Evidence Based Birth Practice Bulletin

Water Immersion during Labor and Birth

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Question: Is water immersion during labor and birth safe? What are the risks and benefits?

Answer: Water immersion during labor and birth appears to be safe and effective for reducing labor pain and duration. There is higher quality evidence for water immersion during first stage labor than there is for water immersion during second stage. However, data from large observational studies suggests that water immersion during birth (second stage) is also safe.

Evidence: In a Cochrane review on water immersion during labor and birth, Cluett & Burns (2009) combined data from randomized, controlled trials that examined water immersion during first stage labor and/or water immersion during second stage.

Water immersion during first stage: Eight studies tested the effects of water immersion during first stage labor ($N = 2,499$). Women in the water immersion group reported significantly less pain, were less likely to require epidural analgesia, had a shorter first stage, and had lower blood pressures. There was no increased risk of blood loss, postpartum infection, C-section, instrumental delivery, abnormal fetal heart rate pattern, meconium, Apgar scores, neonatal intensive care admission, newborn infection, or birth weight. The investigators did not report any deaths.

Water immersion during second stage (pushing): Only 3 randomized controlled trial tested the effects of water immersion during second stage ($N = 286$). The analysis was limited by small sample sizes and cross-over between groups—in one study only 25% of the women who were randomized to birth in water actually did so. There were no differences between groups with regard to blood loss, perineal trauma, pain, duration of labor, maternal temperature, meconium, Apgar scores, or deaths. However, because of the study limitations, it is difficult to draw any conclusions about water immersion during second stage from this Cochrane review alone.

Few randomized, controlled studies testing water immersion during second stage have actually been conducted. This is partly because waterbirth has become a medically accepted and widely available intervention in the United Kingdom and other parts of Europe. It is difficult for researchers to randomly assign women to waterbirth or control because many women do not want to be in the control group. Therefore, for additional evidence on the safety of waterbirth, we must turn to observational studies of water immersion during second stage.

Observational evidence for waterbirth: Multiple researchers have published audits of waterbirths. In their review of the literature, Cluett and Burns (2009) state that to this date, researchers have not found any evidence of increased mother or infant risk with waterbirth.
In 1999, Gilbert & Tookey audited all waterbirths ($N = 4,032$) that took place in the United Kingdom between 1994-1996. No deaths were attributed to delivery in water, although there were 2 neonatal admissions for possible water aspiration. The researchers concluded that there was no difference in perinatal mortality rates between waterbirths and conventional births that took place during the same time period. These findings regarding the safety of waterbirth have been confirmed by a host of other researchers, including studies by Alderdice et al. (1995, $N = 4,494$ waterbirths), Geissbuehler et al. (2004, $N = 3,617$ waterbirths), Otigbah et al. (2000, $N = 301$ waterbirths), and Thoeni et al. (2005, $N = 1,600$ waterbirths). Overall, the findings from these studies suggest that there is no reliable evidence that exists that care providers can use to deny the choice of waterbirth to low-risk women.

In conclusion, although more randomized, controlled trials of water immersion during second stage labor are needed, large audits of waterbirths have provided evidence that waterbirths are safe and confer no excess risk to laboring women or neonates. Care providers should consider exploring the possibility of offering waterbirth to low-risk women. At the very least, water immersion during first stage labor should be offered.

For more information on offering waterbirth in your facility, contact Waterbirth International (www.waterbirth.org) to find out about trainings and credentialing in waterbirth.

References: