

Breastfeeding in Babies with
Developmental AlterationsAguilar-Cordero MJ^{1,2,3*}, Rodriguez-Blanque R^{1,2,3}, Leon-Rios XA², García- García I¹ and Latorre- García Julio^{2,3}¹Department of Nursing, University of Granada, Spain²CTS Research Group 367, Junta de Andalucía, Spain³Complejo Hospitalario Universitario de Granada, Spain

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*Corresponding author

Aguilar-Cordero MJ, Departamento de Enfermería, Facultad de Ciencias de la Salud, Universidad de Granada, Avda/ de l'Ilustración s/n - CP: 18071, Granada, Spain, Tel: +34-657-841-751; Email: mariajaguilar@telefonica.net

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Abstract

Background: Breast milk has traditionally been the exclusive food during the period between birth and two years of life. In recent years, the breastfeeding has decreased considerably. There is a belief that hypotonia and decreased reflexes can hinder the breastfeeding of Down syndrome babies; however, it is not true that is an impediment to breastfeeding.

Aim: To assess the technique of breastfeeding mothers of children with Down syndrome in the first 36 hours postpartum and its influence on the duration of breastfeeding.

Material and methods: A prospective cohort study was carried out in the medium care service of the San Cecilio University Clinical Hospital of Granada. The variables of breastfeeding technique, age of the mother, childbirth types, level of education, feeding the child receives and duration of exclusive breastfeeding were studied. This observation was made during the 36 hours postpartum. The quality of the breastfeeding was evaluated according to the scale of Good, Average and Poor. To establish these grades, we used the *Breastfeeding observation* protocol [1].

Results / conclusions: Women whose age is between 26 and 29 years had difficulty in breastfeeding in the first 36 hours. Women who had complicated births presented difficulties following the technique of breastfeeding. As the age of the mothers increases, exclusive breastfeeding is prolonged. Women who were misjudged the technique of breastfeeding in the first 36 hours, abandoned it before the first month.

Introduction

Breastfeeding is the natural way to feed the children during the first year of life as an exclusive food and, from the sixth month, with other supplements. The advantages are not only biological, breastfeeding is also a unique opportunity to establish intimate contact with the baby and thus increase the emotional bond between the mother and the newborn. The breast not only represents for the child the best possible food, but it offers warmth and a continuous source of stimulation [1,2].

In the past, knowledge of breastfeeding was transmitted from mothers to daughters; they received support and approval and had models and counselors to trust. From the second decade of the 20th century, the abandonment of the traditional system began, which reinforced breastfeeding. With the arrival of industrial milks, came the era of food through a bottle. However, breastfeeding is much more than a mere biological issue, it is also a social and cultural behavior that is learned from those around us [2,3].

Breastfeeding is the only food source that provides all the nutrients necessary for the correct development of the child in the first months of life. This has been recognized by the World Health Organization (WHO) and the reports of various scientific societies.³The benefits of breastfeeding include, from nutritional and immunological aspects, to those of a psychological and intellectual nature. Epidemiological research has shown that breastfeeding provides a series of advantages to infants for their health status, growth and development; at the same time, it significantly decreases the risk of suffering a large number of acute and chronic diseases [4].

Although the promotion of breastfeeding is in the Comprehensive Maternal and Child Health Program, which is promote throughout the world, WHO and UNICEF have warned over the last decade about the need to review the approaches of breastfeeding programs [5-7]. The benefits of breastfeeding (LM), both for the child and the mother, have been widely studied, of which there is scientific evidence on many of them, such as a lower incidence of otitis media, gastroenteritis, infections of the upper respiratory tract, etc. Breastfeeding reinforces the affective bonds between the mother and her child, reduces or eliminates the acquisition costs of formula milk and, in general, favors the health of the child [7].

Table 1: The following table describes the age of the mother and the assessment of the breastfeeding at 36 hours. It is reflected according to the scale: good, average or poor.

AGE	Under 25 years old	26 to 29 years old	More tan 30 years old	Total
Scale Good	0	0	0	0
Scale Average	0	2	5	7
Scale Poor	0	5	0	5
Total	0	7	5	11

Breast milk has traditionally been the exclusive food during the period between birth and two years of life. Although there have been detractors in all periods, it is from the 50s of the last century that there is a significant decrease in this natural feeding method and for many reasons [8,9].

