Authors' reply re: Universal screening versus risk-based protocols for antibiotic prophylaxis during childbirth to prevent early-onset Group B streptococcal disease: A systematic review and meta-analysis. (Response to BJOG-20-0383)

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Dear Editor,

We read the letter from colleagues Dr. Seedat and Dr. Marshall, commenting on our article, with great interest (1, 2). Their clarifications on the UK National Screening Committee (UK NSC) position are very clear. The UK NSC decided against a general screening since they cannot assess the benefits and harms in the patient populations of women (3) but they could indeed in newborns. The on-going clinical trial (GBS3 Trial; ISRCTN49639731) in the UK will compare the current risk-based strategy to two different screening tests. A lab based culture test at 3 to 5 weeks before anticipated delivery date will use an established microbiological technique [Enriched Culture Medium Testing] to reduce false-negative results and a molecular point of care test at the onset of labour. The latter test reduces the time period between screening and the start of labour. The predictive value of antenatal GBS cultures decreases if the interval between culture and delivery is longer than 5 weeks. The results of the trial will help to determine the appropriate screening technique and the rational use of antibiotics for the prevention of early onset GBS sepsis in newborn babies.

Perinatal empirical therapy of newborns at risk for or with suspected EOS represents the main contributor to the use of antibiotics in early life (4). There is growing concern about the effects that unnecessary exposure to antibiotics in the perinatal period may have on the future health of these children (5, 6). Antibiotic-related alterations in the microbiome may have downstream effects on the developing immune system and may increase the risk of allergic, autoimmune, and metabolic diseases (5, 6).

Seedat and Marshall state that according to another study, the use of IAP would indeed increase if screening were implemented, and that the portion of women receiving IAP would be 'low risk women' who... 'would not have a neonate with EOGBS in the absence of IAP' (1). In this statement is embedded the assumption that the currently established risk factors are indeed a good prediction of EOGBS transmission. However, 50% of neonates with early onset sepsis with GBS did not have risk factors. To the contrary, we confirm in our meta-analysis and systematic review that universal screening lowered the incidence of early onset GBS sepsis in newborn whereas risk-based approaches did not (2). This might indicate that although screening is imperfect, risk factors might be worse in predicting EOGBS outcomes.

Besides, we found no evidence that the rate of intrapartum antibiotic treatment was different in risk-based screening than in universal screening. Administration of antibiotics in risk-based policies was in our study neither lower nor associated with a reduction in the burden of disease in early onset GBS sepsis (2). We are looking forward to the results of the GBS3 trial since there is a need for unbiased evidence on the appropriate policy. A trial comparing screening with risk-factor based intrapartum antibiotic prophylaxis is hard to conduct in areas that currently have a screening policy. Recruitment of participants is very challenging and a premature stop for futility is very likely. A lot of women might not want a risk-based protocol if screening is already the standard of care or easily available. Therefore, the UK data will be very helpful in guiding the future way.

References

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