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MATERNAL IMMUNIZATION TO PREVENT INFANT BACTERIAL INFECTIONS

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Many infectious diseases can adversely affect the health of pregnant women, adversely impact the fetus directly during gestation and cause infectious illnesses in newborn infants who are too young to receive benefit from available vaccines. Globally, 10-50% of still births are due to maternal/ fetal infections; 600,000-800,000- neonatal deaths are due to infections. Immunization during pregnancy with vaccines targeting tetanus, pertussis and influenza have already shown evidence of providing improved maternal health during pregnancy, fewer adverse fetal events and reduced illness in young infants. The ability of these 3 vaccines to provide protection to mothers, fetuses and infants serves as a proof of concept that maternal immunization is an effective means to prevent some of the most serious bacterial and viral infections in the perinatal and postnatal periods. Many infections in the neonatal and immediate post-natal period are caused by vaccine-preventable infections which are acquired at an age prior to completion of currently available and effective vaccines , e.g. pertussis, meningococcal group B, *Haemophilus influenzae* type b, pneumococcus and influenza. There still are other important infections in young infants for which there are no currently approved vaccines but there are investigational vaccines, e.g. group B streptococcus and respiratory syncytial virus (RSV), which show promise for reducing the impact of these infections in young infants. Utilizing vaccines more effectively during pregnancy could result in better health outcomes for the mother, her off-spring or both. Considerations that will impact successful utilization of a maternal immunization strategy include: (1) vaccine safety during pregnancy for mother, fetus and infant; (2) vaccine efficacy for mother, fetus and infant; (3) optimal timing during pregnancy to administer maternal vaccines; (4) increasing capacity and acceptance of vaccine administration by obstetric providers; and (5) cost effectiveness.

Biography

Michael T Brady is a Professor of Pediatrics at The Ohio State University. He is currently an Associate Medical Director, the Medical Director of Patient Safety and the Physician Director of Epidemiology/ Infection Control at Nationwide Children's Hospital, Columbus, Ohio. He is a pediatric infectious diseases Clinician and Researcher. He is an Associate Editor of the 2015 and 2018 American Academy of Pediatrics Committee on Infectious Disease Red Book. He has made presentations on Maternal Immunizations nationally and internationally. He has nearly 90-peer reviewed publications and has contributed to more than 100 policy statements and guidelines related to infections in children.

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