ORIGINAL ARTICLE

# Factors associated with speech, hearing and language disorders among children in a primary care outpatient center

Open acess

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## Abstract

**Introduction:** Appropriate communication behaviors are developed when the complex language processes are well-balanced.

**Objective:** To investigate the occurrence of hearing and speech disorders and their associated factors in children.

**Methods:** Study based on interviews with secondary informants of 95 children of a waiting list for a medical consultant in a public pediatric primary care unit in a medium-sized city in southern Brazil. The interaction between the independent variables: gender, age, hearing complaints, bottle feeding and/or pacifier and number of siblings with the dependents variables: speech disorders and hearing impairment was verified. Data analysis included descriptive and analytical statistics (bivariate chi-square and Fisher's Exact test) with significance level at 5% ($p \leq 0.05$).

**Results:** Seventy-nine (83.2%) respondents reported that the child hears well, and 16 (16.8%) didn't answer on this issue. The prevalence of oral breathing among respondents was 68.9% (62 children), 82,5% (52 children) had a history of breastfeeding and 22% (11 children) demonstrated signs of a speech disorder. Of school-age children, 3 (12.5%) reported learning difficulties. Mouth breathing appears to be associated with speech disorders ($p = 0.041$). Sex ($p= 0.3$), age ($p = 0.3$) and pacifier use and/or bottle ($p = 0.96$, $p = 0.33$) were not associated with speech disorders.

**Conclusion:** The prevalence of speech disorders in the children studied was 22%. The sex, age or suspected hearing impairment were not associated with the occurrence of speech disorders and/or hearing complaints in the children studied

**Keywords:** child, language, speech, hearing, speech disorders, speech therapy.

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## INTRODUCTION

Language development involves complex processes that can interfere with human communication. These processes rely on the integrity of the central nervous system, sensory and cognitive abilities, and intellectual skills and may be influenced by environmental factors[1,2]. In theory, appropriate communication behaviors develop when these processes are well-balanced. When this balance is affected, the resulting behaviors create ineffective communication, i.e. a disorder.

Several studies have pointed to a relationship between oral communication disorders associated with educational development, and many of the factors involved are preventable with early detection[3-9]. However, the focus of interest on early detection and treatment of oral communication and hearing disorders is just beginning, and parents and caregivers should be more aware of these difficulties so that they can be addressed earlier in public primary care settings. Nevertheless, uncertainty exists regarding which factors are associated with speech, hearing and language disorders among pediatric patients. This knowledge gap complicates efforts to identify and making an enhanced management of those individuals with communication disorders. This study aimed to investigate the occurrence of hearing and speech disorders and their associated factors in children.

## METHODS

This study was approved by the Research Ethics Committee at the participating institution (protocol no. 0156/10). Consent forms were signed for participation, as well as the confidentiality of the individual information of the participants is ensured, as ethical guidelines proposed by Resolution 196/96 of the Brazilian National Health Council.

This is an analytical study based on interviews with adult caregivers accompanying children aged zero to six years old who were waiting for an appointment in a public pediatric primary care unit from march to December 2012 on alternate days in a medium-sized city in Southern Brazil that serves a population estimated at 60,000 inhabitants.

Information on the overall development of the child, orofacial functions, history of speech disorder or suspected hearing impairment was collected through a structured questionnaire and the related variables were tested in prior pilot study. In addition, children from the age of two were assessed using a child screening test for speech articulation disorders (TERDAF)[10] that was administered in the waiting room while they were waiting for their appointment. All children with hearing and/or speech complaints, who reported to have other factors associated were referred for ear, nose and throat, hearing and/or speech evaluation as needed.

All the caregivers who accompanied children who met the criteria to enter in the study and agreed to participate and answer a questionnaire were eligible for this study. All those who did not want to participate were excluded. Having psychiatric, mental or other related conditions or disorders was not an exclusion criterion in view of the fact that the study objective was to assess communication disorders and the instrument of assessment included the possibility of children with these conditions, although none of the children elected had any history of psychiatric, mental or other related conditions or disorders.

