizure, cyanosis*
- *vomiting or poor weight gain*
- *leukocytosis with lymphocytosis (WBC ≥20,000cells/uL with ≥50% lymphocytes)*
- *pneumonia and*
- *household contact with prolonged cough.*

For infants ≥4 months and children, pertussis should be suspected (regardless of vaccination status or wheezing) if with a cough illness, with or without low grade fever, and have:[8]

- *paroxysmal nonproductive cough of ≥7 days duration (with or without a whoop or post tussive vomiting)*
- *apnea, cyanosis*
- *subconjunctival hemorrhage or sleep disturbance and sweating episodes between paroxysms.*

Adolescents and adults often have less severe symptoms than infants and children because prior infection or immunization may attenuate the illness. Prolonged cough may be the only symptom. Inspiratory whoop and post tussive vomiting may or may not be present. Other symptoms may include sputum production, coryza, sweating episodes, and sore throat.[7]

Pertussis is a clinical diagnosis. Early diagnosis and prompt treatment is important to prevent further spread of infection. High index of suspicion is necessary, and, given the nonspecific signs and symptoms of pertussis, microbiological testing may be needed to confirm the diagnosis for most patients. However, laboratory confirmation should not delay initiation of treatment. Isolation of *B. pertussis* from nasopharyngeal aspirate or positive PCR test confirms the diagnosis of pertussis. An increased white blood cell count with absolute lymphocytosis is highly suggestive of pertussis in infants and young children but often is absent in older individuals and may be only mildly abnormal in some infants.[6]

Standard and droplet precautions are recommended for patients with pertussis for 5 days after initiation of effective therapy or for 21 days from onset of cough if appropriate antimicrobial is not given to prevent further transmission. Post-exposure prophylaxis should be given to a select target group, i,e, people at high risk of developing severe pertussis, as well as close contacts of those at high risk e.g., all household contacts of a person with pertussis, regardless of immunization status (to cover those with prior infection and/or vaccination). Vaccination against pertussis should be initiated or completed for close contacts who are either unimmunized or incompletely immunized following the recommended schedule. Furthermore, age-appropriate DTP-containing vaccines which includes combination vaccines (ie. tetra-, penta- and hexavalent vaccines) or Tdap doses should be administered to complete the standard or catch-up immunization series, even in those who have had pertussis because the duration of protection from natural infection is unknown.[6]

Table 1. Recommended Antimicrobial Therapy and Targeted Post-exposure Prophylaxis[e] for Pertussis in Infants, Children, Adolescents and Adults[6,a]

Age	Recommended Drugs			Alternative
	Azithromycin	Erythromycin	Clarithromycin	TMP-SMX
Younger than 1 month	10 mg/kg/day as single dose for 5 days[b,c]	40 mg/kg/day in 4 divided doses for 14 days	Not recommended	Contraindicated at younger than 2 months
1 to 5 months	10 mg/kg/day as single dose for 5 days [b]	40 mg/kg/day in 4 divided doses for 14 days	15 mg/kg/day in 2 divided doses for 7 days	2 mo or older: TMP, 8 mg/kg/day, SMX,

				40 mg/kg/day in 2 doses for 14 days
6 mo or older and children	10 mg/kg/day as single dose on day 1 *max 500 mg), then for 5 mg/kg/day as single dose on day2 to 5 (max 250 mg/day)[b,d]	40 mg/kg/day in 4 divided doses for 7-14 days (max 2g/day	15 mg/kg/day in 2 divided doses for 7 days (max 1g/day)	2 mo or older: TMP, 8 mg/kg/day, SMX, 40 mg/kg/day in 2 doses for 14 days
Adolescents and adults	500 mg as a single dose on day 1, then 250 mg as a single dose on days 2 to 5[b,d]	2 g/day in 4 divided doses for 7 to 14 days	1 g/day in 2 divided doses for 7 days	TMP, 320 mg/day, SMX, 1600 mg/day in 2 divided doses for 14 days

a Centers for Disease Control and Prevention. Recommended antimicrobial agents for the treatment and postexposure prophylaxis of pertussis: 2005 CDC guidelines. MMWR Recomm Rep. 2005;54(RR-14):1–16
b Azithromycin should be used with caution in people with prolonged QT interval and certain proarrhythmic conditions.
c Preferred macrolide for this age because of risk of idiopathic hypertrophic pyloric stenosis associated with erythromycin.
d A 3-day course of azithromycin for PEP or treatment has not been validated and is not recommended.
e Antibiotics should only be used when necessary. Targeted post-exposure prophylaxis is recommended for select groups only (see text).

