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Profile of premature infants undergoing speech-language-hearing care at a follow-up outpatient center

Perfil de prematuros em atendimento fonoaudiológico em um ambulatório de follow up

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ABSTRACT

Purpose: to describe the profile of preterm children based on sociodemographic, clinical, and assistance aspects, and their association with peri- and postnatal data. **Methods:** observational, descriptive, cross-sectional study, approved by the Research Ethics Committee of the *Universidade Federal de Minas Gerais* (UFMG, Brazil), under evaluation report no. 3,615.440. It was based on the analysis of 749 medical records of preterm children attended at the speech-language-hearing department of a multidisciplinary follow-up outpatient center. All medical records from 2009 to 2019 were included in the study. The association analyses were made with the Pearson chi-square and Kruskal-Wallis tests, and the statistically significant values were set at p≤0.05. **Results:** the sample was evenly distributed between females and males, and most of them were moderate-to-late premature children. Most parents had graduated from high school, earning up to two minimum wages (60.0%). As for the clinical aspects, there was a statistically significant association (p≤0.001) between gestational age and birth weight, length, head circumference, use of kangaroo care, feeding method at discharge, ototoxic drugs, intracranial hemorrhage, sepsis, and jaundice. Most babies (99.9%) were submitted to the Guthrie test, with normal results (95.3%). It was likewise with the Neonatal Hearing Screening (79.9%), with normal results (89.4%). **Conclusion:** most of the sample were from low-income families, with late premature babies. There was a statistical significance for type of delivery, weight, length, head circumference, ototoxic drug use, intracranial hemorrhage, sepsis, and jaundice, with changes occurring predominantly in extremely premature infants.

Keywords: Speech Therapy; Health Profile; Risk Factors; Premature Newborn; Child Health; Ambulatory Care

RESUMO

Objetivo: descrever o perfil de crianças pré-termo, segundo aspectos sociodemográficos, clínicos e assistenciais, e a associação com dados perinatais e pós-natais. **Métodos:** estudo observacional descritivo transversal, aprovado pelo Comitê de Ética em Pesquisa da Universidade Federal de Minas Gerais – CEP-UFMG, sob o Parecer 3.615.440, realizado por meio da análise de 749 prontuários de crianças pré-termo, atendidas no setor de Fonoaudiologia de ambulatório multidisciplinar de *follow-up*. Foram incluídos no estudo todos os prontuários do período de 2009 a 2019. Para as análises de associação foram utilizados os testes Qui-quadrado de Pearson e Kruskal-Wallis, sendo considerados como valores com significância estatística os que apresentaram valor de p≤0,05. **Resultados:** verificou-se distribuição similar entre os sexos feminino e masculino e a maior parte das crianças com prematuridade moderada a tardia. A maioria dos pais apresentou ensino médio completo, com renda familiar de até dois salários mínimos (60,0%). Quanto aos aspectos clínicos, observou-se significância estatística (p≤0,001) na associação da idade gestacional com as seguintes variáveis: peso ao nascimento, estatura, perímetro cefálico, uso do Método Canguru, alimentação na alta, drogas ototóxicas, hemorragia intracraniana, sepse e icterícia. A maioria dos bebês (99,9%) realizou o Teste Guthrie com resultado adequado (95,3%). Da mesma forma, referente à realização da Triagem Auditiva Neonatal - (79,9%), com resultado adequado (89,4%). **Conclusão:** a maioria das famílias era de baixa renda, com bebês apresentando prematuridade tardia. Observou-se significância estatística para as variáveis: tipo de parto, peso, estatura, perímetro cefálico, uso de drogas ototóxicas, hemorragia intracraniana, sepse e icterícia, com alterações predominantes em prematuros extremos.

Palavras-chave: Fonoaudiologia; Perfil de Saúde; Fatores de Risco; Recém-Nascido Prematuro; Saúde da criança; Assistência Ambulatorial

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INTRODUCTION

People born prematurely have been addressed in studies because of their health risks, possible development impairments, and need for specialized care[1].

Premature or preterm babies are those born at or before 37 weeks gestational age (GA). According to the World Health Organization (WHO)[2], prematurity is classified into moderate-to-late (born between 32 and 37 weeks GA), very premature (born between 28 and 32 weeks GA), and extremely premature (born before 27 weeks GA). Currently, approximately 15 million premature births a year are registered worldwide, and Brazil is among the 10 countries with the most cases[2].

Premature babies are more susceptible to intensive peri- and postnatal care, as complications in these periods may impair their future development[3]. Hence, preterm children need the best attention in both intensive therapy and continued care.

Providing healthcare to a given population requires knowledge of its epidemiological and assistance profile. Thus, the attention that is provided can be improved, and the health professionals can adapt their services to the patients' needs.

Researching the profile of the patients being attended provides knowledge of the factors related to premature birth – such as low Apgar scores, low birth weight, ototoxic drug use, intensive care unit (ICU) stay, and so forth – which can cause motor and cognitive changes[3,4,5]. Hence, premature children may need multidisciplinary intervention to ensure their development.

Given the above, it is necessary to know the factors associated with premature birth in order to understand the likely risks of developmental disorders, thus ensuring specialized and humanized intervention.

The objective of this study was to describe the profile of premature children attended by the speech-language-hearing (SLH) team in a follow-up outpatient center, based on sociodemographic, clinical, and assistance aspects, and their association with peri- and postnatal data.

METHODS

This is an observational, descriptive, cross-sectional study, based on the analysis of the medical records of premature children. The project was approved by the Research Ethics Committee of the *Universidade Federal de Minas Gerais* (Federal University of Minas Gerais – UFMG, Brazil), under evaluation report no. 3.615.440. Since the research used secondary data, it was exempt from the informed consent form. The medical records analyzed belonged to the SLH department of a follow-up outpatient center, located in a university hospital. At this center, preterm children are followed up from birth until 7 years old. Its team counts with pediatricians, pediatric neurologists, nurses, occupational therapists, physical therapists, SLH therapists, and psychologists[6].

All medical records from May 2009 to November 2019 were included, and the data collected referred specifically to the child's first visit to SLH service. Thus, the sample age group encompassed 1- to 24-month-old premature children, totaling 749 medical records analyzed. However, this number was different in some variables because the medical records lacked some information.

Information from the medical history surveyed with the parents the first time they attended the SLH service was consulted for data analysis, approaching three aspects: a) sociodemographic data: housing profile, family income, basic sanitation and electricity availability, parents' age, occupation, and educational attainment, number of siblings; b) clinical aspects: information on the gestation period, and information on the pre-, peri-, and postnatal periods, including complications; c) assistance aspects: access to healthcare and neonatal screenings.

The information present in the medical records was entered into an Excel® database. A descriptive data analysis was made with the frequency distribution of the categorical variables and analysis of the measures of central tendency and dispersion of the continuous variables. The Pearson chi-square and Kruskal-Wallis tests were used for the association analyses, and the statistically significant values were set at $p \leq 0.05$.

The statistical calculations were made with the Statistical Package for the Social Sciences (SPSS), version 21.0

RESULTS

The results refer to data registered in the first visit to the SLH service, at the age of 1 to 24 months – mean of 2 months corrected age and 6 months chronological age. The descriptive analysis showed that the sample was evenly distributed between females and males (49.8% and 50.2%, respectively) and that most children were born at 32 to 37 weeks GA (45.8%), classified as moderate-to-late prematurity. Most of them had a normal Apgar score[7] (higher than 6) in both the first (68.9%) and fifth minute (95.1%).

Concerning educational attainment, 5.4% of the fathers had not completed elementary school, 13% had not completed middle school, 48.3% had graduated from high school or had begun higher education, and 5.3% had a bachelor's degree. As for the mothers, 3.4% had not completed elementary school, 11.4%, had not completed middle school, 54.6% had graduated from high school or had begun higher education, and 9.5% had a bachelor's degree. Regarding income, 60.1% earned up to two minimum wages, and 13.4% earned more than four minimum wages. As for housing conditions, 69% reported living in their own home, 96.6% with basic sanitation, and 99.9% with electricity.

Most fathers were approximately 30 years old, and most mothers, 29 years old. The premature babies had one sibling on average. There was no statistical significance regarding the parents' age or the number of siblings in association with GA.

The association between GA and the gestation period variables revealed that attending prenatal care was the only one of the items analyzed which had a statistical significance ($p=0.044$). The data indicated that most of them were babies born at 32 to 37 weeks, whose mothers had attended prenatal care (Table 1).

Regarding delivery data, there was a statistically significant association between GA and birth weight (in grams), length (in centimeters), and head circumference (in centimeters), which had a lower median at the GA of 27 weeks or less (Figure 1).

The association analysis between GA and the postnatal variables revealed a statistical significance with the type of delivery, with a higher occurrence of cesarean deliveries in 32- to 37-week premature babies ($p \leq 0.001$); kangaroo care ($p \leq 0.014$); feeding method at discharge, with a higher occurrence of exclusive breastfeeding ($p \leq 0.001$); ototoxic drugs ($p \leq 0.001$);

Table 1. Association between the gestational age variables and the explanatory variables

Variables N (%)	Gestational age			Total	P-value
	32 to 37 weeks	28 to 31 wees	27 weeks or less		
Planned pregnancy					
Yes	125 (39.3%)	130 (42.9%)	36 (44.4%)	291 (41.5%)	
No	193 (60.7%)	173 (57.1%)	45 (55.6%)	411 (58.5%)	0.559
Total	318 (100.0%)	303 (100.0%)	81 (100.0%)	702 (100.0%)	
Wanted pregnancy					
Yes	276 (89.9%)	257 (89.5%)	63 (81.8%)	596 (88.8%)	
No	31 (10.1%)	30 (10.5%)	14 (18.2%)	75 (11.2%)	0.115
Total	307 (100.0%)	287 (100.0%)	77 (100.0%)	671 (100.0%)	
Attempted abortion					
Yes	7 (2.5%)	8 (3.0%)	3 (4.5%)	18 (2.9%)	
No	274 (97.5%)	256 (97.0%)	64 (95.5%)	594 (97.1%)	0.684
Total	281 (100.0%)	264 (100.0%)	67 (100.0%)	612 (100.0%)	
Medication use					
Yes	112 (36.5%)	112 (38.6%)	24 (30.8%)	248 (36.7%)	
No	195 (63.5%)	178 (61.4%)	54 (69.2%)	427 (63.3%)	0.439
Total	307 (100.0%)	290 (100.0%)	78 (100.0%)	675 (100.0%)	
Alcohol use					
Yes	19 (6.2%)	11 (3.8%)	2 (2.6%)	32 (4.8%)	
No	287 (93.8%)	276 (96.2%)	76 (97.4%)	639 (95.2%)	0.248
Total	306 (100.0%)	287 (100.0%)	78 (100.0%)	671 (100.0%)	
Drug use					
Yes	5 (1.6%)	4 (1.4%)	1 (1.3%)	10 (1.5%)	
No	300 (98.4%)	283 (98.6%)	77 (98.7%)	660 (98.5%)	0.957
Total	305 (100.0%)	287 (100.0%)	78 (100.0%)	670 (100.0%)	
Traumas					
Yes	30 (9.9%)	22 (7.7%)	3 (3.9%)	55 (8.3%)	
No	272 (90.1%)	264 (92.3%)	73 (96.1%)	609 (91.7%)	0.213
Total	302 (100.0%)	286 (100.0%)	76 (100.0%)	664 (100.0%)	
Diseases					
Yes	46 (15.2%)	33 (11.5%)	5 (6.7%)	84 (12.6%)	
No	257 (84.8%)	254 (88.5%)	70 (93.3%)	581 (87.4%)	0.103
Total	303 (100.0%)	287 (100.0%)	75 (100.0%)	665 (100.0%)	
Prenatal care					
Yes	322 (99.1%)	295 (96.1%)	78 (96.3%)	695 (97.5%)	
No	3 (0.9%)	12 (3.9%)	3 (3.7%)	18 (2.5%)	0.044*
Total	325 (100.0%)	307 (100.0%)	81 (100.0%)	713 (100.0%)	
Consanguineous parents					
Yes	2 (0.7%)	7 (2.5%)	1 (1.4%)	10 (1.5%)	
No	299 (99.3%)	276 (97.5%)	73 (98.6%)	648 (98.5%)	0.201
Total	301 (100.0%)	283 (100.0%)	74 (100.0%)	658 (100.0%)	

* = p-value ≤ 0.05. Pearson's chi-square test

Subtitle: N = varying number, due to absent information in the medical record; % = percentage

intracranial hemorrhage (p≤0.001); sepsis (p≤0.001); and jaundice (p≤0.027) (Table 2).

There was a statistically significant association of length of ICU stay and length of kangaroo care with GA, with a higher median in those whose GA was 27 weeks or less (Figure 2).

Regarding postnatal tests, most babies (99.9%) had been submitted to the Guthrie test, most of whom (95.3%) had normal results. Most families (82.8%) had not been asked whether the babies had their frenulum screened with the Neonatal Tongue Screening Test; hence, they were listed as "not applicable". As for those who had been asked, most families (13.5%) reported that the test had not been performed. Concerning the Specific Neonatal Hearing Screening, 79.8% had been submitted to the test, which most of them (89.2%) passed. The association analysis did not show a statistical significance between the variables analyzed (Table 3).

DISCUSSION

The profile characterization of 749 premature children attended at the SLH department of the follow-up outpatient center in 10 years provided their sociodemographic, clinical, and assistance data. The first information that stood out was that they were evenly distributed regarding sex – a result that is also present in other national studies[1,8].

The clinical history characterization indicated that most patients who were born at 28 to 37 weeks GA had a normal

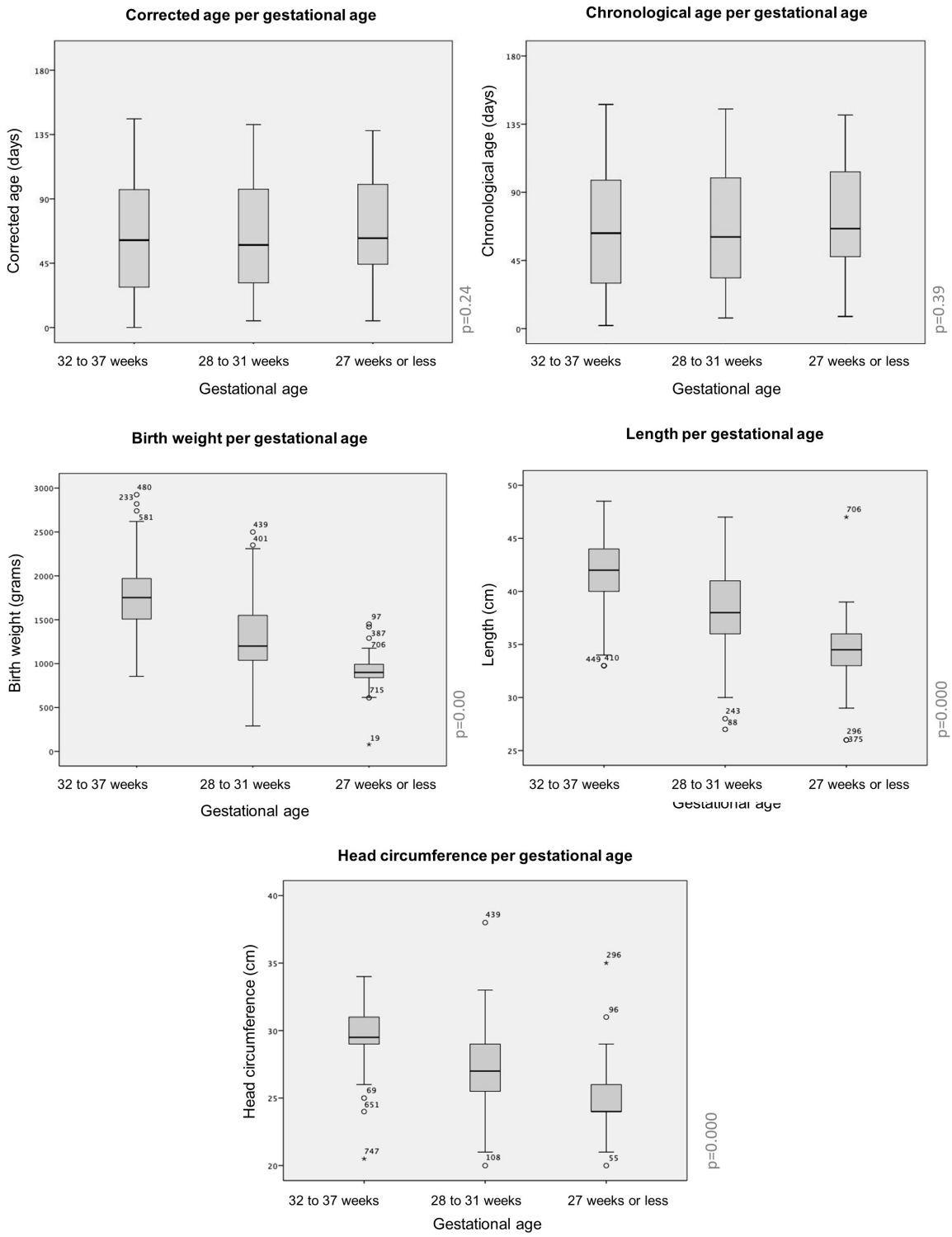

Figure 1. Boxplot between gestational age (weeks) and corrected and chronological age (days), birth weight (grams), length (centimeters), and head circumference (centimeters)
Subtitle: ₀ * = outliers

1-minute Apgar score. A study[4] that addressed risk indicators for language disorders in premature children pointed out an association between abnormal 1-minute Apgar[7] and future language disorders. This reveals the importance of investigating the Apgar score in premature children, as they are more susceptible to these disorders.

Concerning the sociodemographic aspects, more than half the mothers and fathers had graduated from high school. These results are similar to those of other studies[9,10] that investigated the relationship between parental educational attainment and prematurity. Like the present study, they did not find statistically significant associations. However, the present research

Table 2. Association between gestational age variables and the peri- and postnatal periods

Variables N (%)		Gestational age			Total	P-value
		27 weeks or less	28 to 31 weeks	32 to 37 weeks		
Type of delivery						
	Normal	93 (28.4%)	101 (32.9%)	46 (56.8%)	240 (33.5%)	≤0.001*
	Caesarean section	233 (71.0%)	204 (66.4%)	34 (42.0%)	471 (65.8%)	
	Forceps/Others	2 (0.6%)	2 (0.7%)	1 (1.2%)	5 (0.7%)	
	Total	328 (100.0%)	307 (100.0%)	81 (100.0%)	716 (100.0%)	
Sepsis						
	Yes	41 (20.2%)	74 (37.6%)	28 (54.9%)	143 (31.7%)	≤0.001*
	No	162 (79.8%)	123 (62.4%)	23 (45.1%)	308 (68.3%)	
	Total	203 (100.0%)	197 (100.0%)	51 (100.0%)	451 (100.0%)	
Intracranial hemorrhage						
	Yes	44 (20.4%)	82 (36.8%)	37 (64.9%)	163 (32.9%)	≤0.001*
	No	172 (79.6%)	141 (63.2%)	20 (35.1%)	333 (67.1%)	
	Total	216 (100.0%)	223 (100.0%)	57 (100.0%)	496 (100.0%)	
Jaundice						
	Yes	266 (89.3%)	264 (94.6%)	69 (95.8%)	599 (92.3%)	0.027*
	No	32 (10.7%)	15 (5.4%)	3 (4.2%)	50 (7.7%)	
	Total	298 (100.0%)	279 (100.0%)	72 (100.0%)	649 (100.0%)	
Ototoxic drugs						
	Yes	77 (35.6%)	109 (55.1%)	38 (74.5%)	224 (48.2%)	≤0.001*
	No	139 (64.4%)	89 (44.9%)	13 (25.5%)	241 (51.8%)	
	Total	216 (100.0%)	198 (100.0%)	51 (100.0%)	465 (100.0%)	
Meningitis						
	Yes	2 (1.0%)	5 (2.6%)	0 (0.0%)	7 (1.6%)	0.295
	No	204 (99.0%)	189 (97.4%)	44 (100.0%)	437 (98.4%)	
	Total	206 (100.0%)	194 (100.0%)	44 (100.0%)	444 (100.0%)	
Craniofacial malformation						
	Yes	6 (3.1%)	4 (2.4%)	3 (6.8%)	13 (3.2%)	0.330
	No	186 (96.9%)	164 (97.6%)	41 (93.2%)	391 (96.8%)	
	Total	192 (100.0%)	168 (100.0%)	44 (100.0%)	404 (100.0%)	
ICU stay						
	Yes	232 (93.9%)	226 (96.2%)	56 (100.0%)	514 (95.5%)	0.114
	No	15 (6.1%)	9 (3.8%)	0 (0.0%)	24 (4.5%)	
	Total	247 (100.0%)	235 (100.0%)	56 (100.0%)	538 (100.0%)	
Hospitalization						
	Yes	285 (99.7%)	268 (100.0%)	69 (100.0%)	622 (99.8%)	0.554
	No	1 (0.3%)	0 (0.0%)	0 (0.0%)	1 (0.2%)	
	Total	286 (100.0%)	268 (100.0%)	69 (100.0%)	623 (100.0%)	
Kangaroo care						
	Yes	188 (77.4%)	211 (87.2%)	38 (77.6%)	437 (81.8%)	0.014*
	No	55 (22.6%)	31 (12.8%)	11 (22.4%)	97 (18.2%)	
	Total	243 (100.0%)	242 (100.0%)	49 (100.0%)	534 (100.0%)	
Feeding method at discharge						
	Exclusive breastfeeding	170 (66.7%)	128 (54.5%)	14 (24.5%)	312 (57.0%)	≤0.001*
	Breastfeeding and formula	34 (13.3%)	44 (18.7%)	18 (31.6%)	96 (17.6%)	
	Formula and baby bottle	26 (10.2%)	47 (20.0%)	20 (35.0%)	93 (17.0%)	
	Formula/sippy cup	0 (0.0%)	1 (0.4%)	1 (1.8%)	2 (0.4%)	
	Sippy cup/ breastfeeding	8 (3.1%)	7 (3.0%)	1 (1.8%)	16 (2.9%)	
	Feeding tube	1 (0.4%)	3 (1.3%)	1 (1.8%)	5 (0.9%)	
	Others	16 (6.3%)	5 (2.1%)	2 (3.5%)	23 (4.2%)	
	Total	255 (100.0%)	235 (100.0%)	57 (100.0%)	547 (100.0%)	

= p-value ≤ 0.05. Pearson's chi-square test

Subtitle: N = varying number, due to absent information in the medical record; ICU = Intensive Care Unit; % = percentage

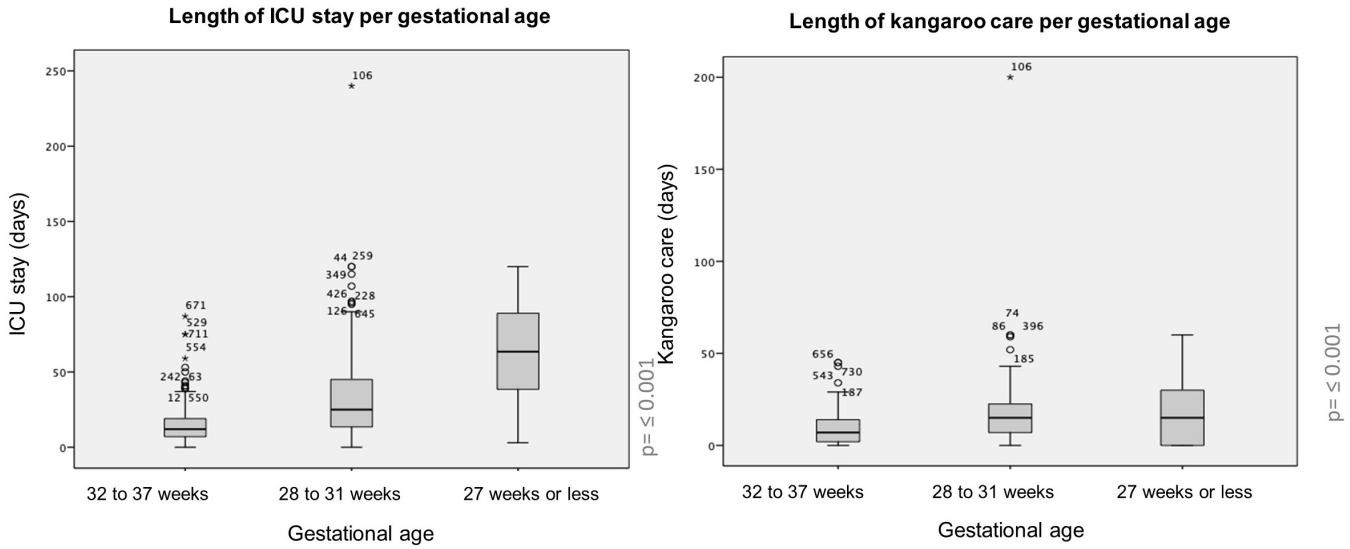

Figure 2. Boxplot between gestational age variables and length of ICU stay and length of kangaroo care
Subtitle: ₀ * = outliers

Table 3. Association between tests conducted in the postnatal period and the gestational age

Variables N (%)		Gestational age			Total	P-value
		32 to 27 weeks	28 to 31 weeks	27 weeks or less		
Guthrie test						
	Yes	301 (99.7%)	290 (100.0%)	78 (100.0%)	669 (99.9%)	0.543
	No	1 (0.3%)	0 (0.0%)	0 (0.0%)	1 (0.1%)	
	Total	302 (100.0%)	290 (100.0%)	78 (100.0%)	670 (100.0%)	
Guthrie test result						
	Normal	231 (93.5%)	234 (96.3%)	60 (98.4%)	525 (95.3%)	0.170
	Abnormal	16 (6.5%)	9 (3.7%)	1 (1.6%)	26 (4.7%)	
	Total	247 (100.0%)	243 (100.0%)	61 (100.0%)	551 (100.0%)	
Neonatal Tongue Screening						
	Yes	5 (2.3%)	10 (5.4%)	2 (3.4%)	17 (3.6%)	
	No	34 (15.3%)	20 (10.8%)	9 (15.5%)	63 (13.5%)	0.340
	NA	183 (82.4%)	156 (83.8%)	47 (81.1%)	386 (82.9%)	
	Total	222 (100.0%)	186 (100.0%)	58 (100.0%)	466 (100.0%)	
SNHS						
	Yes	230 (76.9%)	225 (81.5%)	60 (85.7%)	515 (79.8%)	0,168
	No	69 (23.1%)	51 (18.5%)	10 (14.3%)	130 (20.2%)	
	Total	299 (100.0%)	276 (100.0%)	70 (100.0%)	645 (100.0%)	
SNHS result						
	Pass	204 (89.5%)	199 (90.0%)	51 (85.0%)	454 (89.2%)	0.527
	Fail	24 (10.5%)	22 (10.0%)	9 (15.0%)	55 (10.8%)	
	Total	228 (100.0%)	221 (100.0%)	60 (100.0%)	509 (100.0%)	

Pearson's chi-square test
Subtitle: N = varying number, due to absent information in the medical record; % = percentage; NA = not applicable; SNHS = Specific Neonatal Hearing Screening

verified few records of the mothers' and fathers' educational attainment, as less than half the medical records analyzed had this information. Studies[11,12] demonstrate the importance of parental educational attainment, as well as family income, to their children's development. Hence, such data are essential to the analysis and must be properly included in the medical records.

In the present study, most families earned up to two minimum wages and lived in their own home, with sanitation and electricity. A previous study[11] revealed that the family income was inversely related to the children's negative affection, showing that aspects such as income and parental educational attainment are indicative of negative behavioral reactions in children. Moreover, the development of children is also related to environmental aspects and living conditions in general, as made evident in a literature review that concluded that housing, environmental sanitation, and access to primary healthcare are factors that contribute to the development of children[13].

The present study verified a statistical significance between GA and prenatal care, birth weight, length, and head circumference. Most medical records that informed about prenatal care were from babies born at 32 to 37 weeks GA. Studies[9,14] conducted in Pará and Rio Grande do Sul showed that not attending prenatal care or not attending the adequate number of sessions increased the odds of premature birth. Therefore, it is important to investigate this information in premature children to enable future correlations and find risk factors for development.

The results revealed that babies born at a GA of 27 weeks or less, classified as extremely premature, had lower medians in birth weight, length, and head circumference. Studies carried out in Saudi Arabia [15] and Rwanda[3] reported similar data, with a prevalence of low birth weight (< 1,000 g) among babies with less than 28 weeks GA. Another national study[16] reported equivalent results, showing low weight and short length in premature babies with less than 27 weeks.

Concerning the type of delivery, the present study demonstrated that most babies were born by cesarean section – in which those born at 32 to 37 weeks GA predominated, with a statistical significance. This result was similar to those of other studies[9,10,16,17], which show a greater prevalence of cesarean deliveries in cases of prematurity. Thus, the outpatient center studied here has a similar profile to that of other scenarios present in the literature.

As for postnatal complications, there was a statistical significance in sepsis, intracranial hemorrhage, and jaundice at birth. Some studies [18,19] revealed high rates of sepsis and intracranial hemorrhage in extremely premature babies, demonstrating that they are prominent risk factors for mortality. The present study showed that most mothers who reported the absence of these complications had late premature babies.

Given the occurrence of greater complications in extremely premature babies, intensive care involving ototoxic drug use, for instance, is more prevalent. This was likewise observed in a study[5] that showed the need for using ototoxic drugs in the care of extremely premature babies. The results in the present study agree with the literature, showing that most babies born at a GA of 27 weeks or less had to use ototoxic drugs, with a statistical significance.

The length of ICU stay and length of kangaroo care also had higher medians for GA of 27 weeks or less, with a statistical significance. The use of kangaroo care, in its turn, had a higher median for babies born at 28 to 31 weeks. A study conducted in Brasília[20] showed that all the extremely premature babies needed to stay in the neonatal ICU, demonstrating that such babies require more intensive care. These data agree with the findings of the present study – i.e., higher intensive care indices for extremely premature babies. The importance of kangaroo care stands out among the intensive care practices, as it favors physiological changes beneficial to the extremely premature infants, decreasing their length of stay[21]. This may explain the longer time the extremely premature infants used this method.

Exclusive breastfeeding was the predominant feeding method at hospital discharge in the population studied, especially in babies born at 32 to 37 weeks, followed by breastfeeding and formula in babies born at 27 weeks or less. A study conducted in São Paulo[22] revealed similar results, in which most newborns were breastfeeding at discharge – 48.3% of them with exclusive breastfeeding and 38.2% with breastfeeding and infant formula.

A study reported the difference between exclusive breastfeeding and breastfeeding combined with infant formula to the weight gain of extremely premature babies. It verified that these babies need greater care, including additional nutrients and vitamins, which can be provided by formulas[23]. Considering that the feeding process of premature babies is influenced by the immature gastrointestinal tract and/or breastfeeding coordination difficulties[24], late premature babies adapt more easily to exclusive breastfeeding than the extremely premature ones, who need more interferences and complements in terms of feeding.

The postnatal screening tests are important to prognosis and care, aiming at the best development of children. The Guthrie test is particularly relevant to the early diagnosis of congenital diseases and the feasibility of early start of treatment, when necessary[25]. The Neonatal Tongue Screening Test assesses the frenulum and is necessary during the postnatal period to ensure the feeding development of babies. Changes in the lingual frenulum are related to the suction performance and may afterward influence aspects of speech[26]. The Specific Neonatal Hearing Screening, in its turn, helps the early detection of hearing loss, enabling timely intervention to ensure the child's auditory and language development[27].

This study showed a high percentage of babies submitted to the Guthrie test (99.9%). A study[25] carried out in São Paulo had similar results, with 96.3% having been screened in 2017. Although policies make the Specific Neonatal Hearing Screening and Neonatal Tongue Screening test mandatory[28,29], gaps still prevent their comprehensive application. Not understanding their importance may be an aggravating factor, decreasing their prevalence.

This study revealed a low rate of lingual frenulum assessments (3.6%). However, the absence of such a question in the medical history protocol may be one of the reasons for this rate, increasing the number of those "not applicable". Since the test was implemented in 2014[29], the medical records prior to this date did not have such information. Furthermore, in the cases in which it was reported, the ones giving the information did know the answer during the interview, possibly because its implementation is not widely known, unlike the other screenings.

The main limitation of this study was that the research approached premature children of only one reference outpatient center, thus preventing sociodemographic and infrastructure comparisons. Another limitation was the lack of information in the medical records, as also pointed out in studies with a similar methodology[1,3]. The lack of information may be due to memory bias on the part of the person giving the information, incompletely filled out forms on the part of the professional, or variations in the nomenclature and clinical terms used by the various professionals who attended the patients over the 10 years being analyzed.

The study made advancements by establishing the profile of the population attended at the SLH department of a follow-up outpatient center in a reference teaching hospital. It provided knowledge of the sociodemographic profile of the said population to optimize the service provided and personalize it to the patients' needs. Moreover, the study outlined the profile of patients attended over a decade, helping understand the characteristics of the SLH attention provided throughout this period.

CONCLUSION

Regarding the sociodemographic profile, most of the sample were from low-income families, with late premature babies, whose complications are characteristic of their condition. The clinical data revealed that most complications were present in the extremely premature babies, with a statistical significance for the type of delivery (cesarean section); birth weight, length, and head circumference (which had the lowest median); ototoxic drug use; intracranial hemorrhage; sepsis; and jaundice. As for the assistance data, the extremely premature babies had the greatest need for assistance, with a statistical significance for the length of ICU stay and length of kangaroo care.

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