

# SYMPOSIUM ON VACCINES AND PREGNANCY

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## Symposium on vaccines and pregnancy Simposio vacunas y gestación

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### INTRODUCTION

The changes that occur in the immune system during pregnancy make the pregnant woman more susceptible to illness, or to the illness being more severe, or to causing severe fetal effects due to certain infections; thus increasing the risk of complications such as premature birth, low birth weight, neonatal infections, etc., making pregnancy one of the most vulnerable periods in terms of maternal, fetal, and neonatal morbidity and mortality<sup>(1-3)</sup>.

Various strategies have been designed to reduce the consequences of infections during pregnancy, with vaccination of pregnant women being a fundamental strategy to protect both the mother and the fetus against infectious diseases that can have serious consequences for the mother, the baby during pregnancy, and the newborn in the first months of life. In the case of newborns, vaccination during pregnancy allows antibodies to be transferred through the placenta, and breastfeeding provides passive immunity to the baby. In both situations, susceptibility to preventable diseases is reduced<sup>(4)</sup>.

During pregnancy, prenatal care (PNC) is an extraordinary opportunity for healthcare professionals, especially gynecologists and obstetricians, to promote and administer vaccinations to pregnant women in order to achieve the objectives of preventing harm to the mother and the fetus.

According to data from the Ministry of Health (MINSA) and the National Immunization Registry (REUNIS), coverage of the Tdap vaccine (tetanus, diphtheria, and pertussis) showed a significant increase in 2024, reaching 93.2%, compared to 40.3% in 2021. As of July 2025, coverage stands at 44.8%, suggesting that by the end of 2025, figures similar to or higher than those for 2024 will be achieved<sup>(5)</sup>. However, these figures do not reveal the actual coverage of the pregnant population, but rather the coverage targets. The targets are usually below the actual population that should be vaccinated.

On the other hand, there is no data regarding immunization in pregnant women for other diseases such as influenza and COVID-19. Vaccination against Respiratory Syncytial Virus (RSV), which has recently been approved by the Peruvian Ministry of Health, is not yet included in the national vaccination schedule for pregnant women.

With regard to COVID-19, maternal mortality in the first year of the pandemic reached alarming levels<sup>(6)</sup>. The Peruvian Society of Obstetrics and Gynecology (SPOG), the United Nations Population Fund (UNFPA), and other health and academic institutions drew attention to the urgent need to include pregnant women in vaccination programs, as they are considered a vulnerable population. Thus, in June 2021, pregnant women began to be vaccinated against COVID-19.



At the end of 2021, the increase in maternal mortality in Peru revealed one of its most painful impacts, with two-thirds more maternal deaths recorded in 2021 than in 2019, 471 vs. 302<sup>(7)</sup>.

The Ministry of Health (MINSA) made a commendable effort to rapidly expand vaccination; however, it is difficult to accurately quantify the direct impact attributable to the decline in maternal mortality, as underreporting of vaccination in pregnant women makes it impossible to determine. At the end of 2021, it was not possible to distinguish how many women had been vaccinated according to their age group, without having been registered as pregnant or not knowing they were pregnant at the time of vaccination. What is certain is that there was a very significant decrease in maternal deaths from COVID-19 in the second half of 2021, after vaccination against COVID-19 began, with maternal deaths occurring mainly in unvaccinated pregnant women<sup>(7)</sup>.

Dr. Enrique Cornejo, from the Alexander Von Humboldt Institute of Tropical Medicine at Cayetano Heredia University in Peru, in an article written on the occasion of a working meeting held in April 2025 with the aim of reaching a position on vaccination in pregnant women, mentions that in Peru it is not possible to obtain disaggregated information on vaccination coverage against hepatitis B, influenza, and COVID-19, despite these vaccines being part of the recommended immunization schedule for pregnant women at the national level. This lack of data on vaccination in pregnant women makes it difficult to monitor and evaluate the vaccination program: without clear data, it is difficult to make decisions based on national evidence.

On the other hand, there are still other vaccines that deserve to be included in the national vaccination schedule for pregnant women, such as the vaccine against Respiratory Syncytial Virus (RSV). RSV is one of the leading causes of lower respiratory tract infection in newborns and infants under 6 months of age, with a significant impact on infant morbidity and mortality and hospitalizations for bronchiolitis and pneumonia. Maternal vaccination with the RSV Pre-F vaccine transfers antibodies to the baby before birth. Likewise, if long-acting monoclonal antibody (nirsevimab) is administered to the baby

during its first days of life, in those mothers who did not receive the vaccine or did not do so sufficiently in advance, it confers protective immunity on the newborn<sup>(8)</sup>.

Maternal vaccination with RSVpreF has been shown to significantly reduce the risk of RSV-associated lower respiratory tract infections in newborns, with an efficacy of 82.4% in the first 90 days of life and 70.0% up to 180 days, according to data from the MATISSE study<sup>(9)</sup>. The World Health Organization (WHO) recommends maternal vaccination with the RSV Pre-F vaccine between 28 and 36 weeks of gestation<sup>(10)</sup>.

Despite scientific evidence supporting the benefits of vaccinating pregnant women during pregnancy for certain infectious diseases in order to protect both the mother and the fetus<sup>(10-15)</sup>, gaps remain in coverage, resource availability, and health personnel awareness of the importance of vaccinating pregnant women.

This symposium will address vaccines against influenza, Tdap, and COVID-19, presented by Drs. Claudia Namizato, Enrique Cornejo, Mauricio La Rosa, and Camille Webb. Vaccines included in the national immunization schedule for pregnant women.

The symposium aims to expand knowledge on the subject and raise awareness of the importance of ensuring equitable access to vaccination for all pregnant women nationwide. It also aims to urge the authorities to improve vaccination records in the different target populations for better analysis and, therefore, better planning based on real national data.

Vaccination during pregnancy is a key strategy for protecting both mother and child, with clear benefits and evidence of reducing preventable diseases. The safety, efficacy, and effectiveness of vaccines such as Tdap, influenza, COVID-19, and RSV during pregnancy are key to preventing serious infections in newborns and reducing maternal morbidity and mortality.

Let us remember and embrace the slogan: "In every pregnancy, 2 vaccines in each arm," in clear reference to vaccination against influenza, Tdap, COVID-19, and respiratory syncytial RSV virus.



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