In recent years, breastfeeding has declined with effects on children’s health, especially in developing countries and it is more evident in mothers with children with Down syndrome. There is a belief that hypotonia and decreased reflexes can hinder the breastfeeding of Down syndrome babies; however, it is not true that is an impediment to breastfeeding [10,11].

In fact, many of the problems encountered stem from the insecurity and lack of knowledge of breastfeeding techniques, as well as the fact of separating the child from his mother during the first days of life. It must be recognized that some of the characteristics of the newborn with Down syndrome, such as hypotonia and suction and swallowing difficulties, make this form of feeding a little more difficult, which can lead to abandonment of breastfeeding before the desired time [12-14].

The scientific evidences show that the low rates of breastfeeding and its early abandonment are constant. In Spain, 90% of mothers start breastfeeding and maintain it during the first six weeks, but only 23% continue it at six months. In America, the advantages of breastfeeding for the infant, for the mother and for the community are widely known; however, the prevalence figures are very low and are even lower in the poorest countries [15,16]. The causes of early abandonment are diverse and work is being done to find alternatives that reduce the dropout rate, from a holistic perspective of health [16,17].

The literature states that repeated errors in the first breastfeeding can condition the future of the next, so that more emphasis should be placed on mothers of children with Down syndrome; in our country, it is unknown how this situation occurs. And this, because the educational practices of the care environment are directed only to information, to the transmission of knowledge and are not accompanied by the development of skills that are decisive for the successful breastfeeding of these trisomic children [14,17].

The aim of this study is to assess the technique of breastfeeding mothers of children with Down syndrome in the first 36 hours postpartum and its influence on the duration of breastfeeding.

Methodological Design

A prospective cohort study was carried out in the medium care service of the San Cecilio University Clinical Hospital of Granada. The universe consisted of 11 puerperal women, mothers of children with Down syndrome. The variables of breastfeeding technique, age

of the mother, childbirth types, and level of education and duration of exclusive breastfeeding were studied.

The collection of information related to the technique of breastfeeding was carried out by direct observation and correction of the technique of breastfeeding. This observation was made with all the women included in the study during the 36 hours postpartum and later a follow up until 6 months. The quality of the breastfeeding was evaluated according to the scale of Good, Average and Poor. To establish these grades, we used the *Breastfeeding observation protocol* [1]. The guide includes aspects related to the position, the observed response, the affective bond manifested, the type of suction and the duration of the same.

The observations were made by the authors of this research, duly trained, and to whom the following assessment criteria were granted: Good from 75% to more, Average, between 25 and 74% and Poor, less than 25%.

For the processing of the results, chi2 and Student’s t tests were used to determine the differences between the qualitative and quantitative variables, respectively, considering $p < 0.05$ as significant.

Results

The main results obtained in this study are described below.

The results of Table 1 show that women whose age is between 26 and 29 years old were assessed with difficulty in breastfeeding in the first 36 hours. As the mother’s age increases, breastfeeding is technically better practiced; there are significant differences between the groups. ($p < 0.01$).

Table 2 shows that women with Labor Dystocia presented difficulties following the technique of breastfeeding. Significant differences were found in the evaluation of the technique and type of delivery ($p < 0.05$).

Table 3 shows that woman between the ages of 26 and 29 abandoned breastfeeding before 3 months. There are significant differences between the age of the mother and the time of exclusive breastfeeding. As the age increases, exclusive breastfeeding is prolonged. In this study, the duration of breastfeeding concluded before the first month of life in 4 mothers and in 7 of them it was maintained until six months postpartum.

Table 2: The following table describes the type of childbirth and the assessment of the breastfeeding at 36 hours. It is reflected according to the scale: good, average or poor.

Type of delivery	Scale Good	Scale Average	Scale Poor	Total
Eutocic delivery	0	2	2	4
Labor Dystocia	0	0	7	7
Total	0	2	9	11

Table 3: Age of the mother and Duration of exclusive breastfeeding.

Age	Until the first month	1 month to 3 months	3 months to 6 months	More than 6 months	Total
Under 25 yearsold	0	0	0	0	0
26 to 29 yearsold	4	0	0	0	4
More tan 30 yearsold	0	0	7	0	7
Total	4	0	7	0	11

Table 4: Level of education and Duration of exclusive breastfeeding.

Level of Education	Until the first month	1 month to 3 months	3 months to 6 months	Total
Primary / High school	0	0	0	0
technical	1	0	0	1
pre university	2	1	1	4
University	0	0	6	6
Total	3	1	7	11

Table 5: Assessment of the intake during the 36 hours postpartum and its relation with the duration of exclusive breastfeeding.

Duration in months	Scale Good	Scale Average	Scale Poor	Total
Until the first month	0	0	3	3
1 month to 3 months	0	1	0	1
3 months to 6 months	0	7	0	7
Total	0	7	4	11

Table 4 shows significant differences between the level of education of the mother and the duration of exclusive breastfeeding. Women who have university studies lactate mostly until 6 months, and even more. This confirmed that the duration of exclusive breastfeeding is longer, as the level of education increases ($p < 0.05$).

Table 5 describes the differences between the assessment of the breastfeeding at 36 hours after birth and the duration of exclusive breastfeeding. Women who were misjudged the technique of breastfeeding in the first 36 hours, abandoned it before the first month.

Discussion

The analysis of the literature shows that maternal factors such as age, education, type of delivery and breastfeeding technique, influence the prolongation of breastfeeding of mothers of children with Down syndrome.

It is observed that young women have more difficulties for breastfeeding compared to older women. These results coincide with that reported in the international literature, in which several authors, such as Pallás CR, Baeza Pérez-Fontán C, coincide when establishing that the age of the mother influences in a correct technique of breastfeeding [18,19].

In our study when comparing groups, Eutocic delivery (delivery without complications) and Dystocic labour (complicated delivery), significant differences are found, since women with the Dystocic labour present difficulties for breastfeeding. These results also coincide with those reported by Pérez-Escamilla [20].

The birth of a child is one of the most significant events in a woman’s life. At present, there is a high incidence of cesarean deliveries, although the World Health Organization recommends that in no country should 10-15% of births be exceeded by this system [21].

Other research shows that mothers with cesarean deliveries have lower levels of oxytocin and prolactin (lactation hormones) in the first 48 hours postpartum, which causes lactogenesis to be delayed. It is also concluded that they have a three times more risk of abandoning breastfeeding in the first month of life [22,23].

It is evident that, after a cesarean section, the mother needs special and individualized support and close follow-up for the initiation of breastfeeding. Most of the mother’s difficulties in breastfeeding after cesarean are not due to the intervention itself, but to a whole series of erroneous beliefs or inappropriate practices in the hospital, which often results in breastfeeding ending before the mother would have wanted [24,25].

In the present study, the duration of the breastfeeding concluded before the first month, in 4 mothers and in 7 of them it was possible to maintain up to sixmonths. LasarteVelillas, in him research on the age of the mother and breastfeeding, shows that mature women (around 30 years old) initiate and maintain lactation for longer than young mothers; statement that agreed with the results of this investigation [26,27].

Another study recognizes that women, whose age exceeds 30 years, are more consistent with exclusive breastfeeding; this is not the case in the group of younger women, who tend to introduce other foods in the first months of the child’s life. These circumstances have been recognized as important risk factors for the non-implementation of exclusive breastfeeding. In this work, it was verified that women who faced some type of problem when breastfeeding preferred to choose a child feeding through the use of formula [28].

Silva V et al, in a study in Pernambuco, Brazil, found that the initiation of early breastfeeding has a favorable effect for its continuity in the first two years. The results were: Exclusive early lactation was 60.2%, breastfeeding up to 6 months was 32.9%, breastfeeding until the year was 45.9% and prolongation until 2 years was 35.9%. It was

confirmed that home visits by health professionals and a higher age of mothers were protective factors for the continuity of exclusive breastfeeding [29].

