

Delivering in or out of water, the OASI rates in the POOL cohort study are disturbingly high

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Dear Dr Papageorghiou,

We have read with interest the POOL study report by Sanders et al. published in your journal.¹ We acknowledge that the results of this study are based on a large obstetric cohort of low-risk women.

The mere conclusion of the authors is that birth in water is not associated with increased risks for mothers and babies. However, in doing so, they seem to have overlooked an important issue related to the event rate in their comparator group. Indeed, the reported obstetric anal sphincter injury (OASI) rates of 5.0% in nulliparous and 1.3% in multiparous women are remarkably, if not unacceptably high. Particularly, given the risk for serious, often untreatable complications strongly associated with such injury.

The reported event rates in the pool study are an outlier when compared to the 1.6% reported in other studies.³ The reported rates in the POOL study are comparable to those reported by Gurol-Urganci et al.⁴ Nonetheless, 20% of the women in the Gurol-Urganci et al study had operative vaginal births, a strong risk factor for OASI. In contrast, the POOL study cohort were all low-risk spontaneous births.

The POOL study describes women delivering in and out of water, but the authors do not comment if manual perineal protection was used or not in either of the groups. Applying interventions, like manual perineal protection at the time of water birth may be challenging and does not tend to be attempted in some healthcare settings.

Manual perineal protection was earlier associated with a significant reduction in OASI risk in Norway and Denmark and the UK. Fodstad et al. describe that the OASI prevalence in Norway in all vaginal deliveries has reduced from 4.2% in 2004 to 1.6% in 2023, after introduction of a national program with manual perineal protection.³

Gurol-Urganci et al. have also demonstrated a significant reduction OASI rates in a healthcare setting comparable to that of Saunders et al. Moreover, the RCOG and, more recently, the published report from the All-Party Parliamentary Group on Birth Trauma have recommended the roll out and implementation, underpinned by sufficient training, of the OASI care bundle to all hospital trusts to reduce risk of perineal

injuries in childbirth.⁴ Hence, it would have been expected that a UK based study using perineal trauma as its primary outcome would address and discuss what interventions were undertaken to mitigate the risk of trauma.

We believe that there is a high risk that the exceptionally high OASI rate in the comparator arm has introduced bias in this non-inferiority RCT. Sanders et al conclude that their “Study findings provide reassurance that birth in water, in the context of UK midwifery practice, is not associated with increased risks for mothers or their babies. However, given the 2015 Supreme Court Montgomery ruling stating that “clinicians should disclose risks of childbirth” one should question, why the risk of childbirth in the POOL study was so unacceptably high and still remained undiscussed?

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References to the letter by de Leeuw et al

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2. Fodstad K, Laine K, Räisänen S. Obstetric anal sphincter injuries during instrumental vaginal delivery: An observational study based on 18-years of real-world data. *BJOG*. 2024 Jul 18. doi: 10.1111/1471-0528.17914. Online ahead of print.
3. Listen to Mums: Ending the Postcode Lottery on Perinatal Care

A report by The All-Party Parliamentary Group on Birth Trauma, 2024.