

Speech-language therapy follow-up of breastfeeding in newborns in the first hours of life

Acompanhamento fonoaudiológico do aleitamento materno em recém-nascidos nas primeiras horas de vida

Andréa Monteiro Correia Medeiros¹, Jéssica Caroline de Jesus Santos², Daniela de Arimatéia Rosa Santos², Ikaro Daniel de Carvalho Barreto³, Yasmin Vieira Teixeira Alves²

ABSTRACT

Introduction: Speech therapy has assumed an important role with breastfeeding. **Purpose:** To verify the breastfeeding situation, considering aspects of the mother-newborn dyad, according to newborn's lifetime through speech-language intervention. **Methods:** Study conducted from May 2015 to September 2016, with 166 mother-newborn dyads during the breastfeeding situation, in a high-risk public maternity hospital in the state of Sergipe. A specific protocol was used registering anatomical aspects of nipples and breasts, newborn's behavioral status, newborn suckling and breast-latch pattern and dyads posture to describe the breastfeeding situation at different times: Moment 1 (Baseline); Moment 2 (Speech-Language Intervention); Moment 3 (Accompaniment). The results were described using simple and percentage frequencies, Mantel-Haenzel Test (M-H) and the Likelihood Ratio Test (LRT), adopting significance level of 5%. **Results:** Regarding the effect of the speech-language intervention, there was a significant difference in the maternal parameters for the breasts situation (regorgement); While in the parameters involving the newborns there were significant differences, with improvement in breast-latch patterns aspects such as: do not only pick up the beak, snatch part of the areola, breast-latch effectively and manage to keep breast-latch pattern. Regarding the dyad postural aspects, there were significant differences regarding newborn's raised and aligned head and body contact (belly-to-belly). **Conclusion:** Speech-language intervention with the mother-newborn dyads in the first hours after delivery showed an improvement in the parameters considered fundamental on a successful breastfeeding glimpsing a health education practice among the puerperal women.

Keywords: Breast feeding; Speech, language and hearing sciences; Effectiveness; Maternal health; Child health

RESUMO

Introdução: A fonoaudiologia tem assumido importante papel junto ao aleitamento materno. **Objetivo:** Verificar a situação do aleitamento materno, considerando aspectos da díade mãe-recém-nascido, de acordo com tempo de vida do recém-nascido, mediante intervenção fonoaudiológica. **Métodos:** Estudo realizado de maio de 2015 a setembro de 2016, com 166 díades mãe-recém-nascido, durante a situação do aleitamento materno, em uma maternidade pública de alto risco do estado de Sergipe. Foi utilizado protocolo específico, registrando-se aspectos anatômicos de bicos e mamas maternos, estado comportamental, padrão de pega e sucção dos recém-nascidos e postura das díades, para descrever a situação de aleitamento materno, nos três diferentes momentos: Momento 1 (linha de base); Momento 2 (intervenção fonoaudiológica); Momento 3 (acompanhamento). As análises foram descritas por meio de frequências simples e percentuais, utilizando o teste de Mantel-Haenzel (M-H) e o teste da razão de verossimilhança (TRV), adotando nível de significância de 5%. **Resultados:** Em relação ao efeito da intervenção fonoaudiológica, houve diferença significativa quanto aos parâmetros maternos, para situação das mamas (ingurgitamento). Nos parâmetros envolvendo os recém-nascidos, houve diferenças significativas, com melhora no padrão de pega, quanto aos seguintes aspectos: não abocanha somente o bico, abocanha parte da aréola, pega efetiva e consegue manter a pega. Quanto aos aspectos posturais da díade, houve diferenças significativas quanto à cabeça do recém-nascido elevada e alinhada e ao contato corporal ("barriga com barriga"). **Conclusão:** A intervenção fonoaudiológica junto às díades mães-recém-nascidos, logo nas primeiras horas pós-parto, evidenciou melhora nos parâmetros considerados fundamentais para o sucesso da amamentação, vislumbrando uma prática de educação em saúde junto às puérperas.

Palavras-chave: Aleitamento materno; Fonoaudiologia; Efetividade; Saúde materna; Saúde da criança

Study conducted at the Department of Speech and Hearing Therapy, Universidade Federal de Sergipe – UFS – São Cristóvão (SE), Brazil.

(1) Universidade Federal de Sergipe – UFS – São Cristóvão (SE), Brazil.

(2) Department of Speech and Hearing Therapy, Universidade Federal de Sergipe – UFS – São Cristóvão (SE), Brazil.

(3) Universidade Federal Rural de Pernambuco – UFRPE – Recife (PE), Brazil.

Conflict of interests: No

Authors' contribution: AMCM was responsible for the study's design and delineation, data analysis and interpretation, article revision and approval of the published final version; JCJS, YVTA, DARS were responsible for collecting, analyzing and interpreting data and writing the article; IDCB was responsible for the statistical treatment, analysis and interpretation of the data of the manuscript.

