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EBCOG position statement: Vaccination in pregnancy

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ABSTRACT

Maternal immunization has the potential to reduce morbidity and mortality from infectious diseases worldwide. EBCOG promotes this public health intervention supporting international recommendations about the use of vaccines during pregnancy.

Contents

Maternal immunization can improve maternal and child health by reducing maternal and infant morbidity and mortality associated with disease caused by pathogens that are relevant to the perinatal period and early life, and for which there are currently no effective alternative preventive measures.

National immunization programmes reach acceptable vaccination coverage rates (VCRs). Based on WHO-UNICEF estimates for the European Region, the percentage of the target population vaccinated in 2017 is above 85% for the third dose of diphtheria, tetanus, and pertussis vaccine (DTP3 94%), the first dose of rubella-containing vaccine (RCV1 95%), and second dose of measles-containing vaccine (MCV2 90%). Though vaccines are widely available, Member States reported 63,027 cases of pertussis, 24,356 of measles, 848 of rubella, 134 of tetanus, and 35 of diphtheria for 2017 alone [1]. This high incidence of vaccine-preventable disease can be explained by the diversity of health systems and vaccination programmes among European countries: rubella vaccination coverage (first dose), ranges from 85% to 99% and coverage for measles second dose vaccine varies between ≤85% to above 95%, depending on the country [2]. A further factor to be considered for European healthcare systems is the influx of migrants from continents where some vaccine-preventable diseases are still endemic or the VCRs insufficient.

Immunization status should be assessed during preconception counselling, as many vaccines can be administered pre-conceptionally for the prevention of serious diseases during pregnancy, including: hepatitis A, hepatitis B (HBV), human papilloma viruses (HPV), influenza (inactivated or live attenuated), measles-mumps-rubella (MMR), meningococcal (Men ACWY and B), pneumococcal vaccine (PCV13 and PPSV23), tetanus, diphtheria and pertussis

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(Tdap), Varicella, and zoster. For travellers, Japanese encephalitis, typhoid and yellow fever vaccines are also recommended [3].

During pregnancy, the benefits of vaccination usually outweigh the potential risks when the likelihood of disease exposure is elevated, when infection poses a risk to the mother or foetus, and when the vaccine is unlikely to cause harm. There is no evidence of adverse foetal effects from vaccinating pregnant women with an inactivated virus or bacterial vaccine(s) or toxoid(s). Therefore, pregnancy should not exclude women from immunization with these vaccines, when medically indicated [4].

Pregnant women who are identified as being at risk for HB virus infection during pregnancy should be vaccinated [5]. Administration of inactivated vaccines such as Tdap and influenza is also safe. Health care providers should administer a dose of Tdap during each pregnancy, irrespective of the patient's history of having received Tdap. Optimal timing for Tdap administration is between 27 and 36 weeks of gestation, although Tdap may be given at any time during pregnancy [6].

Influenza vaccination can be administered at any time during pregnancy, before and during the influenza season. For women who are or will still be pregnant during influenza season, any licensed and age-appropriate influenza vaccine is recommended, except live attenuated influenza vaccine [7].

Achieving high VCRs for influenza virus in pregnant women remains a serious public health challenge because recommendations, vaccination schedule and cost coverage differ substantially across European countries [8].

Administration of live attenuated vaccines (MMR, varicella, zoster and influenza LAIV) carries a theoretical risk (although never documented) to the foetus and should be avoided during pregnancy. MMR vaccines should not be administered to women known to be pregnant or attempting to become pregnant. Women should be counselled to avoid becoming pregnant for 28 days after receipt of MMR vaccine. If the vaccine is inadvertently administered to a pregnant woman or a pregnancy occurs within 28 days of vaccination, the woman should be counselled about the theoretical risk to the foetus [9]. The effects of the varicella virus vaccine on the foetus are unknown, pregnant women should not be vaccinated. Non pregnant women who are vaccinated should avoid becoming pregnant for 1 month after immunization [10].

HPV vaccines are not recommended for use in pregnant women. If a woman becomes pregnant after beginning the vaccination series, the rest of the 3-dose series should be postponed until the pregnancy is completed. If a vaccine dose has been administered during pregnancy, no intervention is needed [11].

During lactation, neither inactivated nor live-virus vaccines affect the safety of breastfeeding for women or their infants. It has been demonstrated that the majority of live viruses in vaccines are not excreted in human milk. Although rubella vaccine virus might be excreted in human milk, the virus usually does not infect the new-born; yellow fever vaccine is not indicated in breastfeeding women. However, when nursing mothers cannot avoid or delay travel to areas endemic for yellow fever in which risk for acquisition is elevated, these women should be vaccinated [3].

European Board and College of Obstetrics and Gynaecology (EBCOG) supports the recommendations made by International public health institutions (WHO, CDC) about the use of vaccines during pregnancy. EBCOG is looking forward to work with Professional organisations and Health care policy advisors to develop strategies to overcome ethical, cultural and policy barriers to improve uptake of currently recommended vaccines, thus promoting the development of maternal immunization.

Approval process

This papaer was reviewed by Dr Tahir Mahmood (Scotland) and Professor Sophie Alexander (Belgium), members of "Standards of Care and Position Statements Working Group" and the executive committee of ENTOG. Final draft has been approved by the President, and the Executive Board of EBCOG.

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