PROFILE OF CHILDREN ATTENDED IN THE SPEECH THERAPY DEPARTMENT OF THE HIGH RISK CHILDREN CLINIC IN FRANCA/SP

Perfil das crianças atendidas no setor fonoaudiológico do ambulatório de crianças de alto risco da prefeitura municipal de Franca/SP

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ABSTRACT

Purpose: to define the profile of children attended in the speech therapy department of the high risk children clinic in Franca/SP. Method: it is a cross-sectional descriptive study and contemporary, performed by consulting the records of 62 infants treated during 2010. Results: the results showed that the majority of the sample consisted of male newborns, premature infants, with an average of 32 weeks gestational age, low birth weight and appropriate intrauterine growth, with average weight of 1,774 grams, using probes for food, and the most widely used is parenteral; associated with ingesting milk formula, with the presence of reflexes of searching, sucking, biting and gap. The average number of weeks that babies took to switch to oral feeding was three weeks. The average speech therapy sessions received was seven stimulations. It was found that the issues that interfere with the newborn transition to the oral feeding only are exclusively prematurity and weight classification. Conclusion: the data obtained in this study point to the effectiveness of speech therapy intervention in the early stimulation of sucking in newborn pre-term, in relation to the global baby development. Early stimulation of speech therapy in newborn preterm infants is critical for an adequate and nutritious feeding.

KEYWORDS: Speech, Language and Hearing Sciences; Infant, Newborn; Infant, Premature

INTRODUCTION

With technological development and ensured the survival of newborns becoming smaller and more immature, there is now a growing concern of professionals in developing the quality of life of these children. However, it is known that the length of stay in an intensive care unit can have severe consequences for their psychomotor development and language. Therefore, currently there is a concern to meet these newborns, considering its adaptation to the environment and taking action on a global basis, working directly for the newborn, stimulating all the sensory pathways and intervening in the environment, making it the most favorable light possible.

The neonatal period is considered one of the most critical in human life, for at this moment, in which occurs the transition from the intra to extrauterine requires several adaptations, among them those related to respiration, circulation and thermoregulation.

The newborn child is the risk that a life-threatening, due to immaturity of multiple systems or some pathological process, requiring, therefore, intensive care for survival.
Currently, prematurity is the main factor determining the risk in newborns. However, several other factors may also determine the risk as moderate or severe anoxia, birth weight below 2500 grams, newborn small or large for gestational age, infant post-term or those with clinical complications (metabolic disorders, respiratory distress syndrome, subarachnoid hemorrhage, seizures, infections and congenital or acquired genetic abnormalities or malformations)\(^4,5\).

Among the diseases of newborns at high risk, nutritional issues and food are common. The establishment of oral feeding, functional and safe is an important aspect in the care of babies at risk\(^1,6\).

In addition to the immaturity of the gastrointestinal system, the synchrony of sucking, swallowing and breathing is essential for successful oral feeding. The presence of this synchrony requires the integration of muscle activity of the lips, cheeks, jaw, tongue, palate, pharynx and larynx. While there is no such integration, the newborn preterm initially feeds by gavage, later to establish breastfeeding in the chest\(^7\).

The audiologist has to be of fundamental importance in a multidisciplinary team, as it features in-depth knowledge of anatomy and physiology of the stomatognathic functions (sucking, breathing, swallowing), to the evaluation and treatment of the changes found, with emphasis on the adequacy of the stomatognathic system in stimulation of oral feeding in a safe and effective in promoting breastfeeding, ensuring the maintenance of nutrition, adequate weight gain and baby's health\(^8,9\).

Thus, this study aims to characterize the profile of children seen in the outpatient sector speech of children at high risk of the Municipality of Franca-SP.

## METHOD

The sample of this research consisted of 62 charts of newborns seen at the outpatient clinic of the speech of children at high risk of the Municipality of Franca-SP.

This is a descriptive cross-sectional and contemporary, performed with the use of information regarding the history of hospitalization and speech therapy visits performed in the Clinic of Children at High Risk of the Municipality of Franca / SP. We used the records of the care provided speech therapy to newborns in 2010. The records searched are standardized and used by the Department of Speech Therapy Institute. Data collection was performed using a protocol adapted by the researcher of the study (based on Pimentel, 2009; Department of Health of France, 2011) and can be seen in Figure 1.

Inclusion criteria were: medical records of newborns with a diagnosis of high risk and / or prematurity, speech therapy at the Clinic for High Risk Children in 2010 and complete records.