It can be stated that, in general, mothers who choose breastfeed compared to those who decide formula feeding, differ in that they are older, have a higher level of education, have higher incomes and often have a stable couple. We agree with the work of García Vera C, according to which the social environment and social beliefs have a significant influence on individual decisions to breastfeed. The implantation of breastfeeding depends on a process of adaptation and learning between the baby and the mother. The first breastfeeding is the first oral experiences of the baby, and also has an importance for the subsequent development of breastfeeding [30,31].

In a study conducted by Galipeau R et al., [32] the relationship between the insufficient supply of milk perceived by the mother and the supply of real milk, which affect the physiological and psychosocial variables of mothers who breastfeed for the first time, is evident. It was found that the mother's perception of breastfeeding affects the supply of real milk. Interventions should therefore aim to increase the mother's confidence in breastfeeding, which in turn will influence their duration.

Mothers of trisomy children usually complain that their baby rejects the breast, picks it up and lets it go or gets very nervous and cries to sleep. This is a frequent reason for alarm of mothers. They tend to believe that the child is hungry, so the maternal concern increases and the lactations are increasingly frustrating and ineffective. These disturbances in breastfeeding, called oral dysfunctions, can cause a lot of pain to the mothers, with traumas in the nipple, such as cracks and peels, as well as breast engorgement, poor weight gain and an early and undesirable weaning of the baby [33,34].

The present study has important limitations in the sample, due to the low percentage of children born with Down syndrome, which takes place by the implantation of neonatal screening in a systematic way in prenatal care. The study group consisted of mothers of children with DS who could be followed closely, in relation to the technique of breastfeeding in the first 36 hours of life of the baby.

As future research lines it would be concerned the creation of working groups among professionals specially prepared to assist those children with special needs and to check the benefits of breastfeeding, according to the months of breastfeeding, contributing in this way to a lower morbidity.

Conclusions

Information about the advantages of breastfeeding promotes the practice, although this, by itself, is not enough. It has been shown that forms of promotion that include the technical aspects of breastfeeding are needed and there is a need for new practical skills on breastfeeding with mothers of trisomy children.

The professionals are aware of the motor suction problems that end up transforming into difficult habits to correct; however, for this reason, it is very important that breastfeeding is routinely observed in maternity wards and the baby's sensorial-motor-oral capacity is evaluated, whenever any difficulty is detected. Through this sensory-motor-oral stimulation of the orofacial structures involved in feeding, inappropriate behaviors or movements can be corrected. The advice,

the early and continuous help in the first hours are decisive in the implantation of a successful breastfeeding.

The professional observation of a breastfeeding is the most indicated tool for the detection of this type of dysfunctions and should consist, not only in the inspection of the oral functioning, but also in those related to the position of the mother and the child during the taking, as well as the behavior of the baby when sucking and, finally, the type of affective bond established between the baby and its mother.

