DEVELOPMENT OF COMMUNICATION OF CHILDREN AGED BETWEEN ONE AND THREE YEARS OLD AND THEIR RELATIONSHIP WITH THE FAMILY AND SCHOOL ENVIRONMENTS

Desenvolvimento da comunicação de crianças de um a três anos e sua relação com o ambiente familiar e escolar

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ABSTRACT

Purpose: to analyze the communication development of children aged one to three years from two day care centers in Belo Horizonte city considering the variables familiar environment and school environments. **Methods:** 70 children from 1 to 3years from daycare were evaluated. Initially, the environment of the day care centers were assessed according to the scale ITERS ((*Infant and Toddlers Environment Rating Scale-Revised)*), subsequently was performed the Resource Inventory of Family Environment to characterize the education environment. In the day care centers were performed evaluations of hearing and language through otoacoustic emissions and communicative profile. We chose exploratory analysis of variables in order to characterize the sample. Next, we performed a multiple regression analysis in order to obtain a mathematical relationship between the data, checking in the set of independent variables that most influence the dependent variable. **Results:** were found 54% ofthe male, 46% failed the hearing screening, and the highest average in the Protocol of Profile Communicative was in the field: Communication – Reception.In relation to the school environment, the highest scores were obtained in institution A. There was relationship between communicative profile and inventory of resources of the family environment.**Conclusion:** the results corroborate the literature that report the direct influence of environmental stimuli on child development and also claims that the contexts in which the individual develops may contribute to its development, and the family and the school are the main source of support for the child. Thus, it's necessary further studies about the school-child-family triad.

KEYWORDS: Speech, Language and Hearing Sciences; Child Day Care Centers; Child Development; Environment; Child Language; Hearing; Family

INTRODUCTION

According to the National Educational Bases and Guidelines Law (LDBEN, Law 9.394/96), day care centers are institutions for children from birth to three years old and pre-school children from four to six years old. The early childhood education institutions aim at the full development of children in their physical, psychological, intellectual and social aspects[1]. Thus, schooling can impact educational, social and cultural aspects and be a strategy to enhance the quality of life of the population[2].

The incorporation of day care centers to education systems, especially municipal systems, seems to bring some benefits, like greater attention to professional training, pedagogical program and learning environments. In this context, an essential aspect is the physical structure of the childhood

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intuitions, i. e., school environment. According to the literature[3], institutions of early childhood education, especially community and associated institutions, generally present greater deficiencies concerning to building and equipment, in relation to comfort, sanitation and suitability to age[3].

The Western way of life and urban demand has influenced the enrollment of children increasingly earlier and for a longer period of time in early childhood education institutions. Thus, its mission is changing, passing from childcare Institution to the scope of social and educational space. Thus, it must meet two inseparable and complementary functions: to take care and to educate[2,4-6].

The contexts in which the individuals develop may contribute to the vulnerability to risks, both those inherent to each phase as due to life circumstances, to development. The day care center is considered a collective environment with organized space in order to promote shared events, where there is a pedagogical proposal of interaction of infants[7]. So, the family and the school are the main systems that support the children in their development. The association between poor school performance and social and emotional problems can be pointed out as a major health problem in children[8-10].

During the first years of life the social world of the child should include contact with other children. Currently this contact has been increasingly early, due to socioeconomic and cultural transformations, which have promoted the education of even more young children in collective environments such as day care centers. A research that identified and analyzed episodes of interaction of 21 infants was performed. This analysis revealed frequent, fluid and choppy interactions between infants, more than just doing something together. Indeed, the interactive events involve the regulation of the behavior of the other, even from a distance, or even if one of the partners does not know that is regulating the behavior of the other[7].

The first three years of life are considered the most important for the development of hearing and speaking skills, as this is the critical period of maturation of the nervous system. This is one of the reasons to promote healthy childhood development in institutions where the children remain for long periods during a key stage of their growth and development[11-14].