Exclusion criteria: medical records of newborns who did not receive speech therapy, and incomplete records.

In the recorded history of hospitalization and speech therapy, were collected the following data:

- General characteristics of the newborn gender, gestational age at birth, type of delivery, birth weight, intrauterine growth, weight status, value of the Apgar score, alterations main found, the integrity of facial structures, in place of detention neonatal unit via feeding during hospitalization, feeding type during the evaluation form of oral feeding during the evaluation, type of milk consumed during the evaluation, the presence of the rooting reflex, sucking, biting and gap during the evaluation time to achieve the oral exclusive total demand fonaudiológicos (stimuli), indicated specific nozzle.

This study was approved by the Ethics and Research of the University of Franca, CEP 0044/2011.

Descriptive analysis of data collected was presented after the tabulation of all data of interest in this study, they were subjected to statistical analysis. All graphics are stored in an Excel spreadsheet and later built graphics function of the variables involved, according to statistical software MINITAB 14®.

## RESULTS

The sample consisted of 62 charts of newborns seen at the outpatient clinic of the speech of children at high risk. Of these, 28 subjects were female and 34 male. Regarding the type of delivery, it was found that 67% were born by cesarean section and 32% of normal birth.

With respect to gestational age at birth, the mean was 32 weeks, with minimum 26 and maximum of 40 weeks (Figure 2), noting as well that 87% of children served by the department of Speech newborns were preterm.

As seen in Figure 3, found the average weight at birth was 1774 g, with a minimum of 800 g and a maximum of 3,850 g (Figure 3). Considering the classification of birth weight, it was observed that 19.4% of newborns had normal weight, 34% were underweight, 33.9%, very low birth weight and 14.5% underweight extreme. Regarding the classification of intrauterine growth 52% of newborns were appropriate for gestational age and 48% small for gestational age.
# PROTOCOL FOR DATA COLLECTION

(Based on Pimentel, 2009; Department of Health of Franca, 2011)

Handbook number: ___________

## I – IDENTIFICATION

Name: _______________________________________________________________

Date of Birth: _____/_____/_______   Current Age: _____a ______m

Gender: Male ( )   Female ( )   Unknown ( )

## II – Past history

Gestational Age: _______ d ______ s

Corrected Gestational Age: ________ s

Type of Birth: _______________

Apgar: 1’_____ 5’_____ 7’_____ 10’______

Weight at birth: _______gr

SGA = small for gestational age ( )

AGA = appropriate for gestational age ( )

LGA = large for gestational age ( )

**Primary alterations findings** (Hydrocephalus, Cleft, respiratory disease pulmonary hyaline membrane disease, etc.) __________________________________________

**Integrity of facial structures:**

Adequate ( )   Changed ( )   Unknown ( )

**Place of internment in the neonatal unit:**

Kangaroo ( )   Low risk ( )   Medium risk ( )   High risk ( )   Isolated ( )

Rooming ( )   Other ( )   Unknown ( )

**Route of nutrition during internment:**

Oral ( )

Orogastric tube ( )

Nasogastric probe ( )

Nasogastric tube ( )

Parentera ( )

Other ( )

Ignored ( )

**Alimentation during the evaluation:**

Oral ( )

Orogastric tube ( )

Nasogastric probe ( )

Nasogastric tube ( )

Parentera ( )

Other ( )

Ignored ( )

**Form of oral feeding during the evaluation:**

Within Seio ( )

Cup Copo ( )

Bottle Mamadeira ( )

Drip Gotejamento ( )

Other ( )

Type of milk consumed during the evaluation:
- Breast milk ( )
- Formula ( )
- Breast milk + formula ( )
- Ignored ( )

Total milk intake during evaluation (in ml): ________________

Presence of the rooting reflex during the evaluation:
- Presence ( )
- Absent ( )
- Unknown ( )

Presence of sucking reflex during the evaluation:
- Presence ( )
- Absent ( )
- Unknown ( )

Presence of Bite reflex during the evaluation:
- Presence ( )
- Absent ( )
- Unknown ( )

Presence of the reflex gap (vomiting) during the evaluation:
- Presence ( )
- Absent ( )
- Unknown ( )

Transition to Oral exclusive:
- Yes ( )
- No ( )
- Unknown ( )

Time to reach the Oral exclusive: ________________ weeks

Total attendances fonoudiológicos (stimulation): ________________

Indication of specific nozzles:
- Yes ( )
- Which: ________________
- No ( )

Indication (other): ________________

Complementaries observations:
_________________________________________________________________________________
_________________________________________________________________________________

