
Q2 Tdap in Pregnancy

Which *one* of the following statements is *true* regarding tetanus, diphtheria, and acellular pertussis (Tdap) vaccination during pregnancy?

- ☐ 1. Maternal vaccination with Tdap does not affect the incidence of pertussis in infants.
- ☐ 2. The National Advisory Committee on Immunization recommends that Tdap be administered in every pregnancy in Canada, regardless of preconception vaccination status.
- ☐ 3. The majority of pregnant patients receive Tdap vaccination during their pregnancy.
- ☐ 4. The primary reason for pregnant patients' nonvaccination is not wanting to be vaccinated during pregnancy.

Educational Point: Despite widespread vaccination, pertussis remains endemic in Canada, with incidence rates highest for infants aged <1 year: 72.5 per 100 000 population from 2013 to 2017. The 4 pertussis-related deaths reported in Canada during this period occurred in infants aged <6 months. Vaccination with the tetanus, diphtheria, and acellular pertussis (Tdap) vaccine during pregnancy induces the production of antibodies that are transferred through the placenta to the foetus and persist in infants up to 2–4 months of age. **Maternal vaccination with Tdap has been shown to significantly reduce the incidence of pertussis in infants' first 2 months of life, with administration of the vaccine during the third trimester of pregnancy being significantly more effective than vaccination during the second trimester.** Tdap vaccination during the second or third trimester of pregnancy is not associated with any adverse pregnancy or birth outcomes.

For these reasons, the National Advisory Committee on Immunization recommended in February 2018 that Tdap be administered in every pregnancy in Canada, ideally between 27 and 32 weeks of gestation. In March 2018, the Society of Obstetricians and Gynaecologists of Canada issued a new clinical practice guideline on immunization in pregnancy that included a recommendation that every pregnant woman be offered Tdap, ideally between 21 and 32 weeks. This study was undertaken to measure the uptake of pertussis vaccination during pregnancy in Canada and to identify sociodemographic factors associated with nonvaccination. A sample of babies born between September 2, 2018, and March 1, 2019, was selected randomly from the list of children for whom the Canadian Child Benefit was claimed, which was estimated to include 96% of Canadian children in 2018. Data were collected from December 2, 2019, to March 6, 2020 (i.e., 9–18 months after the selected child was born). The biological mothers of these children were contacted and invited to participate in the survey, provided they had lived in Canada for most of their pregnancy. Of 9096 child/mother pairs selected from the sampling frame, 5091 completed the survey, yielding a response rate of 58.9% after removing out of scope cases. **Of the mothers who participated in the survey, 39% reported having been vaccinated against pertussis during their pregnancy, 51% had not been vaccinated, and 10% did not know.** There were no significant differences among women who had received maternity care from obstetrician/gynaecologists, family doctors, nurses, or midwives with respect to advice to get vaccinated for pertussis during pregnancy. **The main reasons given by mothers for nonvaccination were not being aware that pertussis vaccination was recommended during pregnancy (60%), not wanting to be vaccinated during pregnancy (16%), and the vaccine not being offered by their maternity care provider (11%).**

More women were advised to get vaccinated in provinces or territories where Tdap was provided free of charge to pregnant women (68%) than in provinces and territories where vaccination was not funded (52%). The rate of nonvaccination was significantly higher in provinces and territories where the vaccine was not offered free of charge (61%) than in those where it was publicly funded (46%). Other factors significantly associated with nonvaccination in simple logistic regression analyses were being born outside of Canada; lower education; lower household income; having had previous pregnancies; having had previous live births; having received maternity care from an obstetrician/gynaecologist or a midwife or having no professional care at all (compared with a family doctor); and not having been advised to get the vaccine. Being advised by the primary maternity care provider was found to be the main driver of maternal vaccination. Consistent with that observation, being unaware that pertussis vaccination during pregnancy was recommended was the number one reason mothers gave for not being vaccinated.

The correct answer is 2.