



Questions on Immunization and Vaccination and Short Answers

Bağıışıklama ve Aşı ile İlgili Sorular ve Kısa Cevaplar

Ateş Kara^{1,2} (iD)

¹ Health Institutes of Türkiye, Türkiye Vaccine Institute, Aziz Sançar Research Center, Ankara, Türkiye

² Division of Pediatric Infectious Diseases, Department of Pediatrics, Hacettepe University Faculty of Medicine, Ankara, Türkiye

Cite this article as: Kara A. Questions on immunization and vaccination and short answers. J Pediatr Inf 2025;19(1):e62-e63.

In our country, tetanus-diphtheria toxoid and acellular adult dose pertussis vaccine will be administered during pregnancy and for this purpose, the following short questions and answers have been prepared by the Ministry of Health General Directorate of Public Health. By sharing this information, we would like to convey our knowledge especially to our pregnant women.

Question 1: What is the tetanus, diphtheria, and pertussis (Tdap) vaccine?

The Tdap vaccine is a combination vaccine that protects against Diphtheria, Tetanus and Pertussis. It provides adults with immunity against these three diseases. This vaccine is recommended during pregnancy to protect the expectant mother against these diseases while at the same time protecting her baby.

Question 2: Why is pertussis dangerous in newborn babies and should it be prevented with vaccination?

Pertussis is a serious respiratory infection characterized by coughing fits and respiratory distress. It is a highly contagious disease. One person who gets pertussis can infect 12-17 people. It can occur at any age, but it is especially dangerous for infants and young children and can cause death. Here are the risks:

- **High risk for infants:** Babies under 4-5 months of age are at high risk of pertussis infection, as the first dose of mixed vaccines containing the pertussis component is administered at two months of age and protection begins only after the second dose of the vaccine is administered (at four months of age) and at about five months of age. In this age group, pertussis can lead to serious complications that can result in hospitalization and even death. Although antibodies passed from the mother are expected to protect babies during this period, there has been a significant increase in neonatal pertussis cases in the world and in our country in recent years. This shows that not enough protective antibodies are passed from the mother to the baby and that the high antibody response that will occur with the pertussis vaccine reminder dose to be administered to mothers during pregnancy should be ensured that sufficient antibody is passed to the baby through the placenta. Therefore, it shows the importance of pertussis vaccination in mothers during pregnancy.
- **Contagiousness:** Pertussis is very easily transmitted. It is one of the most contagious diseases known. Because of widespread vaccination and the fact that some adults get pertussis without symptoms, it is not always possible to recognize a person in the environ-

Correspondence Address/Yazışma Adresi

Ateş Kara

Division of Pediatric Infectious Diseases,
Department of Pediatrics,
Hacettepe University Faculty of Medicine,
Ankara, Türkiye

E-mail: ateskara@hacettepe.edu.tr

Received: 12.02.2025 Accepted: 28.02.2025

Available Online Date: 12.03.2025

This work is licensed under the Creative Commons Attribution-NonCommercial-ShareAlike 4.0 International License.

Data Sharing Statement: The data that support the findings of this study are available from the corresponding author upon reasonable request.

©Copyright 2025 by Pediatric Infectious Diseases and Immunization Society. Available online at www.cocukenfeksiyon.org

ment who has the bacteria that can transmit whooping cough. Unvaccinated people can transmit the disease to a baby. Immunity to pertussis usually decreases over time, so many adults can be carriers of pertussis and unknowingly transmit the disease.

- **Other complications:** In infants, pertussis can cause pneumonia, convulsions, respiratory arrest (apnea) and, rarely, brain damage. In adults, it is usually characterized by a prolonged cough. This cough due to pertussis is characterized by severe coughing fits that last for weeks, and coughing fits can disrupt sleep patterns, make daily activities difficult and reduce quality of life. Severe coughing can cause rib fractures, abdominal hernia due to increased pressure in the abdomen and extreme fatigue. In addition, as with other infections, it can increase the risk of secondary infections such as pneumonia and otitis media.

Question 3: Is the Tdap vaccine during pregnancy safe for the baby? Since when has the Tdap vaccine been approved?

Many studies show that the Tdap vaccine is safe during pregnancy.

The World Health Organization (WHO), the U.S. Centers for Disease Control and Prevention (CDC), the health authorities of many developed countries and health authorities in the world, and specialty associations in Türkiye recommend Tdap vaccination during pregnancy.

The Tdap vaccine was first licensed in the world in 1999. CDC has been recommending Tdap vaccine in pregnancy since 2012 and WHO since 2015.

In countries such as the United States America, the United Kingdom, Spain and France, the vaccine is given to all pregnant women. In these countries, where it has been practiced for more than 10 years, the vaccine has proven to be very safe for mother and baby.

Question 4: When should I get the Tdap vaccine?

Pregnant women can receive Tdap vaccine during the second and third trimester of pregnancy. In Türkiye, it will be administered between 18-24 weeks of pregnancy in accordance with the recommendation of the Advisory Committee on Immunization. See the flowchart below for details of the procedure. To summarize briefly, Tdap vaccine is administered instead of one dose of the Td vaccine currently administered during pregnancy and this application is repeated as one dose in the 18-24th week period in each pregnancy period.

Question 5: Should the Tdap vaccine be administered in every pregnancy?

The antibodies formed in the mother's immune system decrease over time. To protect the mother, it is protective for at least five years and up to eight years on average. However, since the aim is to protect the baby, it should be ensured that the mother's antibody level is high during pregnancy. Therefore, Tdap vaccination at each pregnancy ensures a high level of protective antibodies for each new baby. The Tdap vaccine given to the mother at each pregnancy triggers antibody production in the mother and these antibodies pass through the placenta to the baby, protecting the newborn in the first months. Since the immune system in newborns is not yet fully developed, this passive immunity provides strong protection in the first months of life when babies are at high risk.

Question 6: What are the side effects of the Tdap vaccine?

These side effects are mostly mild and temporary.

Mild side effects:

- Pain, redness or swelling at the injection site
- Light fever
- Headache
- Fatigue
- Muscle pain

Rare side effects:

- Allergic reactions to components of the vaccine

Due to the pertussis component in Tdap, stronger injection site reactions (pain, increased temperature, etc.) may rarely occur.

References

1. Centers for Disease Control and Prevention (CDC). *Tetanus and pregnancy: What you need to know*. 2023.
2. World Health Organization (WHO). *Diphtheria fact sheet*. 2023.
3. Centers for Disease Control and Prevention (CDC). *Pertussis (Whooping cough) vaccination during pregnancy*. 2023.
4. Centers for Disease Control and Prevention (CDC). *Possible side effects from vaccines*.
5. World Health Organization (WHO). *Vaccination before and during pregnancy: What you need to know*. Available from: [factsheet_pregnancy \(1\).pdf](#) (Accessed date: 17.01.2025).