Seventy-five individuals were needed for a range of 95% confidence for the prevalence of communication disorders, with an error margin of 5% around an estimated prevalence of 35%.

Data analysis included descriptive statistics to present proportions, means, medians, standard deviations and confidence interval of the variables and analytical statistics to assess the association between the study variables of gender, age, hearing complaints, use of bottles and/or pacifiers, number of siblings and the outcome of oral communication disorders (generically named "speech disorders"). The bivariate chi-square test and Fisher's exact test were used at a 5% significance level ($p \leq 0.05$).

## RESULTS

Speech disorders were reported in 11 (22.0%) children. None of the respondents reported being aware of any hearing difficulty in the children participating in the study but 16 (16.8%) of them reported they did not know. No association was found between speech disorder and hearing complaint in the sample studied ($p = 0.33$) (Table 1 e Table 2).

**Table 1:** Characteristics of the study population

| Variables | | n | % | CI 95% |
|---|---|---|---|---|
| Sex | Male | 52 | 54.7 | 44,64 |
| | Female | 43 | 45.3 | 35,55 |
| Age | 0–6 months old | 35 | 36.8 | 27,47 |
| | 7–11 months old | 7 | 7.4 | 3,14 |
| | 1 year old | 13 | 13.7 | 7,22 |
| | 2 years old | 9 | 9.5 | 4,17 |
| | 3 years old | 10 | 10.5 | 5,18 |
| | 4 years old | 9 | 9.5 | 4,17 |
| | 5 years old | 12 | 12.6 | 6,21 |
| Siblings | Only child | 37 | 38.9 | 29,49 |
| | 1 sibling | 30 | 31.6 | 22,41 |
| | 2 siblings | 10 | 10.5 | 5,18 |

| | | | | |
|---|---|---|---|---|
| | 3 siblings | 10 | 10.5 | 5,18 |
| | 4 siblings | 6 | 6.3 | 2,13 |
| | 5 or more siblings | 2 | 2.1 | 0,7 |
| Reason for seeking care at the primary care unit | Routine care | 26 | 28.3 | 18,37 |
| | Accompanying another child | 24 | 26.1 | 16,35 |
| | Immunization | 11 | 12.0 | 5,19 |
| | Other | 31 | 33.7 | 23,43 |
| Breastfeeding | No | 11 | 17.5 | 5,19 |
| | Yes | 52 | 82.5 | 44,64 |
| Use of bottles | No | 39 | 47.0 | 31,51 |
| | Yes | 44 | 53.0 | 36,56 |
| Use of pacifiers | No | 43 | 49.4 | 35,55 |
| | Yes | 44 | 50.6 | 36,56 |
| Learning difficulties | No | 21 | 87.5 | 14,31 |
| | Yes | 3 | 12.5 | 0,8 |
| Mode of breathing | Nasal | 11 | 12.2 | 5,19 |
| | Mouth | 62 | 68.9 | 54,74 |
| | Both | 17 | 18.9 | 10,27 |
| Referral | Speech-language pathologist | 3 | 20.0 | 0,8 |
| | Ear, nose, throat specialist | 2 | 13.3 | 0,7 |
| | Physiotherapy | 0 | 0.0 | 0,3 |
| | Other | 10 | 66.7 | 5,18 |