Language is a communication mean, becoming a social instrument used in interactions. In case of small children, the language difficulties may result from abnormal development process of the verbal expression and reception. Therefore, the early identification of these changes during the development prevents later educational and social consequences[15]. Hearing loss during the first three years of life impairs not only the acquisition of language during this crucial period, but also the future of the child in the school[16].

In this context, childhood development must be highlighted from the perspective of the network of meanings that contemplates the human development approach with reference to the analysis of the situation and the interaction established between people. Human development is understood as a process that involves construction between and through the interactions that people establish in specific scenarios[17,18].

It is important to highlight that the period of life in which the main cognitive acquisitions occur coincides with the age in which children attend the daycare. Thereby, the purpose of this study was to analyze the communication development of children aged between one and three years from two day care centers in the city of Belo Horizonte according to the variables: family and school environments.

METHODS

This is an observational analytic cross-sectional study with non-probability sample conducted in two early childhood education institutions in Belo Horizonte. The institution A, which is public and is located on the northeast regional, and the institution B, which is private, associated with the City Hall of Belo Horizonte and is located in the eastern regional. The study was approved by the Research Ethics Committee of the Federal University of Minas Gerais, opinion no. ETIC 402/08.

Seventy regularly enrolled children were included in the study, 25 of the day care A and 45 of the day care B, and whose parents have read and signed the free and cleared term of consent.

Initially, the environment of the day care centers was assessed according to the Scale of the ITERS-R (Infant Toddler Environment Rating Scale – Revised*)*, which allows to analyze the elements and organization of the environment[19]. The scale consists of 35 items, grouped into seven subscales, namely: Routines/personal care, material/furniture for children; oral language and comprehension; learning activities; (child-adult) interaction; structure of the program of activities; needs of the adults (teachers and parents). The scale was applied in the form of observation made by the researchers and interviews with educational coordinators. Average scores for each day care were calculated as proposed by the literature[19]. The scores served as a parameter in the qualification of the environmental resources of the day care centers for comparison between them.

Subsequently, the characterization of the family environment was performed, in which the RAF questionnaire (Inventory of Resources of the Family Environment) was used, with multiple choice questions and items, elaborated and validated for the Brazilian Portuguese[10]. The questionnaire presents as areas of assessment of the resources that promote the development of proximal, activities that indicate family stability and parental practices that promote the connection between family and school. It is noteworthy that, for ages between one and two years, an adaptation was made in which items related to leisure and school activities that were not relevant for the age were excluded. For this purpose a national reference[20] was used. The questionnaire was applied before entering or leaving the day care center. A relative global score was calculated, and the following formula was used for each one of the ten topics: gross score/maximum score x 10.

Then, the language of these children was evaluated in a room of the day care center itself, in individual sessions of approximately 40 minutes, and, when necessary, in the recreation environment, using a Communication Profile Protocol[21], which allowed the evaluation of the Communication regarding reception and emission, in addition to the Cognitive Aspects of the Language. The linguistic aspects covered include lexical-semantic language, phonological and pragmatic subsystems. The cognitive aspects evaluated include the development of seriation, classification, working memory and body schema. Although the instrument used is not a standardized test but a protocol of behavior observation, Performance Ratios (ID) were calculated as proposed in the literature[22], i. e., the ID were calculated in percentage in each area, with maximum value of 100%. The indexes were calculated considering the number of assessed behaviors less the number of non-observed behaviors, multiplied by 100 and divided by the number of assessed behaviors[22].

To evaluate hearing, Distortion Product Otoacoustic Emissions were performed at the intensity of 65/55 dB NPS (L1=65/L2=55) in the frequencies 5 to 2 (5, 4, 3 and 2 kHz) and signal/noise ratio ≥ 6. The analyzer used was AUDX of the Biologic brand. The result was classified as “pass” or “fail”. To pass it was necessary to present adequate responses in three of the four tested frequencies.

The Kolmogorov Smirnov Test that evaluates the behavior of the observations of a group follows a normal distribution was performed. The tested hypothesis is that the observations present a normal distribution. It was verified that it cannot be stated that all study variables are normally distributed. Nonparametric tests were performed for the variables that are not normal. The exploratory analysis of the variables was chosen in order to characterize the sample. The Kruskal-Wallis and Mann-Whitney tests were used to evaluate the equality between averages. For the normal variables, the T test was used to evaluate the variance between two groups and the ANOVA test was used to detect the difference between averages. To analyze the association between the variables, the Pearson test and Spearman correlation coefficient were used. In order to find a mathematical relationship between the data, the Multiple Linear Regression Analysis was used for the variables provided from a normal population, checking in the set of independent variables those that most influence the dependent variables through the backward method. For variables that do not provide from a normal population with the same goal of the Multiple Regression, the Gamma model was used with Log link function. Results with confidence interval of 95% and p-value ≤ 0.05 were considered statistically significant associations.

The software R version 2.15.0 was used for the entry, processing and analysis of the quantitative data.

RESULTS

The distribution of variables related to age, gender, institution and hearing evaluation are presented in the Table 1.

Table 1 – Distribution of the sample according to the variables: age, gender, day care center and hearing evaluation

Variables		Statistics		
		Frequency	Percentage	Valid Percentage
Age	1 year	16	22,8	22,8
	2 years	27	38,6	38,6
	3 years	27	38,6	38,6
	Total	70	100,00	100,00
Gender	Female	32	45,7	45,7
	Male	38	54,3	54,3
	Total	70	100,00	100,00
Institution	A	25	35,7	35,7
	B	45	64,3	64,3
	Total	70	100,00	100,00
OAE	'Pass'	27	38,6	54,0
	"Fail"	23	32,9	46,0
	Total	50	71,40	100,00
	Lost Sample	20	28,60	___
	Total	70	100,00	___

Legend: OAE – Otoacoustic Emissions

Table 1 shows that 64.3% of the children were from the day care center B. Such fact can be explained by the greater number of enrolled children and physical space of this day care center. It is also observed that the sample is mainly composed by males, which does not unbalance the sample, since the difference is only 8.6%. Regarding the age, a smaller number (16) of one year old children and the same number (27) of children aged between two to three years was verified. Regarding hearing evaluation, most of the sample, 46% failed in the examination of Distortion Product Otoacoustic Emission.

Figure 1 presents the scores (total and of subscales) obtained by the ITERS-R Scale for the characterization of the early childhood education institutions. The total score obtained by the ITERS-R in the institution A was 4,28 and in the institution B was 3.94, whereby in the subscales: Oral language and comprehension, Interaction, Program Structure and Parents and staff[23] the institution A achieved better results. The institution B presented higher scores in the subscales: Space and furniture and Personal Care Routines.

Subscales	Institution A	Institution B
Space and furniture	3,40	4,60
Routines of Personal Care	3,30	4,30
Oral language and comprehension	4,30	3,00
Activities	3,00	3,00
Interaction	5,00	4,00
Program Structure	5,00	4,30
Parents and staff	5,00	4,40
Total score	**4,28**	**3,94**

Figure 1 – Distribution Table of the Scores obtained by the ITERS-R Scale for characterization of the childhood institutions. (Maximum score 7)

From the areas assessed by the Communication Profile Protocol, the Communication – Reception domain presented the highest average (0.66), and Communication – Emission presented the lowest average (0.56). Tables 2, 3 and 4 show the results of the communication profiles according to the variables: age, gender and early childhood institution, respectively.

Table 2 – Association of the Communication Profile with the variable age

Communication Profile	Age	N	Average	Standard deviation	Minimum	Maximum	p-value
Communication Profile Global Index	1,00	12	0,59	0,17	0,33	0,88	0,33
	2,00	28	0,58	0,18	0,26	0,88	
	3,00	25	0,65	0,17	0,21	0,93	
	Total	65	0,61	0,18	0,21	0,93	
Communication Profile Communication-Reception	1,00	12	0,70	0,25	0,25	1,00	**0,02***
	2,00	28	0,57	0,24	0,25	1,00	
	3,00	25	0,74	0,17	0,25	1,00	
	Total	65	0,66	0,23	0,25	1,00	
Communication Profile Communication-Emission	1,00	12	0,42	0,23	0,18	0,91	**0,03**
	2,00	28	0,56	0,22	0,18	1,00	
	3,00	25	0,64	0,24	0,00	1,00	
	Total	65	0,56	0,24	0,00	1,00	
Communication Profile Cognitive Aspects of the Language	1,00	12	0,75	0,14	0,44	1,00	0,06
	2,00	28	0,64	0,22	0,17	1,00	
	3,00	25	0,59	0,15	0,33	0,89	
	Total	65	0,64	0,19	0,17	1,00	