Figure 1 – Protocol

With regard to morbidity found in neonates with respiratory disease lung (DRP) was the most frequent (39.6%), followed by the table with 15.1% of sepsis, hyperbilirubinemia (13.8%) and others (crisis neonatal hepatitis, congenital heart disease, intracranial hemorrhage, syphilis, thoracic cyst, cyanosis, gastrointestinal haemorrhage, malformation of the spine, esophageal atresia, fractures, hypothyroidism, hospital infections, conjunctivitis, fungal infection, neonatal asphyxia, anemia, kidney failure, reflux gastroesophageal disorders, hydrocephalus, microcephaly, meningitis) (31.4%).

Figures 4 and 5, it is observed that the Apgar score is used to measure the vitality of the newborn, presented in the first minute, an average of six, while the minimum was one and maximum of ten in the fifth minute average was eight, while the minimum was two and a maximum of ten.

In relation the time that newborns have led to achieve oral exclusive, it was observed that the
Profiles of high-risk children


... artificial milk (formula), while 30.6% were fed only with formula and 22.6% only by breast milk.

Regarding the indication of specific nozzles to newborns, it was observed that 80.6% received indication.

With regard to total healthcare speech therapy (stimulation of the suck / swallow / breath), you can see in Figure 7 that the infants had an average of seven stimulations, with minimum six and maximum of eight stimuli.

mean of three weeks, while the minimum value was 0 weeks and up to 13 weeks (Figure 6).

It was found that 100% of newborns had integrity of facial structures and oral reflexes of searching, sucking, biting and gap preserved during the clinical assessment.

The oral feeding is the exclusive 100%, and 17.7% through the breast, 35.5% and 46.8% with a bottle by bottle associated with the womb.

Regarding the type of milk consumed, 46.8% of infants were being breast feeding associated with...
With respect to gestational age at birth in weeks, the results come against the literature, with demand speech from newborn preterm, with the lowest gestational age found for intervention was 26 weeks.\(^{1,10,11}\)

Referring to the mass (weight), it was found that the weight of infants evaluated in a study in Sao Paulo, varied between 1500 and 2500 grams and 62% of newborns had low peso.\(^9\) In another study conducted in Rio Grande do Sul, the majority of the sample consisted of newborns with low birth weight, which agrees with the findings of this study.\(^{12}\) In both studies evidenced the importance of speech therapy for the adequacy of the stomatognathic system.\(^9,12\)

Some authors agree that newborn premature had clinical, increased predisposition to infections, neurological immaturity and increased risk for bleeding problems, with greater frequency and severity of neonatal jaundice due to hepatic...
immaturity. For these reasons there is a need for further handling and multi-hospital intervention. All alterations found in this study may cause difficulty for the baby to feed properly, jeopardizing their development. Pulmonary changes affect 85% of those surveyed (of 62 participants, 53 had respiratory problems). The respiratory changes are frequent (79%) in infants at high risk, and it shows with the highest prevalence is hyaline membrane disease - DMH (55.9%).

Figure 6 – Distribution of subjects according to time to achieve Oral feeding exclusive (weeks)

Figure 7 – Distribution of subjects according to total demand speech therapy (stimulation)

Although changes in respiratory intensify once the newborn carries the sucking movements, the work with these infants is possible by taking care not to burden them with the stimuli.

The Apgar score used to translate the conditions of vitality of the newborn, it is easy to obtain a measure is important to identify babies at risk. Studies show that non-nutritive sucking in neonates and preterm terms occurs even when these infants are born with a low rate of Apgar. The findings agree with this study.
The facial structures were found intact, and such structures critical to a good functional development of infants who will be followed 1.

The findings of this study confirm the data in the literature regarding the route of nutrition during hospitalization and feeding type during follow-up speech at the clinic, as generally risk newborns are unable to receive oral feeding in the first weeks after birth, as they may have some sort of pre-and perinatal complications, which can hinder oral feeding, and be subject to tube feeding parenteral (intravenous) and enteral (nasogastric or orogastric)1,12.

The aim of speech therapy in the newborn is to ensure exclusive breastfeeding, as it will better match the stomatognathic system and therefore the functions performed by him and also provide alternatives if exclusive breastfeeding is not possible1,9. Breast milk has advantages that are not offered by any other type of food, and to prevent developmental abnormalities. Exclusive breastfeeding enhances the mother-infant relationship, the most suitable for feeding newborns, including premature infants, due to its recognized benefits5. In the present study found that only 17.7% of infants were fed by the mother’s breast during the clinical assessment at the clinic of high-risk children.

