

Breastfeeding in the neonatal transitional period at a Baby-Friendly Hospital

Amamentação no período de transição neonatal em Hospital Amigo da Criança

Jéssica Machado Teles¹, Ana Lucia de Lourenzi Bonilha², Annelise de Carvalho Gonçalves³,
Lilian Córdova do Espírito Santo⁴, Márcia Dornelles Machado Mariot⁵

¹ Nurse. Master Student, Nursing Graduate Program (PPGENF), School of Nursing (EENF), Federal University of Rio Grande do Sul (UFRGS). Porto Alegre, Rio Grande do Sul, Brazil. E-mail: jeteles.enf@gmail.com.

² Nurse, Doctor of Nursing. Full Professor, EENF/UFRGS. Porto Alegre, Rio Grande do Sul, Brazil. E-mail: bonilha.ana@gmail.com.

³ Nurse, Doctor of Public Health. Adjunct Professor, EENF/UFRGS. Porto Alegre, Rio Grande do Sul, Brazil. E-mail: annelisecg@hotmail.com.

⁴ Nurse, Doctor of Medical Science. Adjunct Professor, EENF/UFRGS. Porto Alegre, Rio Grande do Sul, Brazil. E-mail: lilian_cordova@hotmail.com.

⁵ Nurse. Master Student, PPGENF/UFRGS. Porto Alegre, Rio Grande do Sul, Brazil. E-mail: marcia_dornelles@yahoo.com.br.

ABSTRACT

The objective of this study was to learn the breastfeeding rates in the neonatal transition period at a child-friendly hospital. A quantitative, exploratory, cross-sectional study was developed with 342 mother-baby pairs. Data were collected by means of interviews and analysis of medical records. Low breastfeeding rates were identified in the first hour of life of the newborns or neonatal reactivity period (53.2%). In the second transition period the rate was 20.7%, and 20.5% in the third period. Encouragement to breastfeeding is not appropriate for the phases of the neonatal transition period, as the rates for the first hour of life were expected to be higher than 90%, considering low risk newborns and births that occurred in a child-friendly hospital. Our findings indicate a need for adopting care strategies that favor the early contact and training of professionals at maternity hospitals toward the adequacy of breastfeeding to the neonatal transition period.

Descriptors: Infant, Newborn; Breast Feeding; Delivery Rooms; Obstetric Nursing; Neonatal Nursing.

RESUMO

O objetivo deste estudo foi conhecer as taxas de amamentação no período de transição neonatal em Hospital Amigo da Criança. Estudo quantitativo, exploratório, transversal, com 342 duplas mãe-bebê. Os dados foram coletados mediante entrevistas e análise de prontuários. Identificaram-se baixas taxas de amamentação na primeira hora de vida do recém-nascido ou período de reatividade neonatal (53,2%). Para o segundo período de transição, a taxa de amamentação foi de 20,7%, e de 20,5% para o terceiro período. O estímulo à amamentação não está adequado em relação às fases do período de transição neonatal, esperava-se que as taxas na primeira hora fossem superiores a 90%, tratando-se de recém-nascidos de baixo risco e nascimentos ocorridos em Hospital Amigo da Criança. Os achados indicam necessidade de adoção de estratégias de cuidado que favoreçam o contato precoce e de capacitação dos profissionais nas maternidades quanto à adequação da amamentação ao período de transição neonatal.

Descritores: Recém-Nascido; Aleitamento Materno; Salas de Parto; Enfermagem Obstétrica; Enfermagem Neonatal.

INTRODUCTION

Breastfeeding is a largely discussed and studied theme worldwide. Its benefits include reduced child mortality rates, preventing 13% of death among children under 5 years of age; with non-breastfed infants presenting three times greater risk of diarrhea mortality⁽¹⁾.

To reduce maternal and neonatal morbidity and mortality rates and increase breastfeeding rates, the United Nations Children's Fund (UNICEF) and the World Health Organization (WHO) launched the Baby-Friendly Hospital Initiative in the 1980s. This Initiative determines 10 criteria for hospital accreditation and implementation of the breastfeeding program⁽²⁾. These criteria include healthcare staff training to help mothers start breastfeeding soon after birth, informing pregnant women about the benefits to both mothers and children, and allowing mothers and infants to remain together 24 hours a day (rooming-in)⁽²⁾.

Children should receive exclusive breastfeeding until their sixth month, without water, tea or other foods⁽²⁾. To promote exclusive breastfeeding, one of the strategies is to encourage it since birth. Breastfeeding within one hour of birth is recommended provided mother and infant are in good conditions⁽³⁾. Separating mothers from their infants is a factor that hinders breastfeeding within one hour of birth, increasing the chances of early weaning, especially when infant formulas are administered, which may hinder breastfeeding⁽³⁾.

Normal term newborns present a predictable pattern of behavioral changes after birth. The literature refers to this period as the neonatal transitional period⁽⁴⁻⁵⁾.

The first stage of the neonatal transition phase, or the first period of reactivity, refers to the first 30 to 60 minutes after birth. This is when the newborn is alert, exploring and vigorous to start breastfeeding. The infant is generally active, with strong sucking reflex, and makes eye contact with the mother. This is considered a great moment for mother-infant interaction⁽⁴⁻⁵⁾.

The second stage of the neonatal transitional period is called period of relative inactivity, from two to three hours after birth. This is not considered the best moment for breastfeeding, as the newborn is less responsive to external stimuli, becomes less active and sleeps from seconds to few hours, and sensory stimuli are not recommended⁽⁴⁻⁵⁾.

The third stage of the neonatal transitional period, or the second period of reactivity, lasts from four to six hours after the infant wakes up from the first sleep. In this period, the infant may and should receive stimuli and be breastfed, and breastfeeding must be encouraged if the infant has not been breastfed yet⁽⁴⁻⁵⁾.

Breastfeeding stimulus immediately after birth is still not predominant in hospitals that have implemented the Baby-Friendly Hospital Initiative in Brazil. A study conducted in Salvador found that breastfeeding support immediately after birth occurred in 58% of births⁽⁶⁾. In another study conducted in Rio de Janeiro, the breastfeeding rate within one hour of birth was 43.9%⁽⁷⁾.

Investigations about breastfeeding within the first hours of birth may help promote more effective actions of healthcare staff working at Baby-Friendly Hospitals and ensure infants receive proper stimuli, according to their stages of the neonatal transitional period. Based on these considerations, the purpose of this study was to find out the breastfeeding rates during the stages of the neonatal transition phase for neonates born in a Baby-Friendly Hospital in southern Brazil.

MATERIAL AND METHOD

This was a quantitative, exploratory, cross-sectional study conducted at the Clinics Hospital of Porto Alegre, a Baby-Friendly Hospital since 1998. In this hospital, childbirth is conducted in the childbirth room located in the Obstetric Center. After the childbirth, the mother is taken to the post-partum recovery room, in the Obstetric Center, near the childbirth room, and then, mother and newborn are taken to the Obstetric Care Unit, in beds with rooming-in.

The sample included 342 mother-newborn pairs. The sample was calculated considering the number of childbirths conducted in this hospital in 2010. For this calculation, a 95% confidence interval and a 5% error margin were considered, using WinPepi application.

Inclusion criteria were applied to mothers who had single childbirths; who were with their newborn in rooming-in facilities, had already started breastfeeding, had a gestational age of at least 37 weeks, and whose newborns presented weight at birth of at least 2,500 grams. Mothers separated from their infants and with contraindicated breastfeeding were excluded from this study.

Data were collected in interviews, through random drawing of mothers and their infants, in the Obstetric Care Unit, from March to June 2012, by the nurses participating in the study. The interviews were conducted within 24 hours of birth, using a semi-structured form that had two parts: the first part had closed-ended questions (for the interview with mothers) and the second part was about data from clinical records. Closed-ended questions were related to sociodemographic aspects, obstetric history and the time/place breastfeeding occurred. The following information was taken from the clinical records of mothers and newborns: gestational age, newborn weight and evaluation according to the Capurro method.

Statistical analysis was descriptive, with measurements of absolute and relative frequency, presented through charts and tables using the Statistical Product and Service Solutions (SPSS), version 18.

Data collection was conducted once approval was obtained from the mother, or her guardian in case of mothers under 18 years old, and after the signature of an Informed Consent Term. The research proposal was approved by the Research Ethics Committee of the Clinics Hospital of Porto Alegre, under protocol 120001/12.

RESULTS

Mean age of mothers was 25 years (SD: ± 6.36), minimum age was 15 years and maximum age was 44

years. Regarding skin color, 64.6% of mothers self-declared to be white; 17.5% were brown or dark brown; 17.5% were black; and 0.3% was Asian. Mean educational level was nine years of education (SD: ± 2.9). In terms of marital status, 78.9% said they lived with a partner.

Regarding their obstetric and reproductive condition, 39.5% of mothers were primiparous. The mean number of children was two per mother, 29.2% had Cesarean sections, 70.8% had vaginal birth, and 45.3% were submitted to episiorrhaphy.

Prenatal care was provided to 98.8% of women. Mean number of prenatal visits was 8.5 (SD ± 3.6). Most prenatal care was provided by the public health system, by physicians (81.6%), and nurses (16.7%).

Regarding prenatal breastfeeding guidance, 28.4% of the mothers received instructions; of these, 7.9% received information provided by nurses and 21.6% by the medical staff, the others received information from other professionals, family members or other contacts. In terms of participation in counseling groups to pregnant women, 13.7% of the mothers participated at least once. Of these, 47 women (74.5%) received information about breastfeeding in such groups. It should be noted that 74.5% of the counseling was conducted in basic healthcare units.

Regarding the characteristics of newborns, the mean gestational age was 39.2 weeks (SD: ± 1.2), as evaluated according to the Capurro method. In such evaluation, 7.9% of newborns were considered SGA (small for gestational age), 83.6% were AGA (appropriate for gestational age), and 5.3% were LGA (large for gestational age). Newborns presenting weight over 3,000 grams accounted for 78.7% of total infants and 21.3% presented weight under 3,000 grams. Apgar score at one minute was above eight to 87.1% of the newborns and above eight to 97.7% of the newborns at five minutes.

The table below shows breastfeeding within one hour of birth took place for around half the mother-newborn pairs, a period of reactivity in the neonatal transitional period. However, 41.2% of the pairs had the first

breastfeeding between one and three hours after birth, a period of relative inactivity in the neonatal transitional period.

There was no skin-to-skin contact in the childbirth room for 29.2% of mothers and newborns. This percentage is identical to the percentage in Cesarean sections (29.2%).

Table 1: Distribution of breastfeeding characteristics according to absolute and relative frequency. Porto Alegre, RS, 2012.

Breastfeeding characteristic	Absolute frequency (n)	Relative frequency (%)
First breastfeeding		
Within one hour of birth	182	53.2
After one hour of birth	60	17.5
After two hours of birth	11	3.2
After three hours of birth	70	20.5
Not recorded	19	5.6
Skin-to-skin contact in childbirth room*		
Yes	226	66.1
No	100	29.2
Not applicable/not recorded	15	4.4

* Missing information (n= 1/0.3%).

DISCUSSION

The mean age of mothers agrees with that of the municipality of Porto Alegre (25%) and it is similar to that of another study conducted in the state of São Paulo (25.8%)⁽⁸⁻⁹⁾. The studied population presents a higher percentage of adolescent mothers in relation to the rate of the municipality of Porto Alegre, which is 14.69%⁽⁹⁾. Perhaps this result may be explained by the fact that the studied hospital is a reference for high-risk pregnant women, considering there are pregnancy-related situations that cause risks to adolescents, such as hypertension⁽¹⁰⁾. The results obtained indicate the studied women are young, a factor that may influence breastfeeding length, once younger women tend to wean infants earlier⁽¹¹⁾.

The educational level of most women was nine or more years of education, and that seems to favor breastfeeding and prevent early weaning, considering that, the higher the education of mothers, the higher the chances of successfully breastfeeding⁽¹²⁾. Another important situation that favors breastfeeding refers to the fact that most women lived with a partner, who provided support and incentive to breastfeeding⁽¹³⁾.

Prenatal is the ideal time for the mother and her family to learn and have clarifications about

breastfeeding questions and myths, an adequate time for an educational process and maternal-child health promotion⁽¹⁴⁾. Breastfeeding is not instinctive, so this theme should be addressed before birth. In prenatal routine, the healthcare staff should address breastfeeding in such a way to value the presence of a partner and include sociocultural questions as well⁽¹⁵⁾.

In this study, 338 women received prenatal care (98.8%), and 73.4% had more than six visits. Among the women who received prenatal care, only 13.7% participated in counseling groups to pregnant women. These groups allow for a better understanding of the information addressed, since participants make questions and solve their doubts. This is an important healthcare strategy to the family and newborn⁽¹⁴⁾, although the women in this study did not have the opportunity to participate in these groups.

Only 28% of the women received prenatal guidance about breastfeeding, most of which provided by physicians. Prenatal information about the correct position and hold during breastfeeding was provided in 21% of the cases, a very low percentage, considering all women should receive such information.

The presence of an accompanying person in prenatal visits occurred in 44% of the cases and 0% in the

pregnancy groups. Thus, for the studied women, individual or group prenatal guidance did not contribute to well-informed mothers to claim their breastfeeding rights in hospitals⁽²⁾.

Most of the women in this study had vaginal childbirth (67%). However, the episiorrhaphy rate was 45.3%, a very high number, considering the use of episiotomy is not recommended to all vaginal childbirths and may involve risks and puerperal complications⁽¹⁶⁻¹⁷⁾. A study conducted in São Paulo showed that the occurrence of perineal lesion affects women's disposition for breastfeeding in the post-partum period, due to discomfort and body position⁽¹⁸⁾. Childbirth and immediate post-partum are periods of more vulnerability for both mother and newborn⁽³⁾.

Cesarean section rate was 29.2%, higher than the 10-15% rate recommended^(10,12). This high number of Cesarean sections may have happened because the hospital is a reference to high-risk pregnant women. Thus, an important correlation is observed between conducting procedures and promoting breastfeeding^(12,18). Cesarean sections seem to have an inverse relation to breastfeeding promotion due to the discomfort this surgical procedure causes in women in the post-partum period.

Immediate breastfeeding, associated with skin-to-skin contact of mother and newborn are important factors to reduce bleeding from the release of endogenous oxytocin by women. Skin-to-skin contact helps the newborn adapt to the extrauterine life. This practice promotes the innate behavior of the newborn to suck the breast within one hour of birth⁽³⁾, which occurs in the period of reactivity, the ideal time for mother-infant interaction and start of breastfeeding⁽⁵⁾.

Only 66.1% of newborns had skin-to-skin contact right after birth, a practice that should be conducted in both Cesarean sections and vaginal deliveries. A study conducted at a general hospital in the state of Espírito Santo, not accredited as a Baby-Friendly Hospital, found that 93.3% of women had contact with their infants

immediately after the delivery⁽²⁾. A retrospective study conducted at a maternity not accredited as a Baby-Friendly Hospital, in the municipality of São Paulo, observed a 74.3% prevalence of breastfeeding within one hour of birth⁽¹⁹⁾. Thus, higher rates of breastfeeding were expected from a Baby-Friendly Hospital, as the one analyzed in this study.

It is noteworthy that the identical rates of newborn with no skin-to-skin contact and Cesarean sections may be associated. No statistical tests were conducted to allow data cross-check and comparison; however, this study observed skin-to-skin contact was more frequent in vaginal childbirths in relation to Cesarean sections. Cesarean sections are a persistent barrier to starting breastfeeding in Baby-Friendly Hospitals⁽²⁰⁾.

Although the studied hospital is accredited as a Baby-Friendly Hospital, which may have a positive effect in breastfeeding indicators⁽²¹⁾, this study observed the rates are not yet satisfactory, especially within one hour of birth.

After birth, the procedures that separate mothers from their infant should be interrupted and they may be restarted until six hours after birth⁽¹⁸⁾. In addition, qualified support should be provided to women during the first breastfeeding and, if required, in subsequent breastfeeding as well, to ensure effective sucking and feeding⁽¹⁾.

Early breastfeeding should occur with all infants and mothers in good conditions for that. In this study, newborns presented on average excellent Apgar scores and mothers in general had no complications in the post-partum period.

The breastfeeding rate in the second stage of the neonatal transitional period (period of inactivity), between two and three hours after birth, was 20.7%. This is the period the infant rests and has no response to stimuli, including breastfeeding. Normal term infants of appropriate weight use their calorie reserve (constituted of brown fat) when no effective sucking occurs within the first hours after birth. Therefore, their needs can be

observed in the different stages of the neonatal transitional period⁽⁵⁾.

During the third stage of the neonatal transitional period, 20.5% of the infants were breastfed. After the third hour after birth, newborns can be stimulated and will present a more effective response. In this third stage of the neonatal transitional period, or the second period of reactivity, healthcare staff may stimulate sucking and breastfeeding, especially if it has not occurred immediately after birth. These newborns are considered properly stimulated in terms of the stage of the transitional period they were⁽⁵⁾.

CONCLUSION

This study found a low breastfeeding rate in the neonatal transition period, especially within one hour of birth, considering the studied hospital is accredited as a Baby-Friendly Hospital. Other Brazilian hospitals not inserted in this initiative present higher rates than those obtained in this study.

The results showed that stimulus to breastfeeding does not respect the neonatal transitional period of newborns.. The proper period to stimulate breastfeeding

is within one hour of birth, when infants are responsive to stimuli. The second hour after birth is not the ideal time to stimulate the newborn, because this is the neonatal adaptation period, when the infant rests, and an important period for extrauterine life adaptation. This is a situation that should be revised in maternities to promote breastfeeding.

Due to recurrent absence of prenatal counseling about breastfeeding, nurses and other healthcare professionals should include individual and group activities that address breastfeeding.

These findings reinforce that it is important for maternities to train their staff to help women and their families in this sense, for the prevention of fissures (mammary trauma) and breastfeeding evolution.

The adoption of healthcare strategies that favor early skin-to-skin contact between mother and newborn, in Cesarean sections, may help improve healthcare quality in Baby-Friendly Hospitals. Observational studies that determine more accurately the time newborns are stimulated should be encouraged. Analytical studies may evaluate skin-to-skin contact in Cesarean sections more effectively.

REFERENCES

1. Edmond KM, Zandoh C, Quigley MA, Amenga-Tego S, Owusu-Agwei S, Krkwoode BR. Delayed breastfeeding initiation increases risk of neonatal mortality. *Pediatrics*. 2006; 117 (3):e380-6.
2. Lopes SS, Laignier MR, Primo CC, Leite FMC. Iniciativa Hospital Amigo da Criança: avaliação dos Dez Passos para o Sucesso do Aleitamento Materno. *Rev. Paul. Pediatr*. 2013; 31(4): 488-93.
3. Anderson GC, Moore E, Hepworth J, Bergman N. Early skin to skin contact for mothers and their healthy newborn infants. (Cochrane Review) In: *Cochrane Database of Systematic Reviews*, Issue 3, 2007. Oxford: Update Software.
4. Hillman N, Kallapur SG, Jobe A. Physiology of transition from intrauterine to extrauterine life. *Clin Perinatal*. 2012; 39 (4): 769-783.
5. Mercer JS, Erickson-Owens DA, Graves B, Haley MM. Evidence-based practices for the fetal to newborn transition. *J Midwifery Womens Health*. 2007; 52(3):262-72.
6. Souza MFL, Ortiz PN, Soares PL, Vieira TO, Vieira GO, Silva RS. Avaliação da promoção do aleitamento materno em Hospitais Amigos da Criança. *Rev. Paul. Pediatr*. 2011; 29(4): 402-8.
7. Pereira CRVR, Fonseca VM, Oliveira MIC, Souza IEO, Mello RR. Avaliação de fatores que interferem na amamentação na primeira hora de vida. *Rev. Bras. Epidemiol*. 2013; 16(2): 525-34.
8. Relatório Prefeitura Municipal de Porto Alegre. Sistema de Informação sobre Nascidos Vivos. Prá-saber: Informações de Interesse à Saúde. Porto Alegre; 2011.
9. Narchi ZN, Fernandes QAR, Dias AL, Novasi HD. Variáveis que influenciam a manutenção do aleitamento materno exclusivo. *Rev. Esc. Enferm. USP*. 2009; 43(1): 87-94.
10. Boccolini CS, Carvalho ML, Oliveira MIC, Vasconcellos AGG. Fatores associados à amamentação na primeira hora de vida. *Rev. Saúde Pública*. 2011; 45 (1): 69-78.
11. Lima APE, Javorski M, Vasconcelos MGL. Práticas Alimentares no Primeiro Ano de Vida. *Rev. Bras. Enferm*. 2011; 64(5): 912-18.
12. Pereira CRVR, Fonseca VM, Oliveira MIC, Souza IEO, Mello RR. Avaliação de fatores que interferem na amamentação na primeira hora de vida. *Rev Bras Epidemiol*. 2013; 16(2): 525-34.

13. Rocci E, Fernandes RAQ. Dificuldades no aleitamento materno e influência no desmame precoce. *Rev. Bras. Enferm.* 2014; 67(1): 22-7.
14. Cabral PP, Barros CS, Vasconcelos MG, Javorski M, Pontes CM. Motivos do sucesso da amamentação exclusiva na perspectiva dos pais. *Rev. Eletr. Enf.* 2013;15(2): 454-62.
15. Gonçalves AC, Bonilha ALL. Crenças e práticas da nutriz e seus familiares relacionadas ao aleitamento materno. *Rev Gaúcha Enferm.* 2005; 2(3): 333-44.
16. Amorim MMR, Katz L. O papel da episiotomia na obstetrícia moderna. *Rev. Femina.* 2008; 36(1): 47-54.
17. Carroli G, Belizan J. Episiotomy for vaginal birth (Cochrane Review). In: *The Cochrane Library.* Oxford: Update Software. 2008; Issue 4.
18. Monteiro JCS, Nakano MAS, Gomes FA. Amamentação precoce na primeira meia hora de vida da criança. *R Enferm UERJ.* 2006; 14(2): 202-7.
19. Pillegi MC, Policastro A, Abramovici S, Cordioli E, Deutsch AD. A amamentação na primeira hora de vida e a tecnologia moderna: prevalência e fatores limitantes. *Einstein.* 2008; 6(4): 467-472.
20. Alba-Romero C, et al. Postcesarean Section skin-to-skin contact of mother and child. *Journal of Human Lactation.* 2014; 1(4): 1-4.
21. Venancio SI, Saldiva SR, Escuter MM, Giugliani ER. The Baby-Friendly Hospital Initiative shows positive effects on breastfeeding indicators in Brazil. 2012; 66(10): 914-8.

Received: 08/24/2013.

Accepted: 06/17/2014.

Published: 03/31/2015.