**CI95%:** Confidence Interval 95%

**Table 2:** Variables associated with speech disorders

| Independent Variables (exposure) | | Speech Disorders (outcome) | | | | $X^2$ | Gl | p- value |
|---|---|---|---|---|---|---|---|---|
| | | No | | Yes | | | | |
| | | n | % | n | % | | | |
| Sex | Male | 18 | 72.0 | 7 | 28.0 | 1.05 | 1 | 0.31 |
| | Female | 21 | 84.0 | 4 | 16.0 | | | |
| Age | 0–6 months old | 2 | 100.0 | 0 | 0.0 | 5.39 | 5 | 0.37 |
| | 1 to 1 year and 11 months old | 8 | 100.0 | 0 | 0.0 | | | |
| | 2 to 2 years and 11 months old | 8 | 88.9 | 1 | 11.1 | | | |
| | 3 to 3 years and 11 months old | 7 | 70.0 | 3 | 30.0 | | | |
| | 4 to 4 years and 11 months old | 6 | 66.7 | 3 | 33.3 | | | |
| | 5 to 5 years and 11 months old | 8 | 66.7 | 4 | 33.3 | | | |
| Siblings | Only child | 15 | 83.3 | 3 | 16.7 | 9.35 | 5 | 0.1 |
| | 1 sibling | 13 | 86.7 | 2 | 13.3 | | | |
| | 2 siblings | 1 | 33.3 | 2 | 66.7 | | | |
| | 3 siblings | 7 | 87.5 | 1 | 12.5 | | | |
| | 4 siblings | 3 | 60.0 | 2 | 40.0 | | | |
| | 5 or more sibling | 0 | 0.0 | 1 | 100.0 | | | |
| Reason for seeking care at the primary care unit | Routine care | 0 | 0.0 | 0 | 0.0 | 6.25 | 2 | 0.44 |
| | Immunization | 7 | 100.0 | 0 | 0.0 | | | |
| | Other | 11 | 61.1 | 7 | 38.9 | | | |
| Breastfeeding | No | 9 | 90.0 | 1 | 10.0 | 0.02 | 1 | 0.89 |
| | Yes | 11 | 91.7 | 1 | 8.3 | | | |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Use of bottles | No | 6 | 66.7 | 3 | 33.3 | 1.07 | 1 | 0.3 |
| | Yes | 24 | 82.8 | 5 | 17.2 | | | |
| Use of Pacifers | No | 18 | 78.3 | 5 | 21.7 | 0.74 | 1 | 0.96 |
| | Yes | 15 | 78.9 | 4 | 21.1 | | | |
| Hearing | Good | 38 | 79.2 | 1 | 20.8 | 0.95 | 1 | 0.33 |
| | Poor | 0 | 0.0 | 0 | 0.0 | | | |
| Learning Difficulties | No | 14 | 73.7 | 5 | 26.3 | 1.94 | 1 | 0.16 |
| | Yes | 1 | 33.3 | 2 | 66.7 | | | |
| Breathing | Nasal | 5 | 45.45 | 12 | 44.4 | 9.46 | 2 | **0.04*** |
| | Mouth | 20 | 75 | 5 | 25.0 | | | |
| | Both | 12 | 100.0 | 0 | 0.0 | | | |
| Referral | Speech-language pathologist | 0 | 0.0 | 3 | 100.0 | 10.24 | 2 | **0.02*** |
| | Ear, nose, throat specialist | 0 | 0.0 | 1 | 100.0 | | | |
| | Physical therapist | 0 | 0.0 | 0 | 0.0 | | | |
| | Other | 5 | 71.4 | 2 | 28.6 | | | |

## DISCUSSION

Learning difficulties have been associated with a history of delayed language adquisition. Language learning difficulties involve changes in the development of expression and oral and written language. Early detection of changes in normal development is crucial to prevent late adverse educational and social outcomes[11].

The present study did not find any significant association between oral communication disorders and child's gender and age, but the literature has reported a higher prevalence of communication disorders among boys and increasing prevalence with age. Our data may explain these contrasting results with the literature as 35 (36.8%) of male children in the study were between zero and six months old. The study results also showed no relationship between gender or age and speech disorders, contrasting with other studies[12,13].

A study[14] reported prevalence of speech disorders in children older than five. In another study[15] the authors described the main characteristics of individuals with speech-language disorders. They found that speech-language disorders were more commonly seen in males around the age of five. However, this data can contribute to further studies on cause of prevalence of communication disorders in boys and consequential treatments and preventions.

