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# Fulfilment of expectations on birth and the postpartum period – A Swedish cohort study

Birgitta Larsson [a,b], Magdalena Elfving [b], Elin Vesterlund [b], Annika Karlström [b], Ingegerd Hildingsson [a,b,*]

[a] Department of Women's and Children's Health, Uppsala University, Uppsala, Sweden
[b] Department of Nursing, Mid Sweden University, Sundsvall, Sweden

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ABSTRACT

*Background:* The fulfilment of birth expectations is important to women and strongly related to birth satisfaction.
*Objective:* The aim of this study was to investigate women's expectations and experiences of birth and the postnatal period and associated factors. An additional aim was to explore if women's expectations were fulfilled.
*Methods:* A longitudinal cohort study of 280 women where 226 were followed up two months after birth. Data were collected using questionnaires. Odds ratios with a 95% confidence interval were calculated between the explanatory background variables and expectations/experiences.
*Results:* The majority (79%) rated continuity as important, but few (32%) actually had a known midwife assisting during birth. Positive birth expectations were found in 37% and a positive birth experience in 66%. Many women (56%) preferred a short postnatal stay, and 63% went home within 24 h. Thirty-six percent preferred postnatal home visits, but only eight women (3.5%) received this. Breastfeeding expectations were high with 86% rating it as important but after birth 63% reported exclusively breastfeeding. Only a few background factors were associated with women's expectations and experiences. Most likely to be fulfilled were women's expectations for a vaginal birth (83%), a positive birth experience (71%) and short length of postnatal stay (67%). Postnatal home visits (96%) and continuity of care (73%) were not fulfilled.
*Conclusions:* Pregnant women's expectations about continuity are fulfilled only to a minor degree. The fulfilment of postnatal expectations varied and the preference for a short postnatal stay was fulfilled whereas home visits were not.

## Introduction

The fulfilment of birth expectations is important to women. Researchers argue that fulfilled birth expectations are strongly related to birth satisfaction [1]. A recent meta-synthesis showed that important factors for having a positive birth experience were fulfilled expectations about the forthcoming birth along with the women's values. Giving birth to a healthy baby in a safe environment with practical and emotional support from a companion and competent and kind staff were regarded as important [2].

The benefits of continuity models of midwifery care are unquestionable. A Cochrane review of 17,674 women in 15 scientific studies showed clear benefits for the health of the mother and baby, as well as increased satisfaction and lower costs [3]. Continuity models of midwifery care have proven that women have a spontaneous vaginal birth to a greater extent [4]. The majority of women prefer to give birth vaginally and a literature review by Gamble & Creedy reported that between 4% and 18% prefer to have a caesarean section [5]. A recent synthesis of 52 qualitative studies from 28 countries investigated women's preferences for mode of birth. The results showed that women who preferred vaginal births described it as an achievement where choice and control were central. They also expressed it as the natural way to give birth and an empowering experience. Women with preferences for caesarean section described strong fear of pain and injuries, the uncertainty of vaginal birth, and previous positive experiences of caesarean section, together with women's determination, the health care system, and socio-cultural beliefs as important factors [6].

Women's overall birth experience is likely related to their postpartum care. The length of postnatal stay for women in Sweden has been decreasing over time and now stands at 2.47 days, regardless of parity

* Corresponding author at: Department of Women's and Children's Health, Uppsala University, Akademiska sjukhuset ing 95/96, 75385 Uppsala, Sweden.
*E-mail address:* Ingegerd.hildingsson@kbh.uu.se (I. Hildingsson).

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and mode of birth. In general, first-time mothers and women with caesarean sections have a longer postnatal stay in hospital [7]. Women with uncomplicated births are encouraged to be discharged early in Sweden. The organisation of postnatal follow-up differs among regions. Telephone support and return visits to the hospital are common [8], and the Healthy Child clinic takes on the follow-up responsibility after the first week postpartum. Child health nurses are then the main care providers and focus primarily on the newborn. The women are offered a follow-up visit to the antenatal midwife after birth [9]. Only three hospitals in Sweden offer home visits after birth; one such initiative has been successful over a period of 20 years [10].

