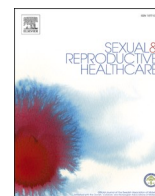




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Expectations of the upcoming birth – A survey of women's self-efficacy and birth positions

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ABSTRACT

Background: Adopting an upright sacrum flexible position may facilitate physiological childbirth, which many pregnant women wish for. A positive association between women's choice on birthing position and birthing experience has been found.

Objective: The aim of this study was to examine women's preferred birth position, self-efficacy at term and their actual birth position at time of birth.

Methods: A survey of 554 pregnant Danish women at gestational week 38. Data was collected using an online survey and information was retracted from the woman's medical record. Descriptive statistics and non-parametric tests were used and univariate and multivariate logistic regression models were used to analyse the association between self-efficacy and fulfilled wish of birth position.

Findings: The majority of women (>70 %) wished to give birth in a sacrum flexible position but more than 80 % gave birth in a non-flexible position. Less than 50 % had their wish of birth position fulfilled. All women reported overall high self-efficacy. No difference in having wish for birth position fulfilled was found comparing women with high and low self-efficacy.

Conclusions: Most women wished for a sacrum flexible position but more than 80% gave birth in a sacrum non-flexible position and less than 50% had their wish for birth position fulfilled. Level of self-efficacy did not affect the likelihood of having wish of birth position fulfilled indicating that the culture at the birth setting and skills and attitudes among birth providers may have a considerable impact on women's choice of birth position.

Introduction

For centuries, midwives have encouraged women to adopt various positions to ease and facilitate childbirth [1–4]. Evidence supports adopting an upright sacrum flexible position, which is associated with a shorter length of labour and fewer obstetric interventions. It is assumed that the positive influence of gravity may aid in expanding pelvic dimensions [2–5]. Further, giving birth in an upright position is associated with reporting higher maternal satisfaction with childbirth [6,7]. Despite existing evidence and recommendations from the World Health Organization (WHO) to adopt any safe and comfortable birth position during childbirth, the majority of women in western countries give birth in a supine or semi-recumbent position [3,8,9]. This could be partly

explained by the fact that most women give birth at large hospitals where standard clinical practice entails interventions such as continuous electronic monitoring and instrumental birth that lead to recumbent birth positions [3,4,10,11]. Further, preferences of health professionals may also impact the choice of birth position as lack of skills or recumbent positions for convenience may be preferred [10,12,13].

Most women wish for a physiological childbirth of a healthy baby. At the same time, most women also acknowledge that the labour process may not develop as expected and adjustments and interventions may be needed [6,12,14]. A woman's confidence and belief in her capability to perform are known to influence her ability to achieve physiological childbirth [14,15]. Self-efficacy (SE) is often used to measure a person's belief and ability to succeed in a particular situation. According to

Abbreviations: SE, self-efficacy.

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Bandura SE reflects not only personal beliefs and capabilities to manage prospective situations but is also influenced by previous accomplishments, knowledge, and physiological responses [15–18].

Birthing positions are influenced by several factors, such as the birth environment, caregivers' preferences, medical interventions, and maternal wishes. Encouragement to adopt a suitable and comfortable position during labour contributes to the woman's feelings of control with positive association with the birthing experience and subsequent emotional well-being [2,3,7]. However, there is limited evidence available examining women's requests for birthing positions before childbirth and their actual position at birth.

This study aimed to examine women's preferred birth position, self-efficacy at term pregnancy, and their actual birth position at time of birth.

Method

An online survey was conducted with pregnant women registered for childbirth at Aarhus University Hospital, Denmark, from the 1st of September to the 31st of December 2020. Eligibility criteria included being pregnant at gestational week 38, understanding Danish and the ability to complete the online survey. Women were invited to participate through their private e-Boks. E-Boks is a trusted national platform for digital communication between the state and Danish citizens [19], including the public health organisations providing free maternity care. A short survey description was provided with a link to the online survey. Information on how to gain further details about the survey was also provided. After one week, a reminder letter was sent to their e-Boks if the women had not completed the survey.

Survey construction

The online survey consisted of 45 items that included questions on characteristics of the participating women, expectations, and knowledge regarding birth positions and self-reported SE.