Funding: Programa Institucional de Bolsas de Iniciação à Extensão (PIBIX), – PROEX-UFS (2015-2016), Edital nº.03/2015/PROEX.

Corresponding author: Andréa Monteiro Correia Medeiros. E-mail: andreamcmedeiros@gmail.com

Received: 2/28/2017; **Accepted:** 8/23/2017

INTRODUCTION

Breastfeeding is a natural act; however, breastfeeding may not be simple for some women, because it depends on both the mother-newborn's clinical and anatomical conditions and the meaning that mothers attribute to the breast, body, infant, act breastfeeding and economic, social and cultural circumstances^(1,2).

In phonoaudiological terms, breastfeeding facilitates the adequate growth and development of the structures that forms the stomatognathic system and its functions of respiration, suction, swallowing, chewing and speech⁽³⁾. Suckling improves the mobility, posture and tonicity of the orofacial musculature involved, contributes to the establishment of nasal breathing, and prevents the establishment of deleterious oral habits and malocclusions^(4,5).

In addition, adequate breastfeeding positioning also helps to reduce the risk of hearing problems caused by otitis, since an aggravating factor of hearing loss is a fluid intake in the lying position, especially in newborns (NB), in by virtue of the arrangement of the most horizontal auditory tube⁽⁶⁾.

The benefits of MA are widely disseminated in the literature and should be initiated shortly after birth, except in those cases where NBs are restricted to receive oral diet and enteral diet⁽⁷⁾. Currently, there are numerous breastfeeding promotion campaigns that seek support for mothers and their families from the prenatal period. Direct interventions with the dyads at the beginning of lactation have been shown to be fundamental for a longer duration of this practice^(1,8,9). However, early weaning rates are still alarming in developing countries⁽¹⁰⁾.

The breastfeeding evaluation allows the health professional to identify anatomical and physiological aspects of the mother-NB that lead to failure of breastfeeding, such as nipple trauma, ineffective sucking pattern, inadequate grasp, and incoordination of suction-swallowing-breathing movements^(3,11). Sleep can also negatively interfere with breastfeeding readiness, rhythm maintenance and suction force support, since healthy newborns sleep on average 90% of the time in the first days of life^(12,13).

The influence of each subject's beliefs regarding the difficulty in breastfeeding can also trigger feelings of guilt, frustration, insecurity and anxiety^(14,15). The identification of the risk factors for failure to breastfeed contributes to the definition of behaviors to be used in the management, as well as to delimit which specific knowledge is important to be emphasized among the population⁽³⁾.

The literature refers to studies carried out with the aim of identifying risk factors for breastfeeding, discussing aspects involving anatomy^(3,9,14), physiology^(1,3,9,11,14), social and cultural issues^(1,3,10,14,15). However, the effects of the speech-language interventions performed through the follow-up of the breastfeeding in the mother-RN dyads have not been discussed. In this context, the hypothesis of the present research is that the speech-language pathology accompanying the dyads benefits

the establishment of breastfeeding in the hospital setting, strengthening the speech-language pathology performance in this area.

The objective of the present study was to investigate the situation of the breastfeeding, considering the life span of the newborn through speech-language intervention in a high-risk public maternity hospital.

MÉTODOS

Research inserted in the project "Breastfeeding and Health and Speech Therapy", approved by the Committee of Ethics in Research (CER) of the *Universidade Federal de Sergipe*, under no. 45411315.6.0000.5546, performed from May 2015 to September 2016, in a high complexity public maternity hospital in the state of Sergipe, Brazil.

Maternity has been working since December 2007, assisting high-risk pregnant women with pathologies such as hypertension, diabetes, heart disease and preterm labor. It has obstetric and neonatal beds, in a joint accommodation regime. The team is interdisciplinary, serving, on average, 1,400 mothers per month and making about 500 monthly deliveries.

A prospective longitudinal study comparing NBs, divided according to the lifetime (postnatal age), in the breastfeeding situation, at different moments (Baseline, speech-language intervention and follow-up).

One hundred and sixty mother-RN dyads participated, and this number was consistent with the recruitment of hospitalized participants, who met the inclusion criteria, during the period spent in the research.

The inclusion criteria used were: mother-infant dyad hospitalized in the wards with a Joint Housing system (JHS); clinically fit to stimulate breastfeeding; NBs born with gestational age between 37 and 42 weeks; both sexes; agreement of the mother, through the signing of the Informed Consent Form (ICF).

JHS is a hospital system, characterized by the presence of mother and child considered healthy, without risk of death, or without low weight, in the same environment until hospital discharge. This configuration aims at the link between the mother-NB and early breastfeeding stimulation⁽¹⁶⁾.

As exclusion criteria, the following were considered: mothers and/or NBs with medical restriction for breastfeeding; NBs that used alternative feeding routes; Syndromic or neuro-pathic NBs; dyads that did not have reassessed breastfeeding (follow-up) after the speech-language intervention; refusal to participate in the survey.

The 166 dyads were divided into two groups: Group 1 (G1), formed by 34 mothers-NBs, whose NB was postnatal until 23 hours and 59 minutes at baseline; Group 2 (G2), formed by 132 mothers-NBs, whose NB was postnatal at 24 hours or more at the time of initial observation (baseline).

The postnatal age was calculated from the date and time

of birth of the newborn until the exact moment of starting the baseline.

The dyads were observed individually in the wards, consisting of three beds. Each dyad participated in the three moments of the study during the breastfeeding situation.

All the data observed were recorded during the intervention in the bed, in the Speech-Language Pathology - Breastfeeding Monitoring Protocol, from Pivante and Medeiros⁽¹⁷⁾. The protocol is widely used since its publication as a clinical instrument.

The aspects contemplated in the speech-language intervention were related to the mother, the newborn and the dyad, in the breastfeeding situation. Firstly, we sought the adequacy of the behavioral state of the NB (preferably alert) and general maternal well-being, adjusting the positioning and conditions of breasts and nipples. Specifically, the intervention contemplated the dyads in relation to the handle and sucking pattern of the newborn, as well as providing assistance and/or guidelines on language development (development and importance of the bond), speech (development of phonoarticulatory organs and orofacial motricity) and hearing (prevention of otitis/auditory stimulation).

The evaluators of the research group were trained by one of the authors of the protocol, presenting full domain in their application. Thus, observations, interventions and records were always conducted by the same researchers, previously trained and calibrated on the contents and their form of application (language used, management performed, filling protocols, among others).

The study was developed in three moments:

Moment 1 - Baseline: The mother-infant dyad was initially observed during the breastfeeding situation, without any intervention or assistance from the researchers. This moment of the study had as objective to recognize the spontaneous situation of the dyad in breastfeeding.

Moment 2 - Speech-language intervention: Characterized by the speech-language intervention itself, performed immediately after the baseline, with an average duration of 40 minutes, varying according to the dyad's need. During this time, the dyad was handled, focusing on the difficulties seen in Moment 1.

Moment 3 - Follow up: It aimed to reassess the breastfeeding situation. Performed after 16 to 48 hours of speech-language intervention. It was verified the autonomy of the dyad in the breastfeeding situation, after the orientations, against the possible difficulties observed at the time of the baseline.

The study model, considering the age of the NB, moments of the study and the conditions of the participants, is shown in Figure 1.

In the evaluation of the breastfeeding situation, the following items were considered as parameters for effectiveness:

Suitable breast and nipples

Characterized by the absence of pain, regorgement and febrile sensation in the breasts, and/or no cracking and/or cracking processes in the nozzles⁽¹¹⁾.

NB in alert behavioral state

NB alert has open or closed eyes, with clear concentration activity and low level of global motor activity⁽¹²⁾. The alert behavioral state was considered the most favorable for the breastfeeding stimulation, in contrast to states of drowsiness, crying, agitation and/or irritation.

Appropriate handle

NB nipples the nipple, along with part of the areola, including the larger ducts. The orbicularis muscle of the mouth performs adequate sealing of the lips, which are kept in the breast. The chin of the NB is in direct contact with the breast. NB should not lose the handle during breastfeeding⁽¹⁸⁾.

Effective suction

Occurs from the proper handle. It establishes a muscular dynamics, characterized by four mandibular movements: opening, protrusion, closing and retrusion. This mechanism must be in perfect synchrony and coordinated with swallowing and breathing, without the occurrence of choking and/or bronchoaspiration^(19,20,21).