In this study the association between speech disorders and number of siblings was not significant ($p = 0.096$), suggesting that the data on number of siblings or children in the family in this population may not have an effect on the potential occurrence of oral communication disorders. One study[16] reported that some speech-language disorders are associated with family history and these conditions are predictable. Knowing the family history is key for the prevention of potential speech disorders.

According to some authors[17], otitis media has high prevalence during childhood, and 50% of children under one year of age have at least one episode of otitis media. Repeat ear infections can cause transient hearing impairment that may be short or long-term. However, when these episodes are frequent and go unnoticed in children at the age of language acquisition, they become more serious and may impair normal language acquisition and development[18].

This study showed that the main reason for seeking pediatric care was for a routine checkup, reported by 26 caregivers (28.3%). While the literature indicates that caregivers are the first to perceive a communication disorder in children[19], only 11 (22%) caregivers reported so in our sample. Parents usually know the phonemes their children tend to omit or confuse and a complete patient history is very important to allow providers to identify any speech problems in children.

According to some authors[20], acquisition and development of speech require the development of organs and functions of the stomatognathic system and organization of the phonological system. Speech disorders in preschool may be caused by any alteration in these systems or inefficient organization of the systems.

The children's regular use of pacifiers and/or bottles was not considered a major factor for the development of speech disorders in this study. However, oral habits play an important role as prolonged use of pacifiers and bottles can be associated with inadequate mastication, open bite and mouth breathing. Poor oral habits have been described[21] as causing bite changes, teeth shifting, hypotonia of articulatory organs, and mouth breathing.

Prolonged pacifier and bottle-sucking habits beyond the age of three and a half years may be etiological factors for the development of malocclusion due to mechanical forces exerted on artificial nipples.

The present study showed no significant associations between age or any other variable with speech disorders. However, it is extremely important that parents pay close attention to the interim development of their children, checking not only their motor development but also the development of oral communication.

Children under the age of five are more likely to have speech disorders than those with more than eight years old. When there are no organic factors that contribute to the occurrence of such disorders, many factors can influence this, including the maturation of meta-linguistic functions[14].

It is essential for health professionals, parents and teachers to be aware of this important aspect of child

development, which can have repercussions on the educational and vocational trajectory of the child and the youth, if not identified and treated in a timely and appropriate manner.

This line of research is valuable for gathering data on communication disorders. Epidemiological studies are needed to further explore risk factors in the population studied. They can also contribute to the development of strategies for preventing the problems found in these children, and providing care and accurate information thus rendering health promotion more effective and humanized[22]. Emphasizing the need for practices in the public health field are based on solid clinical and epidemiological evidence and come to meet the guidelines of the National Health System and the Family Health Strategy[23].

Thorough knowledge of the most prevalent disorders and their specific characteristics in certain population groups can help plan more targeted and potentially more effective actions for the prevention of comorbidities, especially related to communication and oral functions which are important for social involvement and inclusion in the environment where they live[24-27]. Moreover, nowadays in age of globalization, oral communication disturbances can influence even the belonging and social mobility of individuals.

Differential diagnosis is essential for working out adequate interventions that at the same time meet the educational and clinical needs of the child and fit into the reality of the parents' life. Early detection and intervention to help educational planning are often associated with more favorable long-term outcomes[26,27].

The considerable levels of communication disorders suggest the need for preventive measures in preschool age children for this population.

## CONCLUSION

The prevalence of speech disorders in children was 22% and the prevalence in scholars who reported learning disabilities was 12.5%. Oral breathing seems to be associated to speech disorders (p= 0.041). There was no association with hearing, sex, age and pacifier and/or bottle use with detectable speech disorders.

### Competing interests

The authors declare that they have no competing interests.

### Authors' contributions

All authors made substantial contributions to conception and design. BNGG designed the study, collected data, and wrote the manuscript. BMC analyzed data and wrote the paper. CPBA collected data, analyzed data, and wrote the paper. All authors provided final approval of the version to be published.

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## REFERENCES

1. Polido A, Wertzner HF. Study of case: elimination of the phonological processes of devoicing. Pró-Fono Rev Atual Cient.1999;11(1):106-10.
2. Rocha LC, Befi-Lopes DM. Analyses of answers presented by children with and without specific language impairment. Pró-Fono Rev Atual Cient. 2006;18(3):229-38. DOI: http://dx.doi.org/10.1590/S0104-56872006000300002
3. Lewis BA, Freebairn L. Residual effects off preschool phonology disorders in Grade School, Adolescence and Adulthood. J Speech Hear.1992;35(4):819-31.
4. DOI: http://dx.doi.org/10.1044/jshr.3504.819
5. Beitchman JH, Wilson B, Brownlie EB, Walters H, Inglis A, Lancee W. Long-term Consistency in Speech/Language Profiles: behavioral, emotional, and social outcomes. J Am Acad Child Adolesc Psychiatry. 1996;35(6):815-25. DOI: http://dx.doi.org/10.1097/00004583-199606000-00022
6. Naucler K, Magnusson E. Language Problems in Poor Readers. Logoped Phoniatr Vocol. 2000;5(1):12-21. DOI: http://dx.doi.org/10.1080/140154300750045867
7. Capovilla FC, Capovilla AGS. Research on the role of phonology, orthography and cognitive skills upon reading, spelling and dyslexia in Brazilian Portuguese. In: Smythe I, Everatt J, Salter R. International Book of Dyslexia: A cross language comparison and practice guide. 2004; p.159-72.
8. Salles JF, Parente MAMP. Relationship between the cognitive processes involved in word reading and phonological awareness skills in school age children. Pró-Fono Rev Atual Cient. 2002;14(2):175-86.
9. Nathan L, Stackhouse J, Goulandris N. The development of early literacy skills among children with speech difficulties. J Speech Language Hearing Res. 2004;47(2):377-91. DOI: http://dx.doi.org/10.1044/1092-4388(2004/031)
10. Paula GR, Mota HB, Keske-Soares M. A terapia em consciência fonológica no processo de alfabetização. Pró-Fono Rev Atual Cient. 2005;17(2):175-84.