The initial part of the survey consisted of nine items on demographics (e.g., maternal age, ethnicity, level of education) and 11 items on lifestyle (e.g., alcohol consumption, level of physical activity). Further, eight items on obstetric characteristics were included (e.g., pregnancy complications and previous births). Seven items on expectations and knowledge of birth positions were constructed to explore if the women had considered their preferred birth position during childbirth, knowledge of birth positions, and where they had obtained their knowledge about birth positions.

The last part of the survey consisted of nine items on SE rated on an 11-point (0–10) numeric rating scale. The items were constructed using a translated version of the Self-Efficacy Regarding Vaginal Birth Scale (SEVB), which covers self-concept regarding a vaginal birth (three items), self-control regarding vaginal birth (two items), and self-cognition regarding vaginal birth (four items) (Appendix 1- Table 1). Questions regarding SE were only administered to women indicating that their upcoming childbirth was a planned vaginal birth.

The SEVB was translated into Danish using the four steps in the process of translation and adaptation of instruments recommended by WHO [20]. Translation from English to Danish was performed by two independent translators with professional usage of the English language. Differences in translation between the two translators were compared and discussed by an expert panel, and consensus was reached after adjusting for minor discrepancies [20]. The expert panel consisted of the professional translators, an experienced midwife, and a senior researcher with expert measure development and evaluation knowledge. A final translated version of the SEVB was back-translated into English by two independent professional translators with no prior knowledge of the original scale. The back-translated version was compared to the original SEVB, and only minor differences were identified and adjusted.

The survey was pilot tested in the target population. Ten pregnant women who were 38 weeks pregnant tested the questionnaire for comprehensibility and readability, and a few minor linguistic adjustments were made.

Outcome measurements

Outcomes of interest were an expectation to give birth in a certain birth position, self-reported SE, and actual birth position. An expectation to give birth in a specific position was stated at the time of responding the survey. Women indicated if they had a preferred position, they expected to give birth in. The preferred birth position was dichotomized into sacrum flexible (squat, all fours, standing, birthing stool, water-birth) and sacrum non-flexible (on the side, supine) positions. Further, the level and source of knowledge on birth positions were studied. Self-reported SE was collected by the nine items that responded to a scale from 0 to 10 with a possible score of 0–90, with 90 being the highest, indicating high SE. SE was dichotomized into low and high SE, respectively, with the median as a cut-off point.

Potential confounding variables of interest included maternal age and parity. Additional potential confounders were divided into three categories; maternal demographics, knowledge, and obstetrics. *Maternal demographics* included marital status, education level, and work situation. *Knowledge* included sufficient knowledge of which position to use during labour and sufficient knowledge of which positions are optimal to use during different stages of labour. *Obstetrics* included onset of labour, epidural analgesia, and mode of birth.

Statistical analysis

The women were divided into three different groups. Population 1 (POP1): All women completing the online survey. Population 2 (POP2): All women completing the survey and providing written consent to collect data on birth outcomes from medical records. Population 3 (POP3): All women completing the survey, consenting to information being extracted from medical records, and wishing to give birth in a certain position.

Descriptive statistics and non-parametric tests were used to calculate absolute numbers, percentages, and mean or median on maternal characteristics at inclusion for POP1 and POP2 and further stratified by parity. Descriptive statistics and non-parametric tests were further used to analyse data on expectations and knowledge of birth positions and SE for POP1, and POP2 and stratified by parity.

This was repeated for maternal outcomes at the time of birth, but only for POP2 and nulli- and multiparous women. The proportion of women giving birth in the preferred position were presented for POP3 and stratified by parity.

For POP3, univariate and multivariate logistic regression models were used to analyse the association between high and low SE and giving birth in their preferred position and were presented as an adjusted risks ratio with 95 % confidence intervals (CI). The analysis was further stratified by parity. The regression analysis was presented in five steps analysing the impact of parity, age, demographics, knowledge, and obstetrics on the association between high/low SE and having experienced the birth position they preferred.

The reliability of the items on SE was assessed by calculating Cronbach's alpha; an alpha above 0.70 indicated satisfactory internal consistency [21].

All analyses were performed using Stata Statistical Software, version 16.1 (STATA-corp. College Station, TX, USA, 2021). All reported *P*-values were two-sided, and the level of statistical significance was 5 %.

Ethical consideration

Permission to use the SEVB scale was obtained from the original developer, Li-Yin Chen [22]. In Denmark, no ethical approval is needed

to carry out data-based surveys. Informed consent was gained by the women upon responding to the questionnaire. All data included in the study were stored according to the Act on Processing of Personal Data, and the study was approved by the Danish Data Protection Agency in the Central Denmark Region (1–16-02–319-20).

Findings

Characteristics

In total, 1048 nulli- and multiparous women were invited to participate, of whom 554 (53 %) completed the survey (POP1). Further, 447 (81 %) of the responding women consented to the researchers accessing information on birth outcomes being extracted from their medical record (POP2), and 258 (58 %) expressed a wish to give birth in a specific birth position at the time of responding to the survey (POP3) (Fig. 1).

Table 1 displays characteristics of the responding women. There were equal numbers of nulliparous and multiparous women (55 % and

45 %, respectively). The largest group of women responding were of Danish origin (94 %) and were married or cohabiting with their partner (98 %). Almost half of the women had a university degree (48 %). More than 85 % of the women had experienced an uncomplicated pregnancy, and the majority planned to give birth vaginally. Nulliparous women were significantly younger compared to multiparous women (29.4 years compared to 32.5 years), consumed less alcohol, and were more physically active during leisure time at the time of responding than multiparous women (29.4 years compared to 32.5 years), consumed less alcohol, and were more physically active during leisure time when responding the survey. A smaller proportion of nulliparous women were enrolled in case-load midwifery care during pregnancy and childbirth. Few were planning to have an elective caesareans section compared to multiparous women (Table 1).

Birth positions

Table 2 presents women's knowledge and expectations of their childbirth. More than 56 % indicated by 38 weeks of pregnancy that

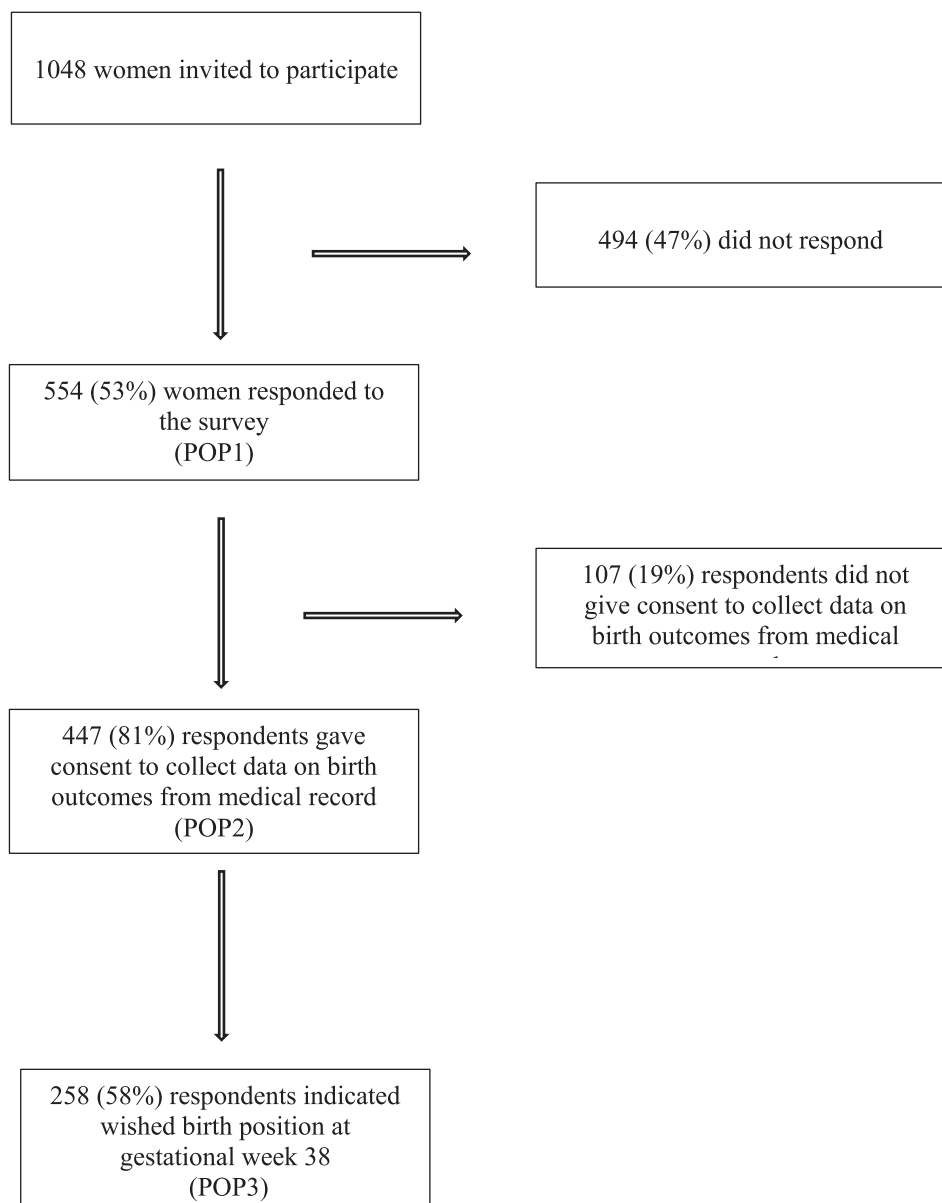


Fig. 1. Flowchart of women responding the survey.

Table 1

Maternal characteristics for women included in the survey (POP1), for women who gave consent to collect information from medical record (POP2). Results are presented as absolute numbers, percentage, mean with standard deviation (sd).

	POP1 (n = 554)		POP2 (n = 447)		Nulliparous (n = 236)		Multiparous (n = 210)	
	n	%	n	%	n	%	n	%
Parity								
Nulliparous women	302	54.5	236	52.8				
Multiparous women	250	45.1	210	47.0				
Missing	2	0.4	1	0.2				
Age*	552	30.8 (3.9)	445	30.9 (3.8)	235	29.4 (3.5)	209	32.5 (3.4)
Body Mass Index (BMI)	552	23.5 (4.5)	445	23.4 (4.6)	235	23.6 (5.1)	209	23.3 (3.9)
Ethnicity								
Danish	519	93.7	424	94.9	223	94.5	201	95.7
Smoking	4	0.7	0	0	0	0	0	0
Cigarettes per day	2	5	0	0	0	0	0	0
E-cigarettes	1	0.2	1	0.2	1	0.4	0	0
Alcohol consumption*	17	3.1	16	3.6	3	1.3	13	6.2
Units per week	16	0.9 (0.4)	15	0.9 (0.4)	3	1 (0)	12	0.9 (0.5)
Medicine intake	79	14.3	64	14.3	35	14.8	29	13.8
Physical exercise*								
Yes	297	53.6	239	53.5	150	63.6	88	41.9
No	253	45.7	205	45.9	86	36.4	119	56.7
Missing	4	0.7	3	0.7	0	0	3	1.4
Physical exercise per week								
1–3 times per week	193	65.0	154	64.4	95	63.3	58	65.9
4–6 times per week	86	29.0	71	29.7	48	32.0	23	26.1
7 times or more	18	6.0	14	5.9	7	4.7	7	8.0
Marital status*								
Married /cohabit	542	97.8	437	97.8	231	97.9	205	97.6
Single/not cohabit	12	2.2	10	2.2	5	2.12	5	2.4
Education								
Basic/second. education/ skilled worker	60	10.8	41	9.2	25	10.6	16	7.6
Short higher education (<2.5 years)	20	3.6	13	2.9	7	3.0	6	2.9
Medium higher education (3–4.5 years)	206	37.2	166	37.1	93	39.4	72	34.3
Long higher education (≥5 years)	268	48.4	227	50.8	111	47.0	116	55.3
Work situation*								
Full time (37 h per week)	364	65.7	295	66.0	160	67.8	134	63.8
Part time	60	10.8	53	11.9	12	5.1	41	19.5
Student	70	12.6	53	11.9	42	17.8	11	5.2
Unemployed	60	10.8	46	10.3	22	9.3	24	11.4
Uncomplicated pregnancy	479	86.5	389	87.0	202	85.6	177	88.1
Prenatal maternity care*								
Basic midwifery care	453	81.3	365	81.7	203	86.0	161	76.7
Case-load midwifery care	57	10.2	50	11.2	15	6.4	35	16.7
Special maternity care ^ε	12	2.2	8	1.8	6	2.5	2	1.0
Unknown	35	6.3	24	5.4	12	5.1	12	5.7
Planned mode of birth*								
Vaginal birth	537	96.9	434	97.1	232	98.3	201	95.7
Elective caesarean	15	2.7	11	2.5	2	0.9	9	4.3
Missing	2	0.4	2	0.5	2	0.9	0	0

* *p*-value less than 0.05.