Two Cochrane reviews evaluated postpartum follow-up models; one was based on home visits [11] and the other on telephone support [12]. Yonemoto et al. [11] investigated 12 randomised controlled trials with more than 11,000 women in order to assess the best schedule for postnatal home visits. The studies were of mixed quality, and the interventions varied considerably. The authors concluded that more research is needed before any specific model of postnatal care could be recommended. Likewise, Lavender et al. [12] explored 27 trials with 12,253 women who received either postpartum telephone support or standard care. Although some benefits were found in breastfeeding rates, maternal satisfaction, and depressive symptoms, the author concluded that there is still insufficient evidence to recommend routine telephone support.

Follow-up of women's needs after birth is important in the transition to motherhood, but the best model for achieving a smooth transition with the help of health professionals is still not clear, as shown in a systematic review and meta-analysis of 15 scientific studies with 8332 women [13]. One important finding, though, was the likelihood of reducing the number of women who stopped breastfeeding within four to six weeks postpartum by providing access to face-to-face contact with health professionals after birth [13]. The initiation rate of breastfeeding is high in Sweden, with 94% fully breastfeeding one week after birth [14]. Four weeks after birth, a decline in breastfeeding to 68.5% has been shown in recent statistics [15].

## Problem area

Previous studies have shown inconclusive evidence of the impact of women's birth and postnatal expectations on their subsequent experiences. The importance of women's characteristics associated with such experiences varies, and there might be a gap between women's expectations and experiences. The aim of this study was to investigate women's expectations and experiences of birth and the postnatal period and associated factors. An additional aim was to explore to what extent pregnant women's expectations were fulfilled or not.

## Material and methods

### *Design*

This is a longitudinal cohort study of women who participated in a continuity of midwifery care project.

### *Context of care*

Antenatal care in Sweden is mainly based within the primary health care system, managed by midwives as the primary caregivers; they work in collaboration with other health professionals when needed. Usually, women meet the same midwife during the eight to nine recommended visits during an uncomplicated pregnancy. Women in Sweden usually give birth in hospitals in a highly medicalized environment. Swedish hospitals lack midwifery-led birth options such as birth centres, and the homebirth rate is very low, less than one in 1000 births. Still, midwives are the main caregivers for women with normal labour and birth, and they work in collaboration with obstetricians in complicated cases. Continuity of caregivers across pregnancy, labour and birth and postnatal care is rare, as midwives usually work either in antenatal care or in labour and/or postpartum wards. In the last 25 years, there has been a tendency to close the smaller labour wards in the country. This was also the case in the area under study. The labour ward in the small hospital had closed shortly before the project started, which made women and their partners travel a minimum of 100 km to one of the remaining hospitals with labour wards in the region. The project aimed to ease women's worries and make them feel safe and secure by having a known midwife following them to the hospital of the women's choice and assisting them during labour and birth. The couple usually stayed together during the postpartum period in hospital. In addition, the second paediatric examination (after 3–5 days) was offered at the antenatal clinic in the local hospital, which minimized the travelling to the other hospitals.

### *Participants and procedure*

Women were informed about the project when they contacted the antenatal clinic to book an appointment. If they consented to participate, the women signed a consent form with contact details that was sent to the research team, which later distributed the questionnaires to them. Women were informed that during part of the day, e.g., from 7 a.m. to 11 p.m., one of the four midwives in the project would be on call for birth assistance. The reason for not offering on-call service 24/7 was mainly lack of midwifery staff. A total of 314 women expressed an interest in participating. All women were assigned a named midwife whom they met during the antenatal visits, and they also had the opportunity to meet the other midwives during the visits or in connection with informational meetings or parent education classes. All women were welcome to participate if they mastered the Swedish language well enough to communicate on telephone, a prerequisite for getting in contact with the midwife on-call at the onset of labour. Young women, primiparous women and women with fear of birth were prioritized, based on results from previous research [16].