DOI: http://dx.doi.org/10.1590/S0104-56872005000200006
11. Goulart BNG, Ferreira J. Speech disorder screening test for children. Pró-Fono Rev Atual Cient. 2009;21(3):231-6. DOI: http://dx.doi.org/10.1590/S0104-56872009000300009
12. Landry SH, Smith KE, Swank PR. Environmental effects on language development in normal and high-risk child population. Semin Pediatr Neurol. 2002; 9(3):192-200.
13. Patah LK, Takiuchi,N. Prevalence of phonological disorders and phonological processes uses in seven-years-old scholar. Rev CEFAC. 2008;10(2):158-67. DOI: http://dx.doi.org/10.1590/S1516-18462008000200004
14. Oliveira CMC, Cunha D, Santos AC. Risk factors for stuttering in disfluent children with familial recurrence. Audiol Commun Res. 2013;18(1):43-9. DOI: http://dx.doi.org/10.1590/S2317-64312013000100009
15. Goulart BNG, Chiari BM. Prevalence of speech disorders in schoolchildren and its associated factors. Rev Saúde Pública. 2007;41(5):726-31. DOI: http://dx.doi.org/10.1590/S0034-89102007000500006
16. Wertzner HF. Estudo da aquisição do sistema fonológico: o uso de processos fonológicos em crianças de três a sete anos. Pró-Fono Rev Atual Cient. 1995;7(1):21-6.
17. Papp ACCS, Wertzner HF. Familial aspect and phonological disorder. Pró-Fono Rev Atual Cient. 2006;18(2):151-60. DOI: http://dx.doi.org/10.1590/S0104-56872006000200004
18. Roberts JE, Rosenfeld RM, Zeisel SA. Otitis media and speech and language: a meta-analysis of prospective studies. Pediatrics. 2004;113 (3pt 1):237-47.
19. Wertzner HF, Pagan LO, Galea DES, Papp ACCS. Phonological characteristics of children with phonological disorder with and without otitis media history. Rev Soc Bras Fonoaudiol. 2007;12 (1):41-7. DOI: http://dx.doi.org/10.1590/S1516-80342007000100009
20. Maximino LP, Ferreira MV, Oliveira DT, Lamônica DAC, Feniman MR, Spinardi ACP, et al. Knowledge, attitudes and practices of pediatricians regarding the development of oral communication. Rev CEFAC. 2009;11(Suppl 2):267-74. DOI: http://dx.doi.org/10.1590/S1516-18462009000600017
21. Farias SR, Avila CRB, Vieira MM. Relationship between speech, tonus and non-verbal praxis of the stomatognathic system in preschoolers. Pró-Fono Rev Atual Cient. 2006;18(3):267-76. DOI: http://dx.doi.org/10.1590/S0104-56872006000300006
22. Cavassani VGS, Ribeiro SG, Nemr NK, Greco AM, Köhle J, Lehn CN. Suction oral habits: initial study in low income population. Rev Bras Otorrinolaringol. 2003;60(1):106-10. DOI: http://dx.doi.org/10.1590/S0034-72992003000100017
23. Gomes AMA, Paiva ES, Valdés MTM, Frota MA, Albuquerque CM. Phenomenology, humanization and health promotion: an articulation proposal. Saude Soc. 2008;17(1):143-52. DOI: http://dx.doi.org/10.1590/S0104-12902008000100013
24. Goulart BNG, Algayer AR. Characteristics of Family Health Program users sample in Campo Bom (RS), Brazil during the year of 2006. Ciênc Saúde Coletiva. 2009;14(Suppl.1):1379-84. DOI: http://dx.doi.org/10.1590/S1413-81232009000800010
25. Blanchard LT, Gurka MJ, Blackman JA. Emotional, developmental, and behavioral health of American children and their families: a report from the 2003 National Survey of Children's Health. Pediatrics. 2006;117(6): e1202-12. DOI: http://dx.doi.org/10.1542/peds.2005-2606
26. Law J, Garrett Z, Nye C. Speech and language therapy interventions for children with primary speech and language delay or disorder. Cochrane Database Syst Rev. 2003;(3):CD004110. DOI: http://dx.doi.org/10.1002/14651858.CD004110
27. Snowling MJ, Bishop DV, Stothard SE, Chipchase B, Kaplan C. Psychosocial outcomes at 15 years of children with a preschool history of speech-language impairment. J Child Psychol Psychiatry. 2006;47(8):759-65. DOI: http://dx.doi.org/10.1111/j.1469-7610.2006.01631.x
28. Baker BM, Blackwell PB. Identification and remediation of pediatric fluency and voice disorders. J Pediatr Health Care. 2004;18(2):87-94. DOI: http://dx.doi.org/10.1016/j.pedhc.2003.09.008

**Resumo**

**Introdução:** Comportamentos de comunicação apropriados se desenvolvem quando o complexo processo de linguagem está bem equilibrado.

**Objetivo:** Avaliar a ocorrência de alterações auditivas, da fala e fatores associados em crianças.

**Método:** Estudo baseado em entrevistas com informantes secundários de 95 crianças à espera de consulta em uma unidade básica de saúde. Verificou-se a associação entre as variáveis independentes: sexo, idade, queixas auditivas, uso de mamadeira e/ou chupeta e número de irmãos com as variáveis dependentes: distúrbios da fala e deficiência auditiva. A análise dos dados incluiu estatística descritiva e analítica (qui-quadrado bivariável e teste Exato de Fisher) com nível de significância de 5% ($p \leq 0,05$).

**Resultados:** Setenta e nove (83,2%) entrevistados relataram que a criança ouvia bem, embora 16 (16,8%) não tