DSEN ABSTRACT

Safety and effectiveness of influenza vaccine during pregnancy

Summary

- Maternal vaccination may be an effective strategy to reduce the risk of influenza in infants < 6 months of age (since these infants cannot receive influenza vaccine themselves).
- Despite this, vaccine during pregnancy remains low, as health care providers may be hesitant to suggest the vaccine to pregnant women due to safety concerns.
- We aimed to find out if influenza vaccination during pregnancy are safe and effective for women and their newborn babies
- We studied 2366 women recruited during the first trimester of pregnancy
- Influenza vaccine during pregnancy was not clearly associated with all-cause hospitalizations in newborns, small birth weight, or being small for gestational age
- Our estimates for spontaneous abortions were not conclusive, due to relatively low precision
- In sensitivity analyses related to timing of vaccine exposure, we were unable to determine if risk differed according to trimester.
- Our study confirms low influenza vaccine uptake in pregnancy, suggesting the need for promotion of **influenza vaccine uptake** in this group

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What is the current situation?

National Advisory Committee on Immunization has recommended the influenza vaccine for all pregnant women since 2007, as a strategy to reduce the risk of influenza infection in infants less than 6 months of age (who are unable themselves to be vaccinated). Despite recommendations, influenza vaccination uptake during pregnancy remains low. Health care providers may be hesitant to suggest the vaccine to pregnant women due to safety concerns. Though it is generally believed that the benefits of protecting pregnant women and their newborns from influenza complications outweighs the small risks of vaccination, updated evidence is needed in order to support these recommendations.

What was the aim of the study?

The study aimed to find out whether influenza vaccines received during pregnancy are safe and effective for women and their newborns.
Outcomes included

- spontaneous abortion
- all-cause hospitalizations in the newborns
- low birth weight
- newborns small for gestational age

How was the study conducted?

We studied women from the 3D Cohort Study (Design, Develop, Discover), comprising 2366 women recruited during the first trimester of pregnancy (8–14 weeks) in Quebec. Prenatal and postnatal data have been collected on maternal sociodemographic characteristics, physical activity, and psychosocial measures, use of prescription drugs, over-the-counter medications, and nutritional supplements. Maternal influenza vaccinations were recorded via interviewer-administered questionnaire. Follow-up data was captured by questionnaires every 3 months during and after pregnancy. Multivariate logistic regression models were used to study the above outcomes, adjusting for maternal demographics, co-morbidity, parity, life-style habits including smoking, and other covariates.

What did the study find?

- **We confirmed low Influenza vaccination during pregnancy (21.6%), which suggests the need for more promotion of influenza vaccine uptake in this group**.
- Influenza vaccine during pregnancy was not statistically significantly associated with all-cause hospitalizations in the newborns, low birth weight, or infants being small for gestational age
- Estimates for spontaneous abortion were inconclusive due to relatively low power
- In sensitivity analyses related to timing of vaccine exposure, we were unable to determine if risk differed according to trimester.
- Altogether, these findings are reassuring that vaccination during pregnancy is not associated with high risk to newborns in terms of all-cause hospitalizations, low birth weight, or causing infants to be small for gestational age

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