^ε Prenatal care for women with either physical, psychological or social vulnerability.

they had considered birth position. The majority wished to give birth in a sacrum flexible position, and more than 30 % wanted to give birth in water (Table 2).

Knowledge about birth positions was obtained mainly by the women from the internet/social media (41 %), the midwife (27 %), and friends/family (26 %). Most women indicated having sufficient knowledge about which positions to use during the second stage of labour, but only 30 % indicated they had sufficient knowledge about which optimal positions could be used during the different stages of labour and birth (Table 2).

Maternal outcome at the time of birth is shown in Table 3 for POP2 and further stratified by parity. Most women (75 %) had a spontaneous onset of labour, but nulliparous women were significantly more likely to have their labour induced (24 %). Multiparous women were more likely to give birth at home, used less epidural analgesia, and had a higher proportion of spontaneous vaginal birth. More than 80 % of the women gave birth in a sacrum non-flexible position (Table 3).

At the time of birth, less than 50 % gave birth in the specific birth position they wanted to, with more multiparous women (49.6 %) compared to nulliparous women (33.1 %) achieving this (Table 3).

Self-efficacy and birth positions

Overall SE was high with a mean score of 68.1 (sd 12.3), indicating high confidence in the upcoming birth (Table 2 and appendix Fig. 1) and no difference was found between nulliparous and multiparous women. In all nine items measuring SE mean scores were high, with the item relating to collaboration with the staff during childbirth being the highest (8.7 (sd 1.5)) and the item on self-control during childbirth being the lowest (6.8 (sd 2.0)). However, multiparous women had a significantly higher score for the item concerning self-control during childbirth than nulliparous women; 7.1 (sd 2.2) and 6.5 (sd 1.9), respectively (Table 2).

No difference was found in the proportion of nulliparous and multiparous women who gave birth in the preferred position when comparing women with high and low SE, respectively (Table 4). A non-significant trend towards multiparous women with high SE was more likely to experience the birth position they preferred than nulliparous women with high SE. More nulliparous women than multiparous women with low SE did not have the birth position of their choice (35.3 % and

Table 2

The women's knowledge and expectations for the upcoming birth. Results are presented as absolute numbers, percentage, and mean with standard deviation (sd) for all responding women (POP1) and women who gave consent to collect information from medical record (POP2).

