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Outcomes of planned home birth assisted by nurses, from 2005 to 2009, in Florianópolis, Southern Brazil

ABSTRACT

A cross-sectional study was performed to analyze obstetric and neonatal results of planned home births assisted by obstetric nurses in the city of Florianópolis, Southern Brazil. Data collected from the medical records of 100 parturient women cared for between 2005 and 2009 indicated 11 hospital transfers, nine of which underwent a Cesarean section. The majority of women who had a home birth showed normal fetal heart beat (94.0%) and progress on the partogram (61.0%), vertical water delivery was the position most frequently chosen (71.9%), newborns had an Apgar score ≥ 7 at five minutes (98.9%), episiotomy was performed in 1.0%, and 49.4% did not need perineal suturing. Outcomes indicated that planned home birth is safe.

DESCRIPTORS: Home Childbirth. Humanizing Delivery. Natural Childbirth. Nurse Midwives. Obstetrical Nursing.

INTRODUCTION

Home birth is an option in several countries such as Canada,[3] Australia[5] and the Netherlands.[4] International publications have shown that planned, assisted home births are as safe as hospital births.[3,4] The American College of Obstetricians and Gynecologists (ACOG) does not support home birth programs because of an increased risk of neonatal deaths compared to hospital births, even though it is low and home births need less interventions.[2]

Planned home births are growing in urban centers in Brazil.[1] The increasing number of home births in the southern city of Florianópolis may be attributed to the work of nurse-midwives of the "Hanami Team – Blossom (Flowering of life) – planned home birth".[a]

Evaluation of obstetric and neonatal outcomes of planned home births in Brazil is difficult since data from the Brazilian Live Births Database (SINASC) merge both planned and unplanned non-hospital births. There is a need to systematically assess non-hospital birth care to generate indicators.

The present study aimed to evaluate obstetric and neonatal outcomes of planned home births attended by nurse-midwives.

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METHODS

Retrospective cross-sectional study carried out with a sample comprising all women and their newborns who had planned home births assisted by nurse-midwives of the Hanami Team between January 2005 and December 2009 in the city of Florianópolis.

The team staff comprises three nurse-midwives and four nurse generalists and two obstetricians that eventually monitor women from early prenatal care. Women with low-risk pregnancies are screened using a protocol. Private care is provided. Nurses provide prenatal care on a weekly basis from week 37 of pregnancy to birth. On the day of delivery, the team staff comes to a pregnant woman's home with basic medical emergency equipment for the event of complications including basic life support equipment. The new mother and her newborn are followed up on Day 1, 3, 4, and 10 postpartum.[a]

The study sample and variables were obtained from nursing records of the care provided. Data were collected using a standardized questionnaire and entered into EpiInfo 2008. The data were analyzed through the application of descriptive statistical analysis (frequency and percentage).

The study followed the principles of the Helsinki Declaration and Resolution 19696. It was approved by the Research Ethics Committee of the Universidade Federal de Santa Catarina (Protocol #552 on December 14, 2009).

RESULTS

Of 102 women who had planned home births assisted by nurses, 100 met the study inclusion criteria. Of these, 11 were transferred to a care facility during labor, and nine had Cesarean deliveries.

The median age of the women was 28 years (range 21-43 years). Most (53) were college-educated and primiparous (73). Nine women had prior Cesarean sections and, of them, five had home births.

Being free to walk, move and eat was a principle of childbirth care. Amniotomy was done is eight women during labor. There were no changes in fetal heart rates in 94 cases and partograph during labor was normal in 61 cases. The time elapsed between the first monitoring and childbirth was less than five hours in 46 cases (Table).

Women were supported by companions during childbirth; 60 of them had more than one companion and 98 were supported by their male partners.

Water childbirth in the vertical position was the most common choice. Almost half of the women did not need require perineal suturing. All newborns were placed in skin-to-skin contact on their mother's chest immediately after birth and 70.8% showed effective breastfeeding within the first hour of life (Table).

Of all newborns born at home, the median weight was3,300 g (2,470-4,300 g). Only one newborn showed a 5-min Apgar score lower than 7 but the newborn had

Table. Obstetric and neonatal care in planned home births. Florianópolis, Brazil, 2005-2009. (n = 89)

Variable	n	%
Duration of dilation/expulsion		
5 min to 4 hours and 59 min	41	46.1
5 hours to 9 hours and 59 min	27	30.3
10 hours to 14 hours and 59 min	16	18.0
15 hours to 19 hours and 59 min	5	5.6
Delivery position		
Vertical water position	64	71.9
Non-water vertical/side-lying or Sims position	25	28.1
Meconium-stained aminiotic fluid	7	7.0
Perineum		
No laceration and no suturing	44	49.4
First-degree perineal laceration and suturing	42	47.2
Episiotomy	1	1.1
Missing information	2	2.2
Skin-to-skin contact	89	100.0
Breastfeeding within the first hour of life		
Yes	63	70.8
No	24	27.0
Missing information	2	2.2
Medication after giving birth		
None	74	83.1
Oxytocin	8	8.9
Others	7	7.9
Missing information	1	1.1
5-min Apgar		
< 7	1	1.1
≥ 7	88	98.9
Newborn classification		
Small for gestational age	1	1.1
Adequate for gestational age	81	91.0
Large for gestational age	7	7.9
Capurro's gestational age criteria		
37 to 38 weeks	18	20.2
39 to 41 weeks	70	78.7
> 42 weeks	1	1.1

a fast recovery after care was provided. One newborn was moved to a health facility after the birth because of epidermolysis bullosa that went undiagnosed in prenatal care.

Other obstetric and neonatal variables are described in the table.

DISCUSSION

The neonatal and obstetric outcomes described in this study are similar to those reported in studies conducted in countries where home birth assisted by midwives is a well-recognized and respected care practice. In the sample studied maternal transfer rate was lower than that reported in other studies,[1,3,5] and neonatal transfer and Cesarean rates[1,5] were similar. The number of women with history of prior cesarean sections who gave birth at home was greater than that found in the international literature.[5]

The age range of low reproductive risk and high schooling of the women in the sample are similar to other samples studied in Brazil and worldwide.[1,3-5]

The proportion of primiparous women was higher than that reported in international studies,[3-5] but similar to that reported in a study in São Paulo, Brazil, and it may suggest a common feature of Brazilian women who seek home birth care.[1]

Labor data in this study are consistent with a Canadian study[3] showing non-drug management options and low amniotomy rates. In our study amniotomy was only performed when indicated (i.e., no advancing cervical dilation and *curve* crossing the *alert* line in the partograph). However, both rates were significantly lower than those seen in hospital settings and maternity centers in Brazil.[b]

The finding of labor duration greater than five hours can be attributed to a high number of primiparous women and women who were in the latent phase at the beginning of labor monitoring. Yet, labor duration was shorter than that described in a Brazilian Ministry of Health report.[c]

In the home environment women were supported by more than one person from their social network, including their children, which helps strengthening family ties. Non-compliance of health facilities with the "law of birth companions"[d] may be a reason motivating the choice of home birth.

Women could choose their preferred positions during labor and during the stage of expulsion. There are scarce data, but women who are assisted at home apparently choose non-lithotomy positions in childbirth.[1]

With respect to childbirth outcomes, the rate of meconium-stained fluid was low, which may be associated with high Apgar scores (≥ 7). Only one newborn required to be transferred to a neonatal intensive care unit, but it was not related to the care provided. The low episiotomy rates found were similar to those reported in other studies carried out in Brazil,[1] Canada,[3] and Australia.[5] In contrast, episiotomies were performed in 70% of vaginal deliveries in hospital settings in Brazil in 2006.[d] Avoiding unnecessary interventions during labor may have contributed to good obstetric and neonatal outcomes.

Some limitations of the study are the retrospective data collection and small sample size. In addition, there may be a potential bias as women chose to have home births because they felt empowered and sought non-interventive care.

Our data were mostly compared with international data on planned home birth assisted by midwives as there are few published data on this type of care in Brazil.

This study evaluating planned home birth care can help disseminate this modality of care and make it more trustworthy in Brazil while giving greater visibility to the role of nurse-midwives as autonomous practitioners in childbirth care. Maternal and newborn transfers to care facilities, when necessary, were uneventful and the data showed safe outcomes for mothers and newborns. The study findings fill a gap in national publications and point out to a need for further investigations on this modality of care in Brazil.

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