### *Data collection*

Data was collected via two questionnaires, the first in mid-pregnancy and the second two months after birth. All data collection was made by the research team, which sent the questionnaires to the women's home address with a prepaid return envelope. Two reminders were sent to non-responders. The research team was informed by the project midwives if women had a miscarriage or preterm birth or withdrew from the project.

### *Background characteristics*

The first questionnaire contained background questions (age, marital status, country of birth, level of education, parity, and previous birth experience). The women's emotional wellbeing (e.g. perinatal depressive symptoms) was assessed by the 10-item Edinburgh Postnatal Depression Scale (EPDS) [17], with a cut-off point of 13 or more as suggested when used during pregnancy [18]. Fear of birth was measured using the Fear of Birth Scale (FOBS) [23]. The FOBS consists of two 100 mm lines with the anchor words 'Calm-Worried' and 'No fear – Strong fear'. The women were asked to provide information about their feelings when thinking about the forthcoming birth by placing marks on both lines. The distances were measured and averaged, and a cut-off point of 60 or more was used to indicate fear of birth [19]. As a proxy for personality, the 13-item Sense of Coherence (SOC) scale was used [20], and it was further divided into low (<60), moderate (61–75), and high (76 or more) SOC.

*Birth expectations*

Women were asked to assess their expectations on the importance of continuity with a known midwife on a 4-item Likert scale ranging from 'Very important' to 'Unimportant'. Thereafter it was dichotomized into 'Important' (Very important + Important) versus 'Less important' + 'Unimportant'. Thoughts about the forthcoming birth were assessed on a 5-point Likert scale (from 'Very positive' to 'Very negative') and dichotomized into 'Positive' (Very positive + positive) and 'Mixed feelings/negative/very negative'. Expectations on mode of birth comprised alternative caesarean section versus vaginal birth.

The women were also asked to provide information about preferred length of postnatal stay and preferred model of postnatal care; (home directly from the labour ward as soon as possible without further postnatal care, home after six hours with or without home visits from a midwife, home after six hours with re-visit to the hospital for paediatric examination, traditional postnatal ward up to three days, or hotel ward). Women who preferred home visits by a midwife were compared to women who preferred all other options. The importance of breastfeeding was assessed on a 4-point Likert scale ranging from 'Very important' to 'Unimportant' and dichotomized in the same way as previous questions.

*Birth and postnatal outcome/experiences*

The second questionnaire, where women's expectations were followed up, was sent out two months after birth. Women were asked about the circumstances of their labour and birth, whether they had their primary midwife present, another project midwife whom they had met previously, or a midwife who was unknown to them. The women's birth experiences were collected on a 5-point Likert scale, similar to the one assessed during pregnancy and dichotomized in the same way. Mode of birth was collected (vaginal, instrumental vaginal, elective caesarean section, emergency caesarean section). In the analysis, elective and emergency caesarean sections were grouped together due to the small numbers of caesarean sections. Time spent in hospital after birth was recorded and dichotomized into < 24 h and more than 24 h. The model of actual postnatal care was assessed, as was breastfeeding, two months after birth (fully, partly, or no breastfeeding).

*Analysis*

Descriptive statistics and chi-square tests were used to present the data. Odds ratios with a 95% confidence interval (CI) were calculated between the explanatory background variables and women's expectations and experiences on birth and the postnatal period, respectively. In addition, a subgroup analysis was performed where fulfilled expectations was compared with not fulfilled expectations for each of the areas studied (continuity, mode of birth, birth experience, short length of stay, postnatal home visits and breastfeeding). The analyses were performed in SPSS version 26. The regional ethics committee approved the study (dnr 2017/12031).