	POP1 (n = 554)		POP2 (n = 447)		Nulliparous (n = 236)		Multiparous (n = 210)	
	n	%	n	%	n	%	n	%
Have you considered which birth position you would like?								
Yes	310	56.0	258	57.7	133	56.4	125	59.5
No	227	41.0	176	39.4	99	42.0	76	36.2
Missing	17	3.0	13	2.9	4	1.7	9	4.3
Wished birth position								
Sacrum non-flexible position								
Supine position	56	18.2	44	17.3	16	12.2	28	22.6
On the side	35	11.4	31	12.2	17	13.0	14	11.3
Sacrum flexible position								
Squat	20	6.5	17	6.7	10	7.6	7	5.7
All fours	49	16.0	41	16.1	24	18.3	17	13.7
Standing	24	7.8	18	7.1	8	6.1	10	8.1
Birthstool	21	6.8	17	6.7	11	8.4	6	4.8
Waterbirth	102	33.2	87	34.1	45	34.4	42	33.9
Do you have sufficient knowledge on birth positions?								
Yes	346	62.5	282	63.1	149	63.1	133	63.3
No	188	33.9	150	33.6	83	35.2	66	31.4
Missing	20	3.6	15	3.4	4	1.7	11	5.2
Do you know when to use different positions during childbirth?								
Yes	163	29.4	128	28.7	77	32.6	51	24.3
No	371	67.0	303	67.8	154	65.3	148	70.5
Missing	20	3.6	16	3.6	5	2.1	11	5.2
Source of knowledge on birth positions^ε								
Midwife	150	27.1	118	26.4	64	27.1	54	25.7
Prenatal class (private midwife)	76	13.7	63	14.1	39	16.5	24	11.4
Prenatal class (private)	107	19.3	87	19.5	53	22.5	34	16.2
Internet/social media	227	41.0	182	40.7	106	44.9	76	36.2
Friends/family*	146	26.4	119	26.6	74	31.4	45	21.4
Other	130	23.5	115	25.7	57	24.2	57	27.1
	n	mean (sd)	n	mean (sd)	n	mean (sd)	n	mean (sd)
How important is a vaginal birth to you?								
Overall self-efficacy	537	68.1 (12.3)	434	68.7 (12.2)	230	67.7 (11.7)	199	69.9 (12.7)
I am confident that I will have an easy vaginal birth	537	6.8 (2.1)	434	6.9 (2.1)	232	6.7 (1.9)	201	7.1 (2.3)
I am confident that my pelvis and my body are designed for a successful birth	537	8.1 (1.9)	434	8.2 (1.8)	232	8.2 (1.7)	201	8.1 (2.0)
I know that I can supply sufficient nutrition so my child can manage a vaginal birth	534	8.4 (1.7)	432	8.5 (1.7)	231	8.4 (1.6)	200	8.6 (1.7)
I am confident that I can manage the pain from the contractions during birth	537	7.5 (2.0)	434	7.5 (2.0)	232	7.4 (1.8)	201	7.6 (2.2)
I am in control of myself during the birth*	537	6.8 (2.0)	434	6.8 (2.0)	232	6.5 (1.9)	201	7.1 (2.2)
I am confident that I can collaborate with the staff (the midwife) during a birth	537	8.7 (1.5)	434	8.8 (1.4)	232	8.7 (1.3)	201	8.9 (1.5)
If problems arise during the birth, I have several ways to manage them	536	6.8 (2.1)	433	7.0 (2.0)	231	6.9 (2.0)	201	7.1 (2.0)
I am well prepared for the challenges related to a vaginal birth	536	7.1 (2.1)	433	7.2 (2.1)	232	7.2 (2.1)	200	7.3 (2.2)
The support of the family gives me strength to overcome the challenges of a birth	535	7.8 (2.1)	432	7.9 (2.1)	232	7.8 (2.2)	199	7.9 (2.1)

* p -value < 0.05.

^ε Multiple answers possible.

20.0 %, respectively) (Table 4).

Unadjusted and adjusted RR for the association between SE and preferred position at birth are presented in Table 4 for POP3 and stratified by parity. No association was found between SE and preferred birth position for nulliparous women or multiparous women in this sample of mainly high educated women. All single confounders were added to the regression model separately, and no single confounder changed the result. The stepwise inclusion of confounders only made minor changes to the risk estimate (Table 4).

Reliability

The internal consistency of the items regarding SE was 0.87, indicating good consistency [21].

Discussion

In this study, pregnant women at 38 weeks experienced high SE towards the upcoming birth and mainly preferred to give birth in sacrum flexible positions. However, most women (greater than 80 %) ended up giving birth in sacrum non-flexible positions.

The wish to give birth in a sacrum flexible position and to have a

waterbirth (Table 2) may originate from women's desire for autonomy and involvement during childbirth [6,7,23,24]. Waterbirth has been found to enhance women's sense of autonomy and control as well as facilitate change of position during labour [25,26]. Moreover, evidence describes women experiencing less pain, having a higher sense of control, and having a more positive childbirth experience in upright positions [2,6,11,27]. However, women accept that birth may be an unpredictable event and that they have to rely on professional support and guidance and be willing to change plans as childbirth progresses [6,10,12].

In this study, most women gave birth in sacrum non-flexible positions and less than 50 % of women gave birth in their preferred birth position. The proportion of women giving birth in a non-supine position is reflective of data reported in other studies [7,23]. However, compared to a Dutch study by Nieuwenhuijze et al. (2012), less than 50 % of women have their choice of birth position is low [7]. Multiparous women were more likely to give birth in the position of their choice as did women preferring a sacrum non-flexible birth position (Table 3). Nieuwenhuijze et al. described similar results among women with a prior wish for non-flexible positions during childbirth [7], and thus more multiparous women giving birth in their preferred birth position may be due to more wishing for a non-supine position (Table 2).

Table 4

High and low self-efficacy and wished birth position fulfilled presented as absolute numbers and percentage for the women with a wish for birth position (POP3). Association between high and low self-efficacy and wished birth position fulfilled presented as risk ratio with 95% confidence intervals (CI).

	POP3 (n = 258)				Nulliparous (n = 133)				Multiparous (n = 125)			
	Fulfilled		Not fulfilled		Fulfilled		Not fulfilled		Fulfilled		Not fulfilled	
	n	%	n	%	n	%	n	%	n	%	n	%
Low Self-Efficacy	46	17.8	72	27.9	20	15.0	47	35.3	26	20.8	25	20.0
High Self-Efficacy	60	23.3	80	31	24	18.1	42	31.6	36	28.8	38	30.4
Adjusted analysis	Risk ratio		95 % CI		Risk ratio		95 % CI		Risk ratio		95 % CI	
unadjusted risk ratio	0.96	(0.62;1.50)		1.02	(0.45;2.28)		0.84	(0.51;1.40)				
Adjusted for parity	0.89	(0.58;1.37)		–	–		–	–				
Adjusted for age	0.94	(0.61;1.46)		1.00	(0.45;2.24)		0.86	(0.52;1.42)				
Adjusted for demographics ^a	0.96	(0.62;1.50)		1.01	(0.44;2.29)		0.84	(0.51;1.41)				
Adjusted for knowledge ^b	0.96	(0.61;1.51)		1.10	(0.48;2.54)		0.78	(0.47;1.30)				
Adjusted for obstetrics ^c	0.90	(0.58;1.40)		1.02	(0.46;2.29)		0.80	(0.48;1.32)				

^a Demographics: Marital status, education, work situation.

^b Knowledge: Sufficient knowledge of which positions to use during different stages of labour.

^c Obstetrics: Onset of labour, epidural analgesia, mode of birth.

routine hands-on the perineum to reduce perineal tears may also leave women with less choice regarding birth position [2,33]. This could explain why a large proportion of the women in this study did not give birth in the position of their preference. The adjusted analysis did not provide further explanation as to why women did not give birth in their preferred position (Table 4), indicating that factors other than demographics, knowledge, or obstetric intervention may influence the choice of birth position [3,4,10,11].

Another consequence of the risk-based approach and a barrier to the use of sacrum flexible positions might be a loss of knowledge, skills, and confidence among midwives to support and guide women to adopt upright positions [3,4,10,11]. Lack of knowledge about birth position options by the pregnant women may be another factor influencing the actual birth position experienced at birth [11]. However, the choice of birth position may be determined more by midwives' advice rather than women's personal preferences. Further, the midwifery model of care has been shown to facilitate greater information sharing between the woman and the midwife, including support of sacrum non-flexible positions [3,11,23].

The overall results of this study found a difference between preferred choice of birth position and actual birth position in a population of women with high SE. Adjusting for demographics, knowledge of birth positions, and obstetric factors did not change the woman's likelihood of having her wish of birth position fulfilled. The culture of the birth setting, including the birth provider's skills and opinions, is known to have a substantial impact on the woman's actual birth position. Focusing on including women in decision-making about birth position is important to provide woman-centred care.

Strengths and limitations

The online survey consisted of SE items that originated from a validated English version translated into Danish. The online survey was systematically sent to all women booked for an antenatal visit when 38 weeks pregnant with reminders sent to all non-responders one week after to ensure higher participation. The response rate of 53 % as in this study is acceptable [34], although there is still a risk of selection bias. Women with more knowledge or specific interest in birth positions may be more likely to answer the survey. Further, the women in this study were highly educated, so the findings may differ for women with a lower educational level.

Due to the study design, it is not possible to establish the full explanation behind the preferred birth position and actual birth position. Further, a follow-up study may have provided information on why most of the women gave birth in another birth position than preferred as well as their birth experience.

Conclusion

In this study on birth positions more than half of the women had a preferred birth position in late pregnancy and the majority wished for a sacrum flexible birth position. Further, the women reported overall high SE, indicating high confidence for the upcoming childbirth. However, at the time of birth, more than 80 % gave birth in a sacrum non-flexible position less than 50 % of the women had their wish for birth position fulfilled. The level of SE did not affect the likelihood of giving birth in the preferred position indicating that the culture of the birth setting, provider skills and attitudes may have a considerable impact on women's choice of birth position.

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Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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Appendix A. Supplementary material

Supplementary data to this article can be found online at <https://doi.org/10.1016/j.srhc.2022.100783>.

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