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Are there inequalities in choice of birthing position? Sociodemographic and labour factors associated with the supine position during the second stage of labour

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Abstract
Objective: to establish which factors are associated with birthing positions throughout the second stage of labour and at the time of birth.
Design: retrospective cohort study.
Setting: primary care midwifery practices in the Netherlands.
Participants: 665 low-risk women who received midwife-led care.
Measurements and findings: a postal questionnaire was sent to women 3–4 years after birth. The number of women who remained in the supine position throughout the second stage varied between midwifery practices, ranging from 31.3% to 95.9% ($p<0.001$). The majority of women pushed and gave birth in the supine position. For positions used throughout the second stage of labour, a stepwise forward logistic regression analysis was used to examine effects controlled for other factors. Women aged $\geqslant$36 years and highly educated women were less likely to use the supine pushing position alone [odds ratio (OR) 0.54, 95% confidence intervals (CI) 0.31–0.94; OR 0.40, 95% CI 0.21–0.73, respectively]. Women who pushed for longer than 60 minutes and who were referred during the second stage of labour were also less likely to use the supine position alone (OR 0.32, 95% CI 0.16–0.64; OR 0.44, 95% CI 0.23–0.86, respectively). Bivariate analyses were conducted for effects on position at the time of birth. Age $\geqslant$36 years, higher education and homebirth were associated with giving birth in a non-supine position.
Key conclusions: the finding that highly educated and older women were more likely to use non-supine birthing positions suggests inequalities in position choice. Although the Dutch maternity care system empowers women to choose their own place of birth, many may not be encouraged to make choices in birthing positions.

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Implications for practice: education of women, midwives, obstetricians and perhaps the public in general is necessary to make alternatives to the supine position a logical option for all women. Future studies need to establish midwife, clinical and other factors that have an effect on women's choice of birthing positions, and identify strategies that empower women to make their own choices.

Keywords Birthing positions; Consumer choice; Maternal age; Educational status; Homebirth

Introduction

Before the 17th Century, the upright birthing position was common in Western countries (Atwood, 1976; Gélis, 1991). Following the introduction of obstetric instruments, such as delivery forceps, the supine position became popular; today, it is the norm for the second stage of labour in Western cultures. This position is convenient for health professionals but is not always of benefit to women.

Two meta-analyses showed that the supine position was associated with more instrumental deliveries and increased reporting of severe pain compared with other positions (Gupta and Hofmeyr, 2003; de Jonge et al., 2004). In addition, more episiotomies were associated with the supine position, and this finding is partly offset by a decrease in perineal tears. In one meta-analysis, more abnormal fetal heart rates were found in the supine position and in another meta-analysis, a lower umbilical artery pH was borderline significant. The risk of blood loss greater than 500 ml was increased in upright positions (Gupta and Hofmeyr, 2003; de Jonge et al., 2004). However, an increase in blood loss probably originates from perineal damage rather than from the uterus (de Jonge et al., 2007).

Birthing positions also influence psychological outcomes. Being able to choose positions that are most comfortable can increase women's experience of being in control (Green et al., 1990; Kelly et al., 1999; de Jonge and Lagro-Janssen, 2004; Coppen, 2005a). Feeling in control is a major factor contributing to a positive birth experience and postnatal well-being (Green et al., 1990; Waldenstrom, 1999; Green and Baston, 2003; Goodman et al., 2004; Waldenstrom et al., 2004). These psychological outcomes are increasingly recognised as important aspects of quality of care (Simkin, 1991; Bramadat and Driedger, 1993; Kennedy et al., 2004). Women are often not aware of position options and their advantages and disadvantages, which restricts their ability to choose non-supine birthing positions.

There is limited evidence that the ability to choose positions is dependent on the maternity care setting and on the characteristics of a woman. Midwives' tendency to use certain positions is influenced by clinical factors and the work environment (Hanson, 1998). Midwives are more likely to use non-supine positions than obstetricians, and midwives who work in settings where they have a great deal of autonomy are more likely to use non-supine positions (Fullerton et al., 1996; Hanson, 1998; Roberts, 2002). It has been argued that autonomous midwives are innovative and that they empower women to be actively involved in their birth (Hanson, 1998; Roberts, 2002). Empowering women in this respect is often equated with encouraging the use of non-supine positions.

There is a lack of knowledge about the practitioner–client dynamic in position choice during the second stage of labour (Hanson, 1998; Coppen, 2005b). It is important to identify factors that influence the use of birthing positions. This knowledge can help to design strategies that enable women to get into positions that are most comfortable for them.

To minimise the effect of medical interventions and restrictive clinical environments, a study into factors influencing birthing positions is best conducted among low-risk women in settings where midwives are autonomous practitioners. In the Netherlands, independent primary care midwives only look after low-risk women and this setting is therefore ideal for such a study.

This study examined the relative influence of sociodemographic and labour factors on the use of birthing positions during the second stage of labour and at the time of birth.

Methods

Participants and data collection

This study was part of a retrospective cohort study in the Netherlands among women 3–4 years after birth using a postal questionnaire. The study design was similar to the 3-year follow-up of the Greater Expectations Study in England (Baston, 2006).

Eight primary care midwifery practices from all over the Netherlands took part in the study. In