

IS WATERBIRTH BENEFICIAL FOR WOMEN'S WATERWORKS? A STUDY OF BLADDER, SEXUAL, AND PELVIC FLOOR PERFORMANCE FOLLOWING FIRST VAGINAL WATERBIRTH, USING THE ICIQ MODULAR LONG FORM QUESTIONNAIRES.

Hypothesis / aims of study

The House of Commons Health Committee (UK) recommended in 1992 that all hospitals should offer women in labour the option of a birthingpool delivery. One of the many hypothesized benefits to women, of water immersion during labour, is a reduction in the severity of perineal injury due to increased elasticity of the birth canal and perineum ⁽¹⁾. Evidence to date suggests that the use of birthing pool significantly reduces maternal pain and the need for epidural analgesia ⁽²⁾, has a beneficial effect on the length of the first, and second stages of labour, and possibly, on subsequent pelvic floor function. A retrospective data analysis of 156 waterbirths (WB) and 623 landbirths (LB) from one of the largest midwifery-led labour ward units in the UK showed that, water birth resulted in a shorter second stage of labour compared to land birth, but also in a greater incidence of third degree tears: 4/156 in WB vs 8/623 in LB (Table 1). In order to understand further the effect of water birth on bladder and pelvic floor function a postal questionnaire study using the validated ICIQ modular long form questionnaires (ICI personal communication) was undertaken.

Study design, materials and methods

Following ethical committee approval, 200 and 250 primiparous women with no medical or obstetric problems, who had a spontaneous vaginal WB or a LB respectively, were sent the questionnaires by post. In addition to a demographic questionnaire women were asked to complete the ICIQ vaginal, urinary symptoms, sexual matters and quality of life long form questionnaires. Only women who were at least a year postpartum, were not breastfeeding, and had not had further pregnancies, were asked to return the questionnaires. Statistical analysis was performed using the Two-sample t test with unequal variances.

Results

80 women from the WB group and 56 from the LB who returned the questionnaires, fulfilled the inclusion criteria. Analysis of the questionnaires received, showed no significant differences between both groups in gestational age (all full term pregnancies); maternal age, height and weight; infant's weight and head circumference; length of 1st stage of labour and perineal trauma. Interestingly results again confirmed a significantly shorter 2nd stage in the WB group (Table 2). Adjusted by ethnicity, Asian women had slightly longer 2nd stages whereas black women had shorter 2nd stages. Although a significant number of women reported some mild form of vaginal (Table 3A and 3B), urinary (Table 4A and 4B), and sexual symptoms (Table 5), and scores tended to be higher in the WB group, there was no statistical significant difference between the two groups. Only Asian women reported significantly less vaginal symptoms and sexual problems (P = 0.003). However, the interaction test showed waterbirth did not have a particular bearing in the difference seen. There was also no significant difference in QoL and urinary symptoms between both groups (Table 6).

When women were asked about the likelihood of having a second waterbirth, 84% replied "very likely"; 5% replied "likely"; 8% were "undecided"; 1 replied "unlikely"; and 1 said "very unlikely".

Interpretation of results

Waterbirth appears to significantly reduce the length of the 2nd stage of labour and results in a high level of patient satisfaction. There does not appear to be any benefit of water birth with respect to perineal injury, bladder, sexual, or vaginal symptoms as measured by the ICIQ.

Concluding message

Although there was a trend for each of symptoms assessed to be worse in the water birth group, this difference was not statistically significant.

References

1. Labour and birth in water in England and Wales: survey report. British Journal of Midwifery, 1995; 3(7): 376-82
2. Immersion in water in the first stage of labour: a randomised controlled trial. Birth 2001; 28 (2): 84-93.

Table 1. Retrospective analysis of data from Midwifery-led unit.

	WB (2002-2003)	%	LB (2003)	%
ND	1	1%	60	10%
Intact	52	33%	222	36%
1 st tear	40	26%	56	9%
2 nd tear	59	38%	247	40%
3 rd tear	4	2.5%	8	1% (1.2%)
Epis	0	0	30	5%
Length of labour				
1 st Stage*	6 hours		5. 50 hours	
2 nd Stage**	43 min		57 min	
N	156	100%	623	100%

ND: No documented. (*) = mean value $p > 0.05$; (**) = mean value $p = 0.01$

Table 2. Study groups

	WB	LB
Baby weight (*)	3331 Kg	3220 Kg
Baby head circumference (*)	33.4 cm	34.4 cm
Maternal height (*)	165 cm	163 cm
Maternal weight (*)	60 Kg	61 kg
Gestation at birth (*)	40 weeks	40 weeks
1st stage of labour (*)	6.35 h	5.25 h
2nd stage of labour (**)	44 min	68 min

(*) = mean value $P > 0.05$; (**) = mean value $P = 0.01$

Table 3A. Vaginal symptoms

	WB	LB
Dragging pain	31%	22%
Soreness	19%	22%
Laxity	34%	35%
Reduced sensation	25%	28%
Feeling Lump	13%	9%
Tight	16%	18%
Dry	25%	37%
Pain	8%	0%

Table 3B. Vaginal symptoms questionnaire

	WB	LB
No symptoms	27%	28%
Mild symptoms	73%	72%
Moderate symptoms	0	0
Severe symptoms	0	0
Mean score value *	2.6	2.3

* $P > 0.05$

Table 4A. Urinary symptoms

	WB	LB
Stress	66%	68%
Freq	40%	31%
Urgency	52%	39%
Difficult urination	26%	13%
Nocturia	10%	5%
Pain	10%	7%

Table 4B. Urinary symptoms questionnaire

	WB	LB
No symptoms	5%	0%
Mild symptoms	94%	100%
Moderate symptoms	1%	0
Severe symptoms	0	0
Mean score value*	5.8	4.9

* $P > 0.05$

Table 5.
Sexual symptoms questionnaire

	WB	LB
No symptoms	50%	58%
Mild symptoms	45%	38%
Moderate symptoms	5%	2%
Severe symptoms	0	0
Mean score value*	0.89	0.68

* P > 0.05

Table 6. QoL and urinary incontinence

	WB	LB
No effect	10%	35%
Mild effect	84%	65%
Moderate effect	4%	0
Severe effect	0	0
QoL mean score*	21.9	21.4

* P > 0.05