It is essential for proper nutrition of the neonate the presence of search and sucking reflexes1. The rooting reflex starts around the 37th week of gestation1,19, while the sucking reflex comes earlier, around the 18th to the 24th week of gestation19,20. As neonates of the study population had a mean of 32 weeks gestational age, one can consider that most had already matured to present the sucking reflex at birth and some have not had matured enough to present the rooting reflex. In addition, newborn preterm, because they have immature central nervous system and its musculature, to be missing or exacerbation of the reflexes of sucking, biting and gag, disrupting normal development4. The findings of this study agree with the literary data, it occurs as the maturation of the central nervous system, the newborn will present coordination between sucking, swallowing and breathing, it is important for the baby to feed without risk of aspiration of safely and effectively. The coordination of sucking, swallowing and breathing is critical to safe food, and the coordination between sucking, swallowing is already achieved when children are premature for oral feeding. Moreover, the coordination of swallowing and breathing proceeds more slowly as children developed with oral feeding1,21.

Regarding the time that led infants to achieve oral exclusive, another survey revealed that a group (with speech therapy) they took an average of 8.4 days (with + / -1 week) to reach the mouth exclusive 22. These data differ from the present study, since babies took an average of 3 weeks (21 days) to move to the oral exclusive.

The speech therapy in this study was initiated because it is considered essential to gain the necessary functions for food, since 34% of children were underweight at the beginning of the intervention, associated with other risk conditions. Studies report that weight and gestational age are important predictors of neonatal mortality10,12,23.

Regarding the number of speech therapy, the infants had an average of seven follow-up sessions. This finding agrees with another study in which the newborn, attended by the Speech Pathology service, had an average of eight accompaniments, favoring the introduction of food orally, as well as the appropriateness of positions and functions of oral intake 24.

The mother is of paramount importance in the process of feeding your child, when you can not breast-feeding by sucking the breast, the guidance is to express milk and offer it to the child in a bottle, this is not possible, other milk you should be offered, also in the bottle, thus taking some care in choosing an appropriate tip, as they must be flexible enough to allow easy adjustment in the child’s mouth and the hole should allow an adequate flow of milk, the statement made by the professional25.

It was observed that most of the premature neonates and is less than 37 weeks gestation. It was observed that there was an association between prematurity with the total demand received speech therapy, the smaller the baby more attention he receives. The newly born preterm are more prone to clinical complications6 which contributes to the longer follow-ups multidisciplinary, requiring more care.

**CONCLUSION**

The children attended speech in the sector are characterized by prematurity, low birth weight, uncoordinated suck / swallowing / breathing. They benefit from the guidance and stimulation received speech therapy, achieving the transition between the way of feeding by gavage to oral feeding at one time expected and described in the literature. So early stimulation performed by audiologists in newborn preterm infants is critical to adequate food and nutrition.

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RESUMO

Objetivo: caracterizar o perfil das crianças atendidas no setor fonoaudiológico do ambulatório de crianças de alto risco da Prefeitura Municipal de Franca- SP. Método: trata-se de um estudo descritivo do tipo transversal e contemporâneo, realizado por meio da consulta de 62 prontuários de recém-nascidos atendidos no ano de 2010. Resultados: os resultados revelaram que a maioria da amostra era composta por neonatos do gênero masculino; prematuros, com média de 32 semanas de idade gestacional; baixo peso ao nascer e crescimento intra-uterino adequado; peso médio de 1.774 gramas; fazendo uso de sondas para a alimentação, sendo a sonda parenteral a mais utilizada; ingestão de leite materno associado à fórmula; presença dos reflexos de busca, sucção, mordida e gap. O tempo médio que os bebês levaram para passar para a via oral exclusiva foi de três semanas. A frequência média de atendimentos fonoaudiológicos recebidos ficou em sete estimulações. Verificou-se que os aspectos que interferem na transição da via de alimentação do recém-nascido para via oral exclusiva são: prematuridade e a classificação do peso. Conclusão: os dados obtidos nessa pesquisa apontam a importância da intervenção fonoaudiológica com relação à estimulação precoce da sução em recém-nascido pré-termo, estando relacionada com o desenvolvimento global do bebê. A estimulação precoce realizada pelos fonoaudiólogos nos recém-nascidos pré-termos é fundamental para uma alimentação adequada e nutritiva.

DESCRITORES: Fonoaudiologia; Recém-Nascido; Prematuro

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