



Extended Research Article

Establishing the safety of waterbirth for mothers and their babies: the POOL cohort study with nested qualitative component

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Plain language summary

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Plain language summary

Using a birth pool, or bath, to be immersed in warm water should be offered as a choice of pain relief to women in labour with 'low-risk' pregnancies. 'Low risk' in maternity care refers to women without medical or pregnancy complications.

Among women who use water immersion during labour, some leave the water before birth, and others remain in the water and the baby is born underwater. When a baby is born underwater, this is known as waterbirth. There have been reports of babies becoming seriously ill, or even dying, after waterbirths. Some people were concerned that mothers were more likely to have severe tears or heavy blood loss. These are important outcomes for women, as heavy blood loss can be life threatening and severe tears need to be repaired with surgery and can cause distressing longer-term problems such as pain and incontinence. We therefore undertook a study to find out if waterbirths in the United Kingdom are as safe as giving birth out of water for women and their babies at low risk of complications.

Our study, called POOL, looked at the National Health Service records of 87,040 women who used a pool in labour between 2015 and 2022, across 26 National Health Service trusts. We compared women who gave birth in water to those who left the pool for extra medical care or more pain relief. Most of the women who got out of the pool for extra medical care were first-time mothers (1 in 3 compared to 1 in 20 of the women who had previously given birth). We looked at rates of severe vaginal tears experienced by women and rates of babies dying, needing antibiotics or help with their breathing.

Overall, we found that around half of all women who used a pool in labour had a waterbirth. The rate of problems was very similar in waterbirths and births out of water. Around 1 in 20 first-time mothers, and 1 in 100 mothers having their second, third or fourth baby, had a severe tear. Around 3 in every 100 babies needed antibiotics or help with their breathing after birth, and baby deaths were rare.

Interviews and visits to maternity units found some units were more supportive of offering women the option to labour and give birth in water than others. Midwifery units were found to largely have better facilities for water immersion and waterbirths and more confident supportive staff than obstetric units.

The POOL Study concluded that among low-risk women giving birth in the National Health Service who used water immersion during labour, staying in the water and giving birth in water were as safe for them and their babies as leaving the water before birth.

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This article

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