

New WHO guidance on prevention and treatment of maternal peripartum infections



WHO estimates that the global prevalence of maternal sepsis is 4-4% among livebirths, representing more than 5-7 million cases per year.¹ Important variations exist between regions, with higher incidence in low-income and middle-income countries (up to 7%) compared with high-income countries (1-2%).² Despite the relative low prevalence and the availability of interventions for its prevention and treatment, maternal sepsis remains a life-threatening condition and one of the leading direct causes of maternal mortality worldwide, accounting for up to 10% of maternal deaths.³ Up-to-date guidance on effective interventions to reduce the global burden of maternal infections at a time when they are most likely to affect maternal and newborn survival is certainly needed.

This week, WHO launches new guidance on interventions for women to prevent and treat infections occurring during the peripartum period.⁴ In this guideline, the term "maternal peripartum infection" was adopted to consider bacterial infections of the genital tract or its surrounding tissues occurring at any time between the onset of rupture of membranes or labour and the 42nd day post partum. The overall approach of these recommendations is to highlight and encourage effective practices that are underused and discourage practices that are either ineffective or potentially harmful to women, their babies, and the general public.

Caesarean section is the most important risk factor for maternal infection in the immediate postpartum period. The main strategies to prevent post-caesarean infections include the observation of fundamental surgical aseptic techniques and use of prophylactic antibiotics. However, the global use of prophylactic antibiotics for caesarean births varies largely between hospitals,⁵ in part because of lack of institutional protocols and uncertainties about the antibiotic regimen of choice and correct timing of administration. The WHO guideline panel made strong recommendations regarding the administration of prophylactic antibiotics before skin incision, rather than after umbilical cord clamping, for women undergoing elective or emergency caesarean section. In view of the overall evidence in favour of prophylactic antibiotics, the panel acknowledged that antibiotics are also effective when given after umbilical cord clamping,

particularly in cases of emergency caesarean section where the available time to administer antibiotics before surgery might be limited. Evidence suggests that a single dose of first-generation cephalosporin or penicillin should be used in preference to other classes of antibiotics, particularly because these are broad-spectrum antibiotics and widely available in all settings.

The guideline recommends routine antibiotic prophylaxis for other obstetric conditions for which the risk of maternal infection is high, for instance in women presenting with a third-degree or fourth-degree perineal tear after vaginal birth. In making this recommendation, the panel placed emphasis on infection reduction of a potentially contaminated wound which can aggravate long-term consequences of third-degree or fourth-degree perineal tears (eg, flatus or faecal incontinence with considerable impact on quality of life). Likewise, routine antibiotic prophylaxis is recommended for manual removal of the placenta. Although evidence to support this practice is inconclusive, indirect evidence from studies on caesarean section and abortion, as well as a review of observational studies, suggest that antibiotic use could reduce infection risk after such an invasive procedure.

The guideline recommends against the indiscriminate application of minor procedures (eg, pubic hair shaving and frequent vaginal examinations during labour) or antimicrobial use in conditions where there is no evidence of clinical benefits to justify practice. This applies to routine vaginal antiseptic cleansing of women during vaginal birth, which has been widely proposed as a simple intervention with the potential to prevent maternal and neonatal infections. However, evidence from randomised controlled trials comparing vaginal douching or irrigation with chlorhexidine versus sterile water showed no clinical benefits of this intervention. Similar results came from a review of randomised controlled trials among women colonised with group B streptococcus (GBS), in whom the use of vaginal chlorhexidine also failed to show protective effect against GBS-related neonatal infections. Hence, the current guideline does not recommend the routine use of chlorhexidine vaginal cleansing during labour

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for preventing infectious morbidities in mothers and their neonates. In making these recommendations, the guideline panel emphasised the importance of promoting interventions that minimise interference with the natural process of labour and enhance women's autonomy and dignity.

Clear recommendations are also made against the use of prophylactic antibiotics for all women with the aim of reducing infections during pregnancy or following an uncomplicated (or "uneventful") vaginal birth, as well as for some obstetric procedures believed to increase risk of infection such as assisted vaginal birth (with forceps or vacuum) and episiotomy. These recommendations generally support the global efforts to reduce emerging antimicrobial resistance and are in line with the *WHO global action plan on the containment of antimicrobial resistance*.⁶

Despite the very low quality evidence to support comparative effectiveness of one antibiotic over another to treat maternal infections, the current guideline conditionally recommends specific classes of antibiotics for the management of chorioamnionitis (ampicillin and gentamicin) and postpartum endometritis (clindamycin and gentamicin), but the panel acknowledged that other simple, effective, and locally available antibiotics could be used as an alternative.

The guideline panel identified a set of principles of good clinical practice that are needed to optimise the effects of the interventions recommended in the guideline. For instance, it highlights the need for health practitioners and managers to provide an enabling environment for infection prevention and control, changing their attitudes and practices and mobilising resources to ensure that adequate sanitation facilities are in place, hygiene and infection control measures are implemented, and antimicrobial agents are accessible. It also highlights the need to harness institutional efforts to identify puerperal infections promptly and provide the appropriate treatment.

Key research priorities were identified, particularly related to conditions or procedures that are prevalent globally such as the use of prophylactic antibiotics for episiotomy, uncomplicated vaginal birth, or

prolonged rupture of membranes at term. The effects of antibiotics given before caesarean section on infant health also requires further investigation. To achieve the desired goal, WHO recommends that the guideline implementation and its impact should be monitored at the health service, regional, and country levels, on the basis of clearly defined indicators that are associated with locally agreed targets.

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