Vaccination Throughout Life

Routine immunization of infants, children, adolescents, and adults (particularly pregnant women) against pertussis remains the most effective strategy for preventing infection and reducing the burden of disease. The primary series of pertussis vaccination, given as DTP-containing vaccines which includes combination vaccines (ie. tetra-, penta- or hexavalent) is recommended beginning at 6 weeks old, with multiple doses administered as part of routine childhood immunization schedule. Full-dose DTP formulations should preferably be used only until 7 years of age, while Tdap vaccine is the recommended formulation for persons 7 years old or older. Booster doses with Tdap are recommended to provide sustained immunity into adolescence and adulthood because childhood pertussis vaccination does not provide lifelong immunity, and the incidence of pertussis infection has been rising among adolescents and adults as well. Catch-up immunization should be given for unimmunized or incompletely immunized individuals using the appropriate vaccine formulation (see table 2).

Pregnant women should be given Tdap vaccine, in order to protect their infants who have high risk for severe or fatal pertussis. One dose of Tdap should be administered during each pregnancy, irrespective of the mother's prior history of receiving Tdap or having pertussis. Tdap may be received anytime during pregnancy but preferably between 27- and 36-weeks gestation to maximize passive antibody transfer to the infant. [6]

Table 2. Recommended Immunization Against Pertussis[5,6]

	Schedule of Immunization	Comments
Primary Series	1st dose: 1 1/2 months old (minimum age of 6 weeks) 2nd dose: 2 1/2 months old 3rd dose: 3 1/2 months old	- consists of 3 doses with a minimum interval of 4 weeks - Administered as DTP or DTP-containing combination vaccines (i.e. 4-in-1, 5-in-1 or 6-in-1)
Booster doses	4th dose: 12 to 18 months old	- Administered as DTP or DTP-containing combination vaccines (i.e. 4-in-1, 5-in-1 or 6-in-1); minimum of 12 months of age, and at least 6 mos after the 3rd dose
	5th dose: 4 to 6 years old	- Administered as DTP or DTP-containing combination vaccines (i.e. 4-in-1, 5-in-1 or 6-in-1); if the 4th dose given after 4 y/o, the 5th dose is not recommended
	Adolescent dose: 9 to 18 years old	- Administered as single Tdap booster, preferably at 11 or 12 years old
Catch-up Immunization for Older Children		
Unvaccinated 7 to 18 years old	*Primary doses* 1st and 2nd dose: 4 weeks interval 3rd dose: at least 6 months from 2nd dose *Booster doses* 4th dose: at least 1 year after the 3rd dose 5th dose: at least 1 year after the 4th dose	- 5 doses of Tdap needed
Incompletely vaccinated 7 to 18 years old	*Previously given 1 dose:* - Administer doses at 0,1,2,6, months	- 4 doses of Tdap needed
	Previously given 2 doses: - Administer doses at 0,1,6 months	- 3 doses of Tdap needed
	Previously given 3 doses: - Administer doses at 0, 6 months	- 2 doses of Tdap needed
Fully vaccinated*	- *Administer 1 dose Tdap every 10 years*	

**Fully vaccinated is defined as having received 5 valid doses of DTP or DTP-containing combination vaccines or 4 valid doses if the fourth dose was administered on or after the fourth birthday.*
Note: For children whose vaccinations have been delayed, the vaccine series does not need to be restarted, regardless of time elapsed between doses.

Pregnant Women
- 1 dose of Tdap anytime or preferably between 27 and 36 weeks gestation **every** pregnancy - 1 dose of Tdap immediately postpartum for those who did not receive vaccination during pregnancy **AND** have no previous Tdap vaccination

RECOMMENDATIONS

The PPS and PIDSP strongly recommend completion of pertussis vaccination series as well as other recommended vaccines, including the timely administration of all recommended doses and boosters, especially in infants, adolescents, pregnant women and adults. Healthcare providers should actively promote and advocate for vaccination against pertussis and other vaccine-preventable diseases among parents, caregivers, and the general population. We strongly recommend that DTP or DTP-containing combination vaccines and Tdap vaccines be made readily and consistently available in all vaccination centers, in both public and private healthcare settings.

Further, early recognition and treatment of pertussis infection and continued surveillance of pertussis disease and outbreaks are essential for informing public health interventions and vaccination strategies. All public and private physicians, allied medical personnel and others are required to accurately and immediately report notifiable diseases and health events of public health concern like pertussis as issued by the DOH. The general public is encouraged to consult their healthcare provider early if signs and symptoms of pertussis are noted and to seek advice regarding their booster doses.

The PPS and PIDSP acknowledge the need to boost vaccine confidence among certain segments of the population, who may have heard some misinformation and misconceptions regarding vaccine safety and efficacy. Healthcare professionals are enjoined to address these concerns through evidence-based education and communication, emphasizing the overwhelming benefits of vaccination in preventing pertussis and its complications.

The PPS and PIDSP reaffirm their support for immunization against pertussis as a critical public health measure for protecting children and communities. Through concerted efforts to promote vaccination, detect and treat pertussis early, and address vaccine concerns, we can all work together towards eliminating pertussis as a significant health threat in the Philippines.

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