

Warm-water bathing did not reduce use of pharmacologic analgesia during the first stage of labor

Eckert K, Turnbull D, MacLennan A. Immersion in water in the first stage of labor: a randomized controlled trial. *Birth*. 2001 Jun;28:84-93.

QUESTION

In women in labor, does warm-water bathing reduce the need for pharmacologic pain relief more than no bathing?

DESIGN

Randomized (allocation concealed*), partially blinded (data analysts blinded to study group allocation where appropriate),* controlled trial with 8-month follow-up.

SETTING

A maternity tertiary-care referral center in Adelaide, South Australia, Australia.

PATIENTS

274 pregnant women (mean age 28 y) who were planning to deliver at the study hospital, were expecting a singleton pregnancy at term, and had no medical or obstetric complications. Exclusion criteria were labor before 37 weeks of gestation, plans to deliver by cesarean section, requirement for continuous electronic fetal monitoring, history of group B streptococcal vaginal colonization, or need for parenteral narcotic or epidural blockade shortly after admission. All women were included in the analysis.

INTERVENTION

Women were allocated to warm-water bathing ($n = 137$) or routine hospital care ($n = 137$). Women in the bathing group could have a bath for as long as they liked

during the first stage of labor. The bathtubs were in the delivery rooms and were 54 cm deep; the temperature of the water was maintained at 37° C. Routine care excluded the use of a bath but allowed a shower. All women were permitted other forms of pain relief, including parenteral analgesia or epidural blockade.

MAIN OUTCOME MEASURES

The primary outcome was use of pain relief during the first stage of labor. Secondary outcomes were maternal complications, interventions used in labor and delivery, and neonatal events.

MAIN RESULTS

40 women (29%) in the bathing group did not use the bath, and 36 women (26%) in the usual-care group used the bath. Analysis was by intention to treat. The groups did not differ for use of major pharmacologic analgesia (pethidine, fentanyl, or epidural, individually or collectively) ($P = 0.09$)† (Table). The bathing group did not differ from the usual-care group for induction (21% vs 20%; relative risk [RR] 1.07%, CI 0.62 to 1.67) or

augmentation of labor (32% vs 36%; RR 0.88, CI 0.63 to 1.22), duration of labor (460 vs 450 min, $P = 0.76$), method of delivery (e.g., emergency cesarean section 8.0% vs 6.6%, $\{P = 0.64\}$ †), or perineal trauma (e.g., second-degree tear or greater 27% vs 33%, $\{P = 0.29\}$ †). The groups did not differ for any neonatal outcome, but when resuscitation measures were combined, newborns in the bathing group required more resuscitation than did those in the usual-care group (49% vs 35%, $\{P = 0.02\}$ †).

CONCLUSION

In women in labor, warm-water bathing did not reduce the need for pharmacologic pain relief and did not affect maternal or postnatal outcomes.

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*See Glossary.

† P values calculated from data in article.

Warm-water bathing vs no bathing for pain relief during first stage of labor‡

Outcome	Bathing	No bathing	RRI (95% CI)	NNH
Need for major analgesia	85%	77%	10% (-1.5 to 24)	Not significant

‡Abbreviations defined in Glossary; RRI, NNH, and CI calculated from data in article.

COMMENTARY

While reviewing the study by Eckert and colleagues, I was reminded of Iain Chalmers' article (1) published almost 20 years ago in which he cited clinicians' reactions to a trial that involved immersing newborns in water. Those who firmly believe in the benefits of water immersion will argue that the length of time spent in the bath was too short, the bath was taken at the wrong time, or that the water was too hot. Similarly, nonbelievers will jump on any excuse to ban a practice they dislike. As a result of this study by Eckert and colleagues, at least one Canadian hospital has considered banning bathing during labor because of the effect on babies. This is a misinterpretation of the trial results. Only one neonatal outcome (need for resuscitation) differed significantly between the groups. The trial was not powered to detect differences in important neonatal outcomes, and given the number of statistical tests done, it could have been a chance finding. I hope that the Cochrane review (2) will soon be updated to include this trial and a recent Canadian trial (3).

Women should be informed that a bath during labor is unlikely to affect their use of analgesia or other medical interventions, affect

method of delivery, or improve their satisfaction with their birth experience and that the effects on the fetus are not fully known. Nevertheless, some women will want to have (and will enjoy) a bath. Labor wards that have baths should ensure that adequate infection control practices are in place and that water temperature and the well-being of mother and fetus are carefully monitored. But if resources are scarce, how can one justify the costs of installation and maintenance?

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