## Results

After giving consent to participate 23 of the 314 women had a miscarriage, and 13 withdrew participation during pregnancy. The first questionnaire was completed by 280 women (89% of those who consented to participate. The follow-up questionnaire was sent to 278 women and returned by 236 (85%). Ten questionnaires were excluded from further analysis. These questionnaires belonged to four women who went into labour before the on-call services started, four who chose to give birth in a hospital outside the region and an additional two who did not complete questions relevant for this study. The 42/278 women who did not respond to the follow-up were more likely to be born in a country outside of Sweden (p 0.000) and also more likely to not have completed the questionnaire in mid pregnancy (p 0.000).

The majority were between 25 and 35 years old, married or cohabiting, and born in Sweden (Table 1). The most common level of education was compulsory school or high school, and approximately 36% had a college or university education. Nearly 60% were multiparous, one in three presented with fear of birth, and 13% had depressive symptoms.

*Expectations and experiences of continuity*

Table 2 shows women's expectations on their forthcoming birth in relation to background variables. For the majority (79%), it was important or very important to have a known midwife during birth, when asked in mid pregnancy. The only statistically significant association between the background variables and the importance of continuity was that primiparous women rated the importance higher compared to multiparous women (OR 2.54; 95% CI 1.23–2.89, p 0.011). After birth, 72 out of 226 (31.8%) women reported that they had a known midwife assisting during labour and birth.

*The birth—expectations and experiences*

In mid-pregnancy, 37% of the women reported positive expectations for the forthcoming birth. Women with a previous positive birth experience were more likely to have positive birth expectations (OR 3.85; 1.89–7.87, p 0.000), while women with a fear of birth (OR 0.06;0.03–0.16, p 0.000) and women with depressive symptoms (OR 0.43;0.18–0.98, p 0.045) were less likely to have positive expectations.

**Table 1**
Background of the participants.

| | **Women in the project n = 280 n (%)** |
|---|---|
| **Age (mean,sd)** | 29.58 (5.11) |
| **Age groups** | |
| 25 years | 47 (16.8) |
| 25–35 years | 188 (67.1) |
| 35 years | 45 (16.1) |
| **Civil status** | |
| Living with a partner | 261 (93.2) |
| Not living with a partner | 19 (6.8) |
| **Country of birth** | |
| Sweden | 249 (88.9) |
| Other country | 31 (11.1) |
| **Level of education** | |
| High school or lower | 178 (67.4) |
| University education | 102 (36.4) |
| **Parity** | |
| Primiparas | 118 (42.1) |
| Multiparas | 162 (57.9) |
| **Depressive symptoms** | |
| EPDS < 13 | 243 (86.8) |
| EPDS 13 or more | 37 (13.2) |
| **Fear of birth** | |
| FOBS < 60 | 188 (67.4) |
| FOBS 60 or more | 91 (32.6) |
| **Sense of Coherence** | |
| Low | 55 (19.6) |
| Moderate | 118 (42.1) |
| High | 107 (38.2) |

**Table 2**
Expectations and experiences of continuity, birth and caesarean section in relation to women's background characteristics.

| | Importance continuity ¤ n = 222/280 | Had a known midwife during birth # n = 72/226 | Positive birth expectations ¤ n = 103/280 | Positive birth experience # n = 149/226 | Preferred vaginal birth¤ n = 251/280 | Had a vaginal birth # n = 182/226 |
|---|---|---|---|---|---|---|
| **Age groups** | | | | | | |
| <25 years | 40/47 (85%) | 9/33 (27%) | 18/47 (38%) | 28/33 (85%) | 45/47 (96%) | 31/33 (94 %) |
| 25–35 years | 145/188 (77%) | 51/158 (32%) | 69/188 (37%) | 100/158 (63%) | 167/188 (89%) | 123/158 (78 %) |
| >35 years | 37/45 (82%) | 12/35 (34%) | 16/45 (36%) | 21/35 (60%)* | 39/45 (87%) | 28/35 (80 %) |
| **Marital status** | | | | | | |
| Married/cohabiting | 206/261 (79%) | 70/214 (33 %) | 95/261 (36 %) | 143/214 (67%) | 233 /261 (89%) | 173/214 (81%) |
| Single | 16/19 (84%) | 2/12 (17%) | 8/19 (42 %) | 6/12 (50%) | 18/19 (95%) | 9/12 (75 %) |
| **Country of birth** | | | | | | |
| Sweden | 194/249 (78%) | 69/214 (32 %) | 87/249 (35 %) | 139 214 (65%) | 222/249 (89%) | 172/214 (80 %) |
| Other country | 28/31 (90%) | 3/12 (25 %) | 16/31 (52 %) | 10/ 12 (83%) | 29/31 (93%) | 10/12 (83 %) |
| **Level of education** | | | | | | |
| Compulsory school/ high school | 140/178 (79%) | 41/142 (29%) | 63/178 (35 %) | 87/142 (61 %) | 161/178 (90 %) | 117/142 (82%) |
| College/University | 82/102 (80%) | 31/84 (37 %) | 40/102 (39 %) | 62/ 84 (74 %) | 90/102 (88 %) | 65/84 (77%) |
| **Parity** | | | | | | |
| Primiparous | 102/118 (86%) | 35/ 96 (37 %) | 41/ 118 (35 %) | 63/ 96 (66 %) | 106/118 (90%) | 72/96 (75%) |
| Multiparous | 120/162 (74%)* | 37/130 (29 %) | 62/ 162 (38 %) | 86/ 130 (66 %) | 145/ 162 (89%) | 110/130 (85%) |
| **Previous birth experience** | | | | | | |
| Positive | 69/94 (73%) | 19/72 (26%) | 47/94 (51%)*** | 32/57 (56%)* | 90/94 (96%) ** | 65/72 (90%) |
| Mixed feelings/negative | 51/68 (75%) | 17/57 (29%) | 14/68 (21%) | 53/72 (74%) | 55/68 (81%) | 44/57 (77%)* |
| **Fear Of Birth Scale** | | | | | | |
| < 60 | 144/188 (77%) | 44/151 (29 %) | 94/188 (51%) | 104/151 (69%) | 181/188 (96%) | 124/151 (82%) |
| 60 or more | 77/91 (85%) | 27/74 (36%) | 6/91 (7 %) *** | 44/74 (59 %) | 69/ 91 (76 %) *** | 57/74 (77%) |
| **Depressive symptoms mid pregnancy** | | | | | | |
| EPDS < 13 | 191/243 (79%) | 62/198 (31%) | 95/243 (39%) | 129/198 (65%) | 224/243 (92%) | 162/198 (82%) |
| EPDS 13 or more | 31/37 (84%) | 10/28 (36%) | 8/37 (22%)* | 20/28 (71%) | 27/37 (73%)** | 20/28 (71%) |
| **Sense of coherence** | | | | | | |
| Low | 45/55 (82%) | 14/42 (33%) | 18/55 (33%) | 28/42 (67%) | 44/55 (80%)* | 33/42 (79%) |
| Moderate | 99/118 (84%) | 31/101 (31%) | 38/118 (32%) | 60/101 (59%) | 110/118 (93%) | 80/101 (79%) |
| High | 78/107 (73%) | 27/83 (33%) | 47/107 (44%) | 61/83 (74%) | 97/107 (9%) | 69/83 (83%) |

¤ Assessment in mid pregnancy
# Assessment two months after birth
*p < 0.05 **p < 0.01 ***p < 0.001

A positive birth experience was reported by 66% of the women after birth. Only a previous positive birth experience was associated with having a positive birth experience (OR 2.17; 1.03–4.57, p 0.039).

*Mode of birth – Expectations and experiences*

In mid-pregnancy, a majority (90%) preferred to give birth vaginally. Women with a previous positive birth experience were more likely to prefer a vaginal birth. (OR 4.53; 1.37–14.94, p 0.013). Women with fear of birth (OR 0.12; 0.04–0.31, p < 0.01), depressive symptoms (OR 0.18; 0.07–0.47, p < 0.01), and a low sense of coherence (OR 0.34; 0.12–0.94, p 0.031) were less likely to prefer a vaginal birth. In all, 80.5% of the women actually had a vaginal birth. The only explanatory variable associated was a previous positive birth experience (OR 2.74; 1.01–7.42, p 0.047).

*Expectations and experience of length of postnatal stay in hospital*

The women were asked in mid-pregnancy about their preferences for postnatal care, length of stay, and model of care. In all, 156 of 280 women (56%) preferred to go home within 24 h after birth. Multiparous women were more likely to prefer a short hospital stay (OR 1.89; 95% CI 1.17–3.07, p 0.002). Women who scored 60 or more on the Fear of Birth Scale were less likely to prefer a short stay (OR 0.55; 0.33–0.92, p 0.023), as were women with depressive symptoms (EPDS 13 or more) (OR 0.49; 0.24–0.99, p 0.049). The mean length of stay was 38.29 h (SD 30.37). A total of 63% went home within 24 h after birth. The only background variable that could explain length of stay within 24 h was having previous children (OR 2.53; 95% CI 1.40–4.60, p 0.002).

*Expectations and experience of model of postnatal care*

When asked in mid-pregnancy, the majority (39%) of the women preferred to spend their postnatal stay in a traditional postnatal ward until all examinations were completed. A large proportion of women (36%) preferred to go home as soon as possible after birth, with home visits from a midwife. Nineteen percent preferred to return to the hospital for further examinations and blood sampling, and around 5% preferred to stay at the hotel ward until all measures and examinations were complete. Women not living with a partner were less likely to prefer home visits (OR 0.20; 0.04–0.92, p 0.039). In the follow-up questionnaire, the majority (53%) of women reported that they stayed

at the traditional postnatal ward, 15% at the hotel ward, and 22 women had co-care at the neonatal ward. Only eight women (3.5%) received home visits from a midwife after birth. No background variable was associated with receiving home visits.

*Breastfeeding—importance and reality*

During pregnancy, 86% of the women in the project assessed breastfeeding as important or very important. Women with a previous positive birth experience were more likely to assess breastfeeding as important (OR 3.40; 1.42–8.14, p 0.006). Two months after birth, a total of 79% breastfed (63% fully). Those who did not breastfeed were more likely to have a low level of education (OR 2.44; 1.16–5.09, p 0.018) and a fear of birth (OR 2.87; 1.49–5.54, p 0.002).

*Fulfilled expectations*

Table 3 shows a sub-analysis to which extent expectations in fact were met. Most likely to be fulfilled was women's expectations for a vaginal birth (83%), followed by a positive birth experience (71%) and short length of postnatal stay (67%). Least likely to be fulfilled were postnatal home visits (96%) and continuity of care (73%). There were no background differences in fulfilled or not fulfilled expectations in continuity, birth experience or vaginal birth. However, fulfilled expectations about breastfeeding were more common in multiparous women (p0.006) and in women with low level of education (p 0.008). Multiparous women were also more likely to have a short length of stay ($p < 0.001$) and so were women with low levels of depressive symptoms (p 0.029). Women with high levels of education were more likely to receive home visits compared to women with low levels of education (p 0.018).

## Discussion

The main findings of the present study were that some of the women's expectations were fulfilled during birth and the postnatal period, while others did not. Some of the expectations driven by the women themselves (a preference for a vaginal birth, a positive birth experience, short length of stay and breastfeeding) were more likely to be fulfilled, while expectations driven by the health care system were less likely to be fulfilled (continuity and postnatal home visits).

**Table 3**
Expectations and experiences.

| | Fulfilled expectations# n (%) | Not fulfilled expectations¤ n (%) |
|---|---|---|
| Continuity of care | 60 (27.0) | 162 (73.0) |
| Birth experience | 57 (71.3) | 23 (28.7) |
| Vaginal birth | 169 (82.2) | 35 (17.2) |
| Short postnatal stay | 78 (67.0) | 36 (33.0) |
| Postnatal home visits | 4 (4.2) | 92 (95.8) |
| Breastfeeding | 126 (65.3) | 67 (34.3) |

# Had a preference in mid-pregnancy for the variable under study and received the preferred option
¤ Had a preference in mid-pregnancy for the variable under study but did not receive the preferred option

*Continuity with a known midwife*

In mid-pregnancy, a high proportion of the women rated it important or very important to have a known midwife during labour and birth, but continuity was achieved by only a minor proportion. The high rating of importance is not surprising, as women in the study were self-recruited to the project, which offered continuity of midwifery care during part of the day. A previous study showed that women tend to prefer the options that are available, e.g., 'what is must be best' [21]. Women expecting their first baby were more likely to rate continuity important, findings previously reported in a study based on a national and a regional sample of pregnant women [16].

The small proportion of women who actually had a known midwife was mainly due to the restriction in time when the midwives were on-call for labour assistance (7 a.m. to 11 p.m.), which in turn was restricted by the lack of midwives [22]. When the question about the importance of continuity was repeated after birth, a decrease was noticed, from 79% to 43%. The only explanatory variable for assessing continuity as important when asked two months after birth was having had a known midwife during labour and birth, which yielded a more than three-fold increase. It has been suggested in previous studies that women tend to be loyal to their experiences and the circumstances surrounding birth [23]. In this study, it seems like women who did not have a known midwife were loyal to their birth experience regardless of previous expectations.

A previous positive birth experience generated positive expectations on the forthcoming birth as well as a positive experience of the current birth. We do not know how many births had preceded the present pregnancy, but one can assume that investing in the first birth could be a means to avoid negative birth experiences [24], which in turn could result in subsequent positive expectations. A positive circle can then be created, as it is well known that high birth expectations will result in great birth satisfaction [1,25–26]. In contrast, a great incongruence between the birth expectation and the experience predicted lower satisfaction with given care and also feelings of guilt, according to Preis et al. [27]. Other circumstances than women's expectations are associated with women's birth experience, such as support from the midwife [28–29] or from the partner or another person of the woman's choice [28–29], participation in decision making [29–30], perception of control [29,31–32] and the midwife being present in the labour room as much as wanted [33].

A regional Swedish study conducted in 2016 showed that half of the women surveyed perceived the midwife's presence as 'better than expected' [34]. The midwife's ability to be present depends on the organization of care and the geographical nature of the labour ward. In fully developed continuity models of care, a known midwife is usually present in the labour room, taking care of only one woman. This creates opportunities to fulfil women's expectations as those are known beforehand, and the relationship is established between the midwife and the parents. Continuity models not only result in better maternal and foetal outcomes but also a greater satisfaction compared to standard care [3]. In Sweden, where such alternative models are rare and the smaller labour wards have been closed, the options for having a midwife present can vary substantially. Pries et al. [27] underpin the importance of discussing women's birth expectations during pregnancy in order to help them achieve a birth experience close to their hopes. We believe that continuity models with a midwife-woman relationship will provide this.

*Preference for mode of birth*

Women with fear of birth and those with depressive symptoms had lower birth expectations and were less likely to prefer a vaginal birth, as were women with low SOC. One explanation could be that women with emotional strains and fear do not acknowledge their abilities to give birth and therefore rather prefer a caesarean section than a vaginal

birth. Few women in the present study had a caesarean section. In Sweden, women do not have any legal right to choose a caesarean section themselves; it is usually the obstetrician who decides, mainly in collaboration and discussion with the woman [35]. Having a caesarean section, especially when there is no medical reason present, is a delicate issue. If fear of birth is the main reason for such a request, women are usually referred to counselling with a midwife, a service available in all Swedish hospitals [36]. Despite the fairly low proportion of caesarean sections in the present study (14.4%), it is well known that women's caesarean section preferences are taken into account. In a national sample of Swedish-speaking women, 45% of those who had a caesarean section preference actually had a surgical birth [37]. In addition, a recent register-based study of all births in Sweden from 1990 to 2015 showed that the main reason for the steadily rising planned caesarean section rate was maternal request [38]. Having caesarean section preferences fulfilled does not, however, result in a positive birth experience— rather, the opposite, as shown in previous research [39].

*Postnatal expectations and experiences*

A short postnatal stay was more frequent among multiparas, and those women had also preferred short length of stay when asked during pregnancy. Short length of stay is the main norm in Sweden, and the most recent statistics show a mean length of stay after a vaginal birth in primiparous women is 2.3 days. The corresponding figure for multiparous women is 1.4 days. After a caesarean section, the length of stay is somewhat longer (mean 3.3 days for primiparas, 2.9 for multiparas) [7].

Women with fear of birth and depressive symptoms were less likely to prefer a short stay after birth and might need more care to adjust to the new situation of being a mother. The Swedish National Board of Health and Welfare has acknowledged gaps between hospital-based postnatal care and available support after discharge [7]. Women with mental illness are acknowledged as one group in need of additional postnatal support, and there has been a call for national guidelines for postnatal care with a family-focused approach and continuity as the two cornerstones [7]. This work is ongoing and will hopefully bring better options for all postnatal women in the future.

Although 36% of women in the present study preferred to have home visits from a midwife, when asked in mid-pregnancy, but only eight women had this opportunity. Single women were less likely to prefer home visits and might also need additional support and a longer stay after birth. Previous studies where postnatal home visits were offered show that women are generally more satisfied with home visits, and that home care does not result in any adverse outcome [10,41]. In the latter study, 87% of women were 'very satisfied' with the home visits. Unfortunately, only three out of 43 hospitals in Sweden offer postnatal home visits by a midwife [10,40].

Women's intention to breastfeed was high when they were asked in mid-pregnancy (86%). Previous studies have shown that initiation of breastfeeding is usually high, with 78% breastfeeding at the time of discharge [15]. Breastfeeding rates are declining in Sweden, and the 63% in the current study who fully breastfed two months after birth is fairly similar to the 62% reported in national statistics [14]. The reason for this decline in breastfeeding rates are largely unknown, but a qualitative study has shown that pregnant women in Sweden might feel pressure from society to breastfeed, which might conflict their personal desires [41]. Another qualitative study suggests that the decline depends on the increasing encouragement for fathers to share the parent leave equally with the mother [42].

Similar to previous studies [43], women with low levels of education were less likely to breastfeed. In addition, Cato et al. showed that primiparous women, and women with fear of birth and anxiety were less likely to breastfeed [44]. These factors mirror the population characteristics of the present study, as younger women, primiparous women and women with fear of birth were prioritized [16]. On the other hand, a previous positive birth experience was associated with more positive breastfeeding expectations.

This study has several limitations. The observational design, the self-reported nature of the data collection, and the under-representation of foreign-born women in the study sample limit the generalizability to wider populations of pregnant women. Compared to the general population of pregnant women in Sweden the study sample is quite similar (mean 29.58 vs 30 years). The small differences between the study sample and the general population who gave birth in 2017 regarding the proportions of primiparas (42% vs 43%) and multiparas (58% vs 57%) would probably not affected their expectations or experiences. What might have colored the women's expectations and experiences was the recent closure of the local labour ward. It is possible that women engaged in the continuity project valued to have a known midwife higher, when faced with the long distance to hospital. The strength of the study lies in its longitudinal design, making it possible to follow up on women's expectations after birth in contrast to measuring only on a single occasion.

## Conclusions and implications for practice

Some of the women's expectations were fulfilled during birth and the postnatal period, while others were not. Pregnant women's expectations about continuity were fulfilled only to a minor degree. The fulfilment of postnatal expectations varied, the preference for a short postnatal stay was fulfilled whereas home visits were not.

Expectations driven by the women themselves were more likely to be fulfilled, while expectations driven by the health care system were less likely to be fulfilled. Based on the result from the present study, focus should be to develop continuity models and postnatal home visits, in order to fulfil women's expectations. Continuity models of midwifery care might also improve the breastfeeding rates.

## 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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