ANOVA
* the Kruskal-Wallis test was used for this variable, since it does not have a normal distribution.

Table 3 – Association of the Communication Profile with the variable gender

Communication Profile	Gender	N	Average	Standard deviation	p-value	Difference between the averages
Communication Profile Global Index	Female	28	0,54	0,19	**0,00**	-0,11
	Male	37	0,66	0,15		
Communication Profile Communication-Reception	Female	28	0,58	0,24	**0,02***	——
	Male	37	0,72	0,20		
Communication Profile Communication-Emission	Female	28	0,49	0,22	**0,03**	-0,13
	Male	37	0,62	0,24		
Communication Profile Cognitive Aspects of the Language	Female	28	0,59	0,21	0,05	-0,09
	Male	37	0,68	0,16		

Test –T
* the Mann-Whitney test was used for this variable, since it does not have a normal distribution.

Table 4 – Association of the Communication Profile with the variable day care center

Communication Profile	Institution	N	Average	Standard deviation	p-value	Difference between the averages
Communication Profile Global Index	A	22	0,66	0,20	0,10	0,07
	B	43	0,58	0,16		
Communication Profile Communication-Reception	A	22	0,73	0,25	**0,03***	——
	B	43	0,62	0,21		
Communication Profile Communication-Emission	A	22	0,62	0,27	0,19	0,08
	B	43	0,53	0,22		
Communication Profile Cognitive Aspects of the Language	A	22	0,66	0,19	0,70	0,01
	B	43	0,64	0,19		

Test –T
* the Mann-Whitney test was used for this variable, since it does not have a normal distribution.

Table 5 shows the results of the communication profile (global and domain index) and its association with the results (global and per question) of the Inventory of Resources of the Family Environment. The analysis of the Inventory of Resources of the Family Environment showed that the question related to schedules and routines presented the highest average (7.47), while the question related to planned activities presented the lowest average (0.24).

Table 5 – Association of the Communication Profile and inventory of the family resources

RAF		Communication Profile							
		Global Index		Communication Emission		Cognitive aspects of the Language		Communication Reception	
	N	Correlation	p-value	Correlation	p-value	Correlation	p-value	Correlation	p-value
Global Index RAF	65	0,28	**0,02**	0,26	**0,03**	0,07	0,54	0,23	0,05*
Activities outside the Day Care Center	65	0,07	0,55	0,07	0,53	0,07	0,55	-0,03	0,80*
Walks	65	0,12	0,31	0,15	0,20	-0,14	0,25	0,17	0,16*
Scheduled Activities*	65	-0,04	0,74*	-0,13	0,30*	0,01	0,89*	0,08	0,49*
Activities with the parents	65	0,74	**0,00**	0,29	**0,01**	0,09	0,45	0,36	**0,00***
Toys	65	0,36	**0,00**	0,36	**0,00**	0,14	0,23	0,28	**0,02***
Newspapers and magazines at home *	65	0,04	,072*	0,04	0,73*	-0,00	0,94*	0,14	0,26*
Books at home	65	0,72	**0,03**	0,21	0,08	0,19	0,12	0,27	0,02*
Follow-up of home works*	65	0,00	0,99*	0,02	0,83*	0,05	0,69*	-0,01	0,91*
Schedule/Routine	65	-0,08	0,51	-0,01	0,92	-0,02	0,87	-0,17	0,16*
Family life week	65	0,09	0,43	0,06	0,59	0,04	0,73	0,10	0,39*
Family life end of the week*	65	0,03	0,81*	0,00	1,00*	0,01	0,88*	0,12	0,33*

Legend: RAF-Inventory of Resources of the Family Environment / toys
Pearson Test
* the Spearman test was used for these variables since they do not have normal distribution.

In order to verify possible causal relationships between variables, five statistical models were analyzed by multiple regression. The multiple regression analysis should be performed when a phenomenon cannot be explained by a single causal agent but by a multiplicity of factors, therefore a dependent variable must be placed as a function of several explicative variables[24]. Thus, the models of multiple regression were adjusted in order to estimate the association between the results of speech therapy evaluations and evaluations of the environmental resources.

It is noteworthy that, in all models for analysis of the explanatory variables, the null hypothesis was rejected. Thus, the models were adjusted to the proposed study.

Table 6 – Presentation of the results of multiple regression

Model		Nonstandard coefficients		Standard coefficients	Value t	p-value
		Beta	Standard deviation	Beta		
1	(Constant)	0,40	0,05	___	7,47	**0,00***
	RAF q5	0,03	0,01	0,33	2,96	**0,00***
	Male	0,11	0,04	0,31	2,80	**0,00***
2	(Constant)	0,29	0,10	___	2,92	**0,00***
	Gender	0,12	0,04	0,33	2,88	**0,00***
	RAF	0,05	0,02	0,29	2,54	**0,01***
3	(Constant)	0,30	0,07	___	4,09	**0,00***
	RAF q5	0,04	0,01	0,34	2,95	**0,00***
	Male	0,12	0,05	0,26	2,29	**0,02***
4	(Constant)	5,88	0,45	___	12,96	**0,00***
	Day Care Center B	-0,62	0,26	-0,28	-2,38	**0,02***

Legend: RAF Q5 – question 5 of the Inventory of Resources of the Family Environment / toys.
Test T

Four models of multiple regression are shown in Table 6. When performing the analysis of the model one, it is possible to identify that, when the variable RAF-question 5, related to which and how many toys the child has at home, increases by one unit, the Communication Profile variable (Global Index) increases 0.03 units in average.

The analysis of the model two enables us to deduce that, when the RAF variable (Global Index) increases by one unit, the variable Communication Profile (Global Index) increases 0.05 units in average.

The model three demonstrates that, when the variable RAF-question 5, which is related to which and how many toys the child has at home, increases by one unit, the variable Communication Profile (Communication – Emission) increases 0.04 units in average.

The analysis of the model four suggests that the variable RAF (Global Index) has a statistically significant positive relation with the variable early childhood education institution, whereby when the variable institution is B (public), the average RAF variable (Global Index) tends to decrease in 0.62 units.

Table 7 – Presentation of the results of the Gama Model with Log link function

Model		Beta	Standard deviation	Confidence interval 95%		Hypothesis Testing		
				Low	High	Chi-square	df	p-value
5	(Constant)	-0,83	0,12	-0,79	-0,28	17,24	1	**<0,01***
	Male	0,19	0,09	-0,40	-0,02	4,92	1	**<0,01***
	RAF q4	0,04	0,02	-0,00	0,08	3,27	1	**<0,01***

Legend: RAF q4 – question 4 of the Inventory of Resources of the Family Environment.
Test-T

Table 7 shows the Gama model as a log function. After analysis of the model 5, a statistically significant positive relationship between Communication Profile (Communication and Reception) with the question 4 (Activity with the parents) of the Inventory of Resources of the Family Environment (RAF) and with males.

DISCUSSION

Most of the sample in the hearing evaluation, 46%, failed in the Examination of Distortion Product Otoacoustic Emission. This examination assesses the integrity of the outer hair cells (inner ear), but this requires an appropriate function of the middle ear. One factor to consider is that, according to the literature, 80% of the children have otitis at least once until eight years old and the recurrent otitis is increasing in the last decades, especially in developing countries[16]. It must be highlighted that also the excess of environmental noise could be another factor to influence the test results, as for the realization of the otoacoustic emissions the level of background noise should not exceed 55 dBA[25].

Despite the Registered Brazilian Standard (NBR) 10152[26] suggests that the noise level for educational environments should not exceed 55 dBA, studies show that higher levels are found in these environments[27-29]. Thus, the high incidence of failures in the hearing evaluation may have been caused by excessive noise of the environment, or by a high number of children with otitis. The data could not be proven because no measurements of acoustic immitance or measurement of the environmental noise, which is one limitation of the present study, were performed.

The fact that the higher average in the Communication Profile Protocol was in the Communication – Reception domain can be explained by the development sequence of the communication of the individuals: first, they acquire the ability to receive and then develop the ability to send. It is noteworthy that the sample comprises children still in the age of communication development, up to three years old, in critical period of cognitive, motor and language[15,30,31] acquisitions.

The analysis of the Inventory of Resources of the Family Environment, in turn, can be explained by the age range studied: children in this age should have more regular schedule for daily activities like lunch, bathing, time to sleep, and it is not common that these children participate in regular extracurricular activities such as English classes and sports. The literature shows that the organization of routines and activities in the childhood education is a challenge for educators and technical staff of the institutions[32] since the families may present different routines. This fact contributes for the diversity of habits and routines of children in early childhood institutions.

The result analysis of the ITERS-R Scale, shows that, in subscales more dependent on economic factors (space and furniture), the institution B achieved better scores. In turn, the institution A has obtained the best scores in the subscales dependent on human resources (personal care routine) and professional performance (oral language and comprehension). The care offered in early childhood institutions is primarily linked to the physical part of the children and not to the attention related to emotional aspects or stimulation for the development of the children. Such actions are individually performed by educators, not being determined by the coordination of the institution[6,13]. This is also corroborated by the literature that reports that the conceptions and practices of care/education vary in part according to the expectations that each educator has in relation to children and the types of relationships established between educator-child and also between child-child[7,23,33]. It must be highlighted that the literature reveals that the majority of educators believe that children at this age do not need stimulus, they are just in the daycare center, because it is a place where they are sheltered while their parents are working, and have difficulty to overcome impoverished care routines with food and hygiene, therefore not incorporating the practices that lead to the full development of the children[3,11].

It is noticed that the greater exposure of the children to toys, the greater their chances of having better communication performance. Such result corroborates the literature that reports the direct influence of stimulation in the family environment for the childhood development[10]. The consulted sources indicate the direct influence of the variety and quality of stimulation available for the child in the family environment on the development of the child and cognitive performance[8].

The contexts in which the individual develops may contribute to the development, being the family the main source of support to the child[9]. It is necessary to go beyond the children, beyond the developing individuals and enclose them within the network of meanings where they are inserted[17, 18]. The literature emphasizes that the home environment is the first socialization environment of the human being, so it is essential to understand the aspects related to the growth and development of the children in the family context and reality[34].

Although the institution A has obtained the highest average in the ITERS-R scale, indicating improved environmental resources, the analysis of socio-demographic data of the City Hall of Belo Horizonte shows that the institution B is in a region with higher socioeconomic indicators. It means that there is no correspondence between sociodemographic factors and favorable school environment[35], what is not supported by the reviewed literature[36]. It is worth noting that this assumption should be carefully verified, since establishing a direct relationship between economic factors and development may be an inappropriate simplification in the discussion of the human development. Other intrinsic and extrinsic conditions in which each child is inserted must be considered. Thus, in this study, other variables that were not considered may have influenced the results.

It is noteworthy to remember that parents who share part of their free time with the children, providing them with various enriching cultural and educational activities, foster the cognitive development, school performance and interpersonal adjustment[9].

This study brings contributions to the scope of the overall evaluation of children aged between one and three years and their interrelationship with environmental factors. However, it is important to emphasize the limitations of the study. First, the Inventory of Resources of the Family Environment is not suitable for children under three years old, leading to the adjustment of the instrument to be used in this study. Moreover, it was observed that Otoacoustic Emissions is not the best examination to be performed alone. However, together with other objective tests it can provide important information about the child's hearing. Even so, more than half of the sample presented OAEs, indicating the absence of hearing loss greater than 30-40 dBHL and do not present conductive loss.

It is worth noting that this study was not an exhaustive research on school-child-family triad, but only seeks to bring attention to the issue and its relation with the communication development. Thus, it is necessary to go further in the discussion and seek jobs with other methodological designs, such as longitudinal studies.

Regarding the Communication Profile, it was observed that the Communication – Reception domain presented the highest average, and the Communication – Emission the lowest average.

Featuring the educational environment, it was observed that the total score obtained through ITERS-R was higher in the institution A, and it was repeated in the subscales: Oral language and comprehension, Interaction, Program Structure and Parents and staff. The day care center B, in turn, presented higher scores in the subscales: Space and furniture and Personal Care Routines.

The characterization of the stimulation resources present in the family environment through the Inventory of Resources of the Family Environment, has enabled to observe that the question 9 (Schedule/Routine) presented the highest average, and the question 3 (Programmed Activities), the lowest. Such data may indicate that, in the scope of the family environment, the attention to the child routine is more important than the schedule of activities. This fact mainly relies on the age range studied, since language, sport and cultural activities are not considered priorities in the range of one to 24 months.

Data such as those of the present study may be relevant for the speech practice, because it is possible to consider these findings as issues for discussion about actions to foster health in early childhood education and in the discussion about the development of children aged between one and three years. It is worth stressing that the literature has valued studies on the evolution of the attention prospect and influence of interactional and environmental factors in the development of children in the childhood education [36-40].

CONCLUSION

There was an interrelationship between communication profile and environmental resources, as evidenced by the statistically significant positive association between:

- Communication Profile (Global Index) and Inventory of Resources of the Family Environment (Toys);
- Communication Profile (Global Index) and Inventory of Resources of the Family Environment (Global Index);
- Communication Profile (Communication and Emission) and Inventory of Resources of the Family Environment (Toys);
- Communication Profile (Communication and Reception) and Inventory of Resources of the Family Environment (Activity with the parents);

There was an interrelationship between the assessed environmental resources, as evidenced by the statistically significant positive association between the Inventory of Resources of the Family Environment and early childhood institution.

RESUMO

Objetivo: analisar o desenvolvimento da comunicação de crianças de um a três anos frequentadoras de duas instituições de educação infantil da cidade de Belo Horizonte segundo as variáveis: ambientes familiar e escolar. **Métodos:** foram avaliadas 70 crianças regularmente matriculadas, de um a três anos. Inicialmente, o ambiente da creche foi avaliado segundo a Escala *Infantand Toddlers Environment Rating Scale-Revised*, posteriormente foi realizada a caracterização do ambiente familiar, utilizando-se o Inventário de Recursos do Ambiente Familiar. Foram realizadas avaliações de linguagem e audição, por meio do Protocolo de Perfil Comunicativo e Emissões Otoacústicas. Optou-se pela análise exploratória das variáveis, a fim de caracterizar a amostra. Em seguida, foi realizada análise de regressão múltipla, a fim de buscar uma relação matemática entre os dados, verificando, no conjunto de variáveis independentes, as que mais influenciam a variável dependente. **Resultados:** observou-se que 54% da amostra são do sexo masculino, 46% falharam na triagem auditiva, e a maior média no Protocolo de Perfil Comunicativo foi no domínio Comunicação – Recepção. Em relação ao ambiente escolar, os maiores escores foram obtidos na instituição A. Houve inter-relação entre perfil comunicativo e inventário de recursos do ambiente familiar. **Conclusão:** os resultados do estudo corroboram a literatura que relata a influência direta de estímulos ambientais no desenvolvimento infantil e afirma também que os contextos onde o indivíduo se desenvolve podem contribuir para o seu desenvolvimento, sendo a família e a escola as principais fontes de suporte à criança. Desse modo, é preciso aprofundar os estudos quanto à tríade criança-escola-família.

DESCRITORES: Fonoaudiologia; Creches; Desenvolvimento Infantil; Meio Ambiente; Linguagem Infantil; Audição; Família

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