Proper positioning of the dyad

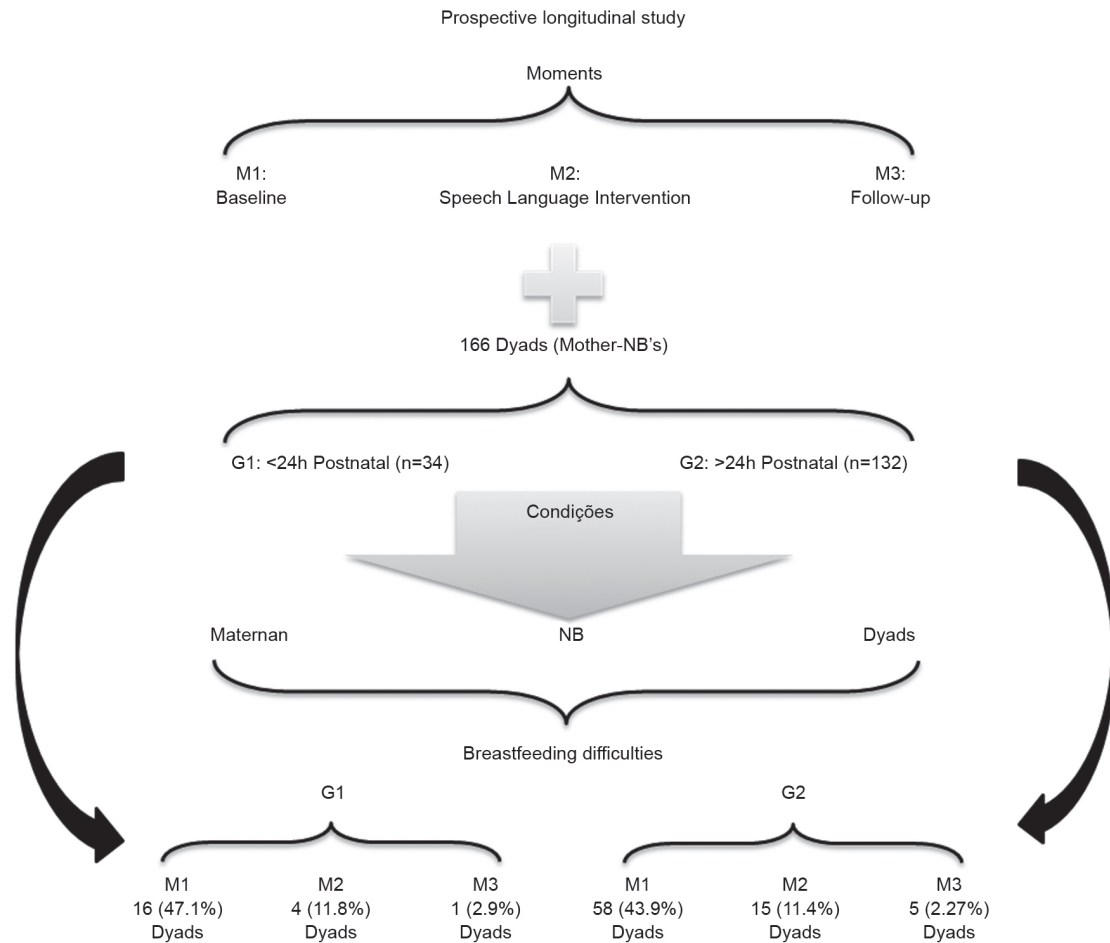
Characterized by the body contact of the dyad ("belly with belly"), so that the infant is completely facing his mother, being aligned with the head raised in relation to the body, keeping the spine in a straight line on the same axis^(8,19,20).

All the data collected, through the application of the Speech and Language Pathology - Breastfeeding Monitoring Protocol⁽¹⁷⁾, were tabulated in Microsoft Excel 2013 worksheets.

Data were described through simple and percentage frequencies, when categorical, and mean and standard deviation, when continuous. To evaluate the association between categorical variables, the Fisher Exact test was used. To evaluate mean differences, Analysis of Variance (ANOVA) was used. To evaluate the marginal homogeneity of the association between dependent variables (maternal conditions, neonatal conditions and dyad conditions) and postnatal age, stratified by moments (baseline, speech-language intervention and follow-up), the Mantel-Haenzsel test was used. To assess the homogeneity of odds ratios for the same design described above, the likelihood ratio test (LRT) was used according to the longitudinal logistic model calculated by generalized estimation equations (GEE), from the model that equates dependent variables and the interaction between postnatal age and moments⁽²²⁾. The software used was the R Core Team 2016 and the level of significance was 5%.

RESULTADOS

The sample consisted of 166 mother-NB dyads. Regarding the characterization of mothers, the age range ranged from 14 to 44 years, with an average of 25.3 years. Most mothers were



Subtitle: NB = Newborn; M1 = Moment 1 (baseline); M2 = Moment 2 (speech-language intervention); M3 = Moment 3 (follow-up); G1 = Group1, formed by mother-NB dyads, whose NB was postnatal to 23 hours and 59 minutes at the time of initial observation (baseline); G2 = Group 2, formed by mother-NB dyads, whose NB was postnatal at 24 hours or more, at the time of initial observation (baseline);

Figure 1. Study design flowchart, considering postnatal age, moments of evaluation and maternal, NB and dyad conditions. Aracaju, 2015-2016

primiparous and the most frequent occupations were home, peasant and student. As for NBs, a general average age of 3.3 days was found, the majority being female. All of these data varied according to the division into groups (<or ≥ 24h), as observed in Table 1.

The results presented are related to the comparison between the moments of the study, according to the postnatal age of the newborns (<or ≥ 24h), being considered as effect of the age the modifications in the MH test and eventual possibility of effect of the speech-language intervention when the modifications occurred only in the LRT test, regardless of the influence of the age factor of the groups.

The parameters of the dyads in the breastfeeding situation were organized regarding the aspects related to the mother (breasts and beaks), the NB (behavioral state, handle and suction pattern) and the mother-infant dyad (position) during the 3 moments of the study.

Regarding the maternal aspects, there was a significant difference between the groups for engorged breasts, referring to the effect of speech-language intervention (Table 2).

In the aspects related to the NBs, there were significant differences regarding the handle (not only picking the beak, grasping part of the areola, being able to keep the handle and effective handle), when comparing all moments of the study (Table 3). Regarding the NB behavioral state and the suction pattern, no differences were found between the moments of the study.

Regarding the mother-infant dyad, there were significant differences in positioning (head of the NB aligned, head of the high NB and body contact - “belly with belly”), due to the effect of speech-language intervention.

In the other analyzed data, no significant differences were observed when the moments and the effect of the intervention were compared.

DISCUSSION

The present study approached the early breastfeeding situation, even in the hospital environment (NBs with an average of 3.3 days of life), considering that this is a critical period, in

Table 1. Characterization of the population participating in the study, according to the division into groups, considering the moment of the initial observation (baseline). Aracaju, 2015-2016

Collected data	Post-birth hours			p-value
	Total Mean (Mín- Max)	G1 Mean (Mín- Max)	G2 Mean (Mín- Max)	
Mothers age (years)	25.3 (14-44)	25.8 (14-42)	25.2 (14-44)	0.626*
NB age (days)	3.3 (0.1-37.7)	0.7 (0.1-0.99)	4.0 (1.0-37.7)	<0.001*
Parity	n (%)	n (%)	n (%)	
Primiparous	92 (55.1)	15 (44.1)	77 (57.9)	0.178**
Multiparous	75 (44.9)	19 (55.9)	56 (42.1)	
Profession	n (%)	n (%)	n (%)	
Housewife	82 (49.1)	15 (44.1)	67 (50.4)	0.833**
Peasant	19 (11.4)	5 (14.7)	14 (10.5)	
Student	19 (11.4)	4 (11.8)	15 (11.3)	
Others	47 (28.1)	10 (29.4)	37 (27.8)	

*ANOVA – Analysis of Variance (p<0.05); ** Fisher Exact Test (p<0.05)

Subtitle: NB = newborn; G1= Group 1, formed by dyads mothers-NBs, whose NB was postnatal age less than 24 hours, at the time of the initial observation; G2 = Group 2, formed by dyads mothers-NBs, whose infant was postnatal age greater than or equal to 24 hours, at the time of the initial observation

Tabela 2. Aspectos anatomofisiológicos maternos (mamas) relacionados aos grupos, considerando os diferentes momentos do estudo. Aracaju, 2015-2016

Dependent	Post-birth hours						M-H	LTR
	Baseline (Moment 1) n (%)		Speech-Language Pathology (Moment 2) n (%)		Follow up (Moment 3) n (%)			
	<24h	>24h	<24h	>24h	<24h	>24h		
Engorged								
Yes	0 (0)	13 (10)	0 (0)	9 (7)	3 (9)	7 (5)	0.162	0.035
No	34 (100)	118 (90)	34 (100)	121 (93)	31 (91)	124 (95)		

M-H = Mantel-Haenszel Test (p<0.05); LTR = Likelihood Ratio Test for the longitudinal logistic model (p<0.05)

Subtitle: <24h = Group 1- Group formed by newborn-born dyads (NBs), whose newborn was less than 24 hours postnatal at the time of initial observation; > 24h = G2 - Group formed by dyads mothers-NBs, whose NB was postnatal age greater than or equal to 24 hours, at the time of the initial observation; Dependent = Post Natal age (24h) X Moments (baseline, speech therapy or follow-up)

which many doubts and insecurities emerge from the puerperae, especially regarding the breastfeeding^(14,15).

The literature^(11,23,24) reported that the anatomical and physiological conditions of breasts and beaks may influence the effectiveness of breastfeeding, since nipple trauma, regorgement, incomplete emptying of the breasts and cracks cause pain and discomfort, interfering with well-being and sensation of pleasure of the nurse.

There was no significant difference between the ages (<or ≥ 24h) for all maternal aspects. However, significant differences were found between the moments, for the engorged breast in the <24h of life group, which may be justified by the initial presence of only colostrum, and the “descent” and greater milk ejection are related to the physiological maturation of the later period (from the 2nd day of life)⁽¹⁰⁾.

In the group with ≥24h of life, a decrease in the occurrence of engorged breast, speech-language intervention and follow-up was observed, pointing to the positive effect of the intervention

on the decrease in regorgement. This decrease is considered important, since breast regorgement is one of the factors that most influence early weaning, accompanied by hypogalactia, blocked duct and mastitis^(10,24).

No significant differences were found for nozzles between the ages (<or ≥ 24h) nor at the time of the study, which may be related to the great anatomical variability. It is worth noting the literature, which stated that no nipple anatomy prevents breastfeeding, since even nipples can be shaped according to the strength and suction periodicity of the NB^(8,14).

The present study showed a relation between the aspects “not only picking beaks”, “picking up part of the areola” and “keeping the handle”, resulting in an expressive increase of the effective handle, mainly in the group <24h of life, evidencing the positive effect of the speech-language intervention. The effective handle is extremely important for the success of breastfeeding, since it facilitates the sucking and ejection

Table 3. Aspects related to RNs regarding the mode of attachment in the maternal's breast in the groups, considering the different moments of the study. Aracaju, 2015-2016

Dependent	Post-birth hours						M-H	LTR
	Baseline (Moment 1) n (%)		Speech-Language Pathology (Moment 2) n (%)		Follow up (Moment 3) n (%)			
	<24h	>24h	<24h	>24h	<24h	>24h		
Do not grasp only the nozzle								
Yes	24 (71)	94 (72)	34 (100)	130 (99)	34 (100)	128 (98)		
No	10 (29)	37 (28)	0 (0)	1 (1)	0 (0)	3 (2)	0.997	<0.001
Snap part of the areola								
Yes	17 (50)	64 (49)	25 (74)	103 (79)	27 (79)	92 (70)	0.825	<0.001
No	17 (50)	67 (51)	9 (26)	28 (21)	7 (21)	39 (30)		
Can you keep the handle								
Yes	32 (94)	107 (82)	31 (91)	121 (92)	34 (100)	126 (96)		
No	2 (6)	24 (18)	3 (9)	10 (8)	0 (0)	5 (4)	0.158	<0.001
Effective grip								
Yes	22 (65)	76 (58)	31 (91)	107 (82)	33 (97)	115 (88)	0.075	<0.001
No	12 (35)	55 (42)	3 (9)	24 (18)	1 (3)	16 (12)		

M-H = Mantel-Haenszel Test (p<0.05); LTR = Likelihood Ratio Test for the longitudinal logistic model (p<0.05)

Subtitle: <24h = Group 1- Group formed by newborn-born dyads (NBs), whose newborn was less than 24 hours postnatal at the time of initial observation; > 24h = G2 - Group formed by dyads mothers-NBs, whose NB was postnatal age greater than or equal to 24 hours, at the time of the initial observation; Dependent = Post Natal age (24h) X Moments (baseline, speech therapy or follow-up)

Table 4. Aspects related to the positioning of the dyad during the breastfeeding situation, considering the groups, at the different moments of the study. Aracaju, 2015-2016

Dependent	Post-birth hours						M-H	LTR
	Baseline (Moment 1) n (%)		Speech-Language Pathology (Moment 2) n (%)		Follow up (Moment 3) n (%)			
	<24h	>24h	<24h	>24h	<24h	>24h		
NB head aligned								
Yes	8 (24)	37 (28)	23 (68)	90 (69)	22 (65)	73 (56)	0.931	<0.001
No	26 (76)	94 (72)	11 (32)	41 (31)	12 (35)	58 (44)		
High NB Head								
Yes	23 (68)	79 (60)	26 (76)	103 (79)	23 (68)	96 (73)	0.926	0.035
No	11 (32)	52 (40)	8 (24)	28 (21)	11 (32)	35 (27)		
Body contact ("Belly with belly")								
Yes	8 (24)	46 (35)	27 (79)	101 (77)	22 (65)	87 (66)	0.548	<0.001
No	26 (76)	85 (65)	7 (21)	30 (23)	12 (35)	44 (34)		

M-H = Mantel-Haenszel Test (p<0.05); LTR = Likelihood Ratio Test for the longitudinal logistic model (p<0.05)

Subtitle: <24h = Group 1- Group formed by newborn-born dyads (NBs), whose newborn was less than 24 hours postnatal at the time of initial observation; > 24h = G2 - Group formed by dyads mothers-NBs, whose NB was postnatal age greater than or equal to 24 hours, at the time of the initial observation; Dependent = Post Natal age (24h) X Moments (baseline, speech therapy or follow-up)

dynamics of the milk, in addition to stimulating the mammary glands, increasing the lactation production^(8,18).

It is important to emphasize that the correct accomplishment of the RN handgrip in the breast implies a reduction of crack processes in the nozzles⁽⁸⁾. The fact that the present research

does not show statistically significant differences regarding the nozzles (worsening in their condition, as reported in the literature^(8,11)) could be attributed to the speech-language intervention with breastfeeding, in the first hours of life, a period in which these problems can be more easily prevented.

Regarding the behavioral states of the newborn, there were no significant differences between the ages (<or \geq 24h) nor between the moments of the study. It is worth mentioning that the most incident behavioral state was the alert, due to the fact that the newborns are being observed precisely in the feeding situation, which requires greater readiness. However, healthy NBs sleep, on average, 90% of the time, in the first days of life⁽¹²⁾ and that sleep tends to decrease with the physiological maturation of the infant⁽¹⁹⁾. It is important that the infants are oriented about this aspect, because in some cases, the maintenance of sleep without the breastfeeding effectiveness can be associated with hypoglycemia, interfering, also, in the maintenance of the rhythm and sustentation of the suction force, making it ineffective⁽¹³⁾.

No significant differences were found for suctioning between the ages (<or \geq 24h) and in the study moments, which was somewhat expected, since both groups still had a similar suction pattern, due to the ages at which they were accompanied. However, it is important that this aspect continues to be followed by the speech therapist, since suckling the chest is essential for the development of oral ability, due to the intense orofacial activity involved, involving about 20 muscles of the face and cervical region, which are responsible for mandibular movements of opening, protrusion, closing and retrusion⁽²¹⁾, besides contributing to the establishment of nasal breathing⁽²⁵⁾.

Regarding the position of the dyad, there were no significant differences between the ages (<or \geq 24h), but there were significant differences between the moments, for all aspects (NB's head aligned and elevated in relation to body and body contact "belly with belly"). The positioning of the head aligned and higher in relation to the body in breastfeeding is fundamental to reduce the risk of hearing problems caused by otitis⁽⁶⁾. At the same time, the contact between the thorax and the abdomen of the dyad allows a better fit of the handle, allowing both the body and the face of the newborn to face the mother, keeping the mouth of the newborn in the same plane of the areola, which contributes to a more effective suction, with coordination of sucking/swallowing/breathing movements^(8,14).

In general terms, the present study evidenced the importance of Speech Therapy inserted in the context of Health Education, since the results obtained pointed out the possible positive effect of phonoaudiological intervention in breastfeeding, as a knowledge-producing and change-inducing element, which favored the breastfeeding effectiveness along with the mother-NB dyad.

With regard to Speech Therapy, improving the pattern of natural breastfeeding is fundamental, considering the bony and muscular development of the stomatognathic system, due to the intense muscular activity of the peribuccal region^(20,26,27). Breastfeeding also prevents the installation of deleterious oral habits, such as the use of pacifiers and digital suction^(10,28), in addition to enabling the extension of the link⁽⁹⁾ and the stimulation of the hearing and the language of the NB⁽¹⁷⁾.

In view of the findings, new studies could be carried out to verify if the effectiveness of breastfeeding achieved in the hospital environment in the first days of life influences the maintenance of the satisfactory index of exclusive breastfeeding and the prevention of early weaning, as recommended by the Brazil's Ministry of Health, since the present study presented a limitation regarding the investigation of the lactation condition outcome after hospital discharge.

CONCLUSION

Speech therapy intervention in the mother-newborn dyads, in the first days of life, positive effects on the breastfeeding establishment, regardless of NB lifetime, contributing to the suitability of aspects associated with the handle of the NB and the positioning of the dyad.

The importance of training professionals to identify risk factors and intervene effectively before hospital discharge is important, considering the singularity of each dyad and the aspects that influence breastfeeding.

ACKNOWLEDGMENT

To the Nossa Senhora de Lourdes Maternity team, for allowing the study to be carried out.

Speech therapist Thaise Marcela Mota Barreto, for making interventions at Maternity viable.

To Priscilla Batista Rocha for assistance in the data collection phase of the study.

REFERENCES

- Jessri M, Farmer AP, Maximova K, Willows ND, Bell RC. Predictors of exclusive breastfeeding: observations from the Alberta pregnancy outcomes and nutrition (APrON) study. *BMC Pediatr*. 2013;13:77. <https://doi.org/10.1186/1471-2431-13-77>
- Palmér L, Carlsson G, Brunt D, Nyström M. Existential security is a necessary condition for continued breastfeeding despite severe initial difficulties: a lifeworld hermeneutical study. *Int Breastfeed J*. 2015;10:17. <https://doi.org/10.1186/s13006-015-0042-9>
- Kronborg H, Foverskov E, Væth M. Predictors for early introduction of solid food among Danish mothers and infants: an observational study. *BMC Pediatr*. 2014;14:243. <https://doi.org/10.1186/1471-2431-14-243>
- Chen X, Xia B, Ge L. Effects of breast-feeding duration, bottle-feeding duration and non-nutritive sucking habits on the occlusal characteristics of primary dentition. *BMC Pediatr*. 2015;15:46. <https://doi.org/10.1186/s12887-015-0364-1>
- Crestani AH, Souza APR, Beltrami L, Moraes AB. Análise da associação entre tipos de aleitamento, presença de risco ao desenvolvimento infantil, variáveis obstétricas e socioeconômicas. *J Soc Bras Fonoaudiol*. 2012;24(3):205-10. <https://doi.org/10.1590/S2179-64912012000300004>

6. Luz DM, Costa-Ferreira MID. Identificação dos fatores de risco para o transtorno do processamento auditivo (central) em pré-escolares. *Rev CEFAC*. 2011;13(4):657-67. <https://doi.org/10.1590/S1516-18462011005000004>
7. Gertosio C, Meazza C, Pagani S, Bozzola M. Breastfeeding and its gamut of benefits. *Min Ped*. 2016;68(3):201-12.
8. Ministério da Saúde (BR), Secretaria de Atenção à Saúde. *Promovendo o aleitamento materno*. 2a ed. rev. Brasília, DF: Ministério da Saúde; 2007.
9. Kent JC, Ashton E, Hardwick CM, Rowan MK, Chia ES, Fairclough KA et al. Nipple pain in breastfeeding mothers: incidence, causes and treatments. *Int J Environ Res Public Health*. 2015;12(10):12247-63. <https://doi.org/10.3390/ijerph121012247>
10. Teka B, Asseffa H, Hailelassie K. Prevalence and determinant factors of exclusive breastfeeding practices among mothers in Enderta woreda, Tigray, North Ethiopia: a cross-sectional study. *Int Breastfeed J*. 2015;10(1):2. <https://doi.org/10.1186/s13006-014-0028-z>
11. Dennis CL, Jackson K, Watson J. Interventions for treating painful nipples among breastfeeding women. *Cochrane Database of Syst Rev*. 2014;(12):CD007366. <https://doi.org/10.1002/14651858.CD007366.pub2>
12. Medeiros AMC, Leite STP, Alvelos CL, Raposo OFF. Efeitos da estimulação gustativa nos estados comportamentais de recém-nascidos prematuros. *Audiol Commun Res*. 2013;18(1):50-6. <https://doi.org/10.1590/S2317-64312013000100010>
13. Prade LS, Bolzan GP, Weinmann ARM. The influence of behavioral state on sucking patterns in preterm infants. *Audiol Commun Res*. 2014;19(3):230-5. <https://doi.org/10.1590/S2317-64312014000300005>
14. Keemer F. Breastfeeding self-efficacy of women using second-line strategies for healthy term infants in the first week postpartum: an Australian observational study. *Int Breastfeed J*. 2013;8:18. <https://doi.org/10.1186/1746-4358-8-18>
15. Tarrant M, Dodgson JE, Wu KM. Factors contributing to early breast-feeding cessation among Chinese mothers: an exploratory study. *Midwifery*. 2014;30(10):1088-95. <https://doi.org/10.1016/j.midw.2014.03.002>
16. Ministério da Saúde (BR). *Normas básicas para alojamento conjunto*. Brasília, DF: Ministério da Saúde; 1993.
17. Pivante, CM, Medeiros, AMC. Intervenções fonoaudiológicas no aleitamento materno junto às mães de paridade zero. *Rev Mundo Saúde*. 2006;30(1):87-95.
18. World Health Organization. *Infant and young child feeding: model chapter for textbooks for medical students and allied health professionals*. Geneva: World Health Organization; 2009.
19. Ministério da Saúde (BR), Secretaria de Atenção à Saúde. Departamento de Ações Programáticas Estratégicas. *Atenção humanizada ao recém-nascido de baixo peso: método canguru*. 2a ed. Brasília, DF: Ministério da Saúde; 2013.
20. Casagrande L, Ferreira FV, Hahn D, Unfer DT, Praetzel JR. Aleitamento natural e artificial e o desenvolvimento do sistema estomatogmático. *Rev Fac Odontol Porto Alegre*. 2008;49(2):11-7.
21. Hafström M, Kjellmer I. Non-nutritive sucking in the healthy pre-term infant. *Early Hum Dev*. 2000;60(1):13-24. [https://doi.org/10.1016/S0378-3782\(00\)00091-8](https://doi.org/10.1016/S0378-3782(00)00091-8)
22. Agresti A, Kateri M. *Categorical data analysis*. Berlin: Springer; 2011.
23. Shimoda GT, Silva IA, Ferreira SJL. Características, frequência e fatores presentes na ocorrência de lesão de mamilos em nutrízes. *Rev Bras Enferm*. 2005;58(5):529-34. <https://doi.org/10.1590/S0034-71672005000500006>
24. Simiquel FL, Marcello JF, Tauci RA, Cachaldora TN. Aleitamento materno: principais dificuldades da lactante e do lactente e levantamento sobre o conhecimento dos seus benefícios em relação à fonoaudiologia. *CES Revista*. 2006;20(1):221-36.
25. Medeiros AMC, Medeiros M. *Motricidade orofacial: inter-relação entre fonoaudiologia e odontologia*. São Paulo: Lovise; 2006.
26. França ECL, Sousa CB, Aragão LC, Costa LR. Electromyographic analysis of masseter muscle in newborns during suction in breast, bottle or cup feeding. *BMC Pregnancy Childbirth*. 2014;14:154. <https://doi.org/10.1186/1471-2393-14-154>
27. Pires SC, Giugliani EERJ, Silva FC. Influence of the duration of breastfeeding on quality of muscle function during mastication in preschoolers: a cohort study. *BMC Public Health*. 2012;12(1):934. <https://doi.org/10.1186/1471-2458-12-934>
28. Lopes TS, Moura LF, Lima MC. Breastfeeding and sucking habits in children enrolled in a mother-child health program. *BMC Res Notes*. 2014;7:362. <https://doi.org/10.1186/1756-0500-7-362>