References

1. World Health Organization (WHO). Breastfeeding counseling Training course. Spain. Revised edition: August, 1998.
2. Aguilar Cordero MJ. Tratado de enfermería del niño y adolescente. 2ed. Barcelona: Elsevier; 2012.
3. Who. Comprehensive implementation plan on maternal, infant and young child nutrition. Sixty-fifth world health assembly. 2012; 65: 55-68.
4. Síntesis Memento L. III Congreso Español de Lactancia Materna, Santander. 2007.
5. UNICEF. Estado Mundial de la Infancia. 2006
6. Arena J. La lactancia materna en la estrategia mundial para la alimentación del lactante y del niño pequeño. An. Pediatría. 2005.
7. OMS/UNICEF. Estrategia mundial para la alimentación del lactante y niño pequeño. OMS. Ginebra 2005.
8. Black RE. Maternal and Child Undernutrition Study Group. Maternal and child undernutrition: global and regional exposures and health consequences. Lancet. 2008; 371: 243-260.
9. Manganaro R, Mami C. Índice de deshidratación e hipernatremia en exclusivamente lactantes. J Pediatr. 2006; 139: 673-675.
10. Fuentes Caballero M. Lactancia materna y Aspectos biosociales. III Congreso Español de Lactancia materna, Santander, 2006.
11. Biancuzzo M. Breastfeeding the newborn: Clinical Strategies for nurses. 2da ed. Washington, D.C: Mosby; 2007.
12. Colon E. Exploratory study: barriers for initiation and/or discontinuation of breastfeeding in mothers of children with Down syndrome. PR Health Sci J. 2009; 28: 340-344.
13. Estévez MD, Martell D, Medina R, García E, Saavedra P. Factores relacionados con el abandono de la lactancia materna. Rev. Esp. Pediatr. 2006; 56:144-150.
14. Stevenson AC. Congenital malformations [Internet]. Ginebra: Organización mundial de la salud; 2009.
15. Mur Villar N. Factores relevantes que retardan la lactogénesis y su relación con la edad materna. [Tesis para optar por el título de Especialista de I Grado en Enfermería Materno Infantil]. 2007. Hospital Universitario, Cienfuegos.
16. Estevez MD. Factores relacionados con el abandono de la Lactancia materna. 2002.
17. Essential nutrition actions. Improving maternal-newborn-infant and young child health and nutrition. Geneva, World Health Organization, 2012.
18. Pallas CR, Baeza Pérez- Montan C. Maternidad en adolescentes de alto riesgo social. Atención Primaria. 2000; 102: 229-241
19. Pallas CR, Baeza Pérez-Fontan C. Grupo de trabajo sobre Prevención en la infancia y Adolescencia del PAPPs-SEM FYC. El médico de familia y la formación de Lactancia materna. Aten Primaria. 2006, 38: 67-68.
20. Pérez- Encamilla R. The Association between Cesarean Deliveries and Breast-Feeding Outcomes among Mexican Women. Am J Public Health. 1999; 86: 832-836.

21. Vogel JP, Betrán AP, Vindevoghel N, Souza JP, Torloni MR, Zhang J, et al. On behalf of the WHO Multi-Country Survey on Maternal and Newborn Health Research Network. Use of the Robson classification to assess caesarean section trends in 21 countries: a secondary analysis of two.
22. WHO multicountry surveys. *Lancet Global Health*. 2015; 3: e260-270.
23. Zanardo V. Impaired lactation performance following elective delivery at term: role of maternal levels of cortisol and prolactin. *J Matern Fetal Neonatal Med*. 2012; 25: 1595-1598.
24. Wang BS. Prospective observational study on the effects of caesarean section on breastfeeding. *Zhonghua Fu Chan KeZaZhi*. 2006; 41: 246-248.
25. Brownell E, Howard CR, Lawrence RA, Dozier AM. Delayed onset lactogenesis II predicts the cessation of any or exclusive breastfeeding. *J Pediatr*. 2012; 608: 161-164.
26. Isik Y. Early postpartum lactation effects of cesarean and vaginal birth. *Ginekol Pol*. 2016; 87: 426-430.
27. Prior E, Santhakumaran S, Gale C, Philipps LH, Modi N, Hyde MJ. Breastfeeding after cesarean delivery: a systematic review and meta-analysis of world literature. *Am J Clin Nutr*. 2012; 95: 1113-1135.
28. Lasarte Velillas J. Experiencia de un año del forum de lactancia materna para profesionales y padres. *AnPediatr*. 2006; 60: 87-95.
29. Fischer TP. A qualitative study to understand cultural factors affecting a mother's decision to breast or formula feed. *J Hum Lact*. 2014; 30: 209-216.
30. Silva V. Maternal breastfeeding: indicators and factors associated with exclusive breastfeeding in a subnormal urban cluster assisted by the Family Health Strategy. *J Pediatr (Rio J)*. 2018; S0021-7557: 30281-30284.
31. García Vera C, Martín Calama J. Lactancia materna en España, resultado de una encuesta de investigación de ámbito estatal. *RPAP*: 2000; 73-387.
32. Aguayo Maldonado J. Lactancia Materna en Andalucía. Sevilla Conserjería de Salud. 2008.
33. Galipeau R. Perception of Not Having Enough Milk and Actual Milk Production of First-Time Breastfeeding Mothers: Is There a Difference? *Breastfeed Med*. 2017; 12: 210-217.
34. Oliveira AC. Feeding and nonnutritive sucking habits and prevalence of open bite and cross bite in children/adolescents with Down syndrome. *Angle Orthod*. 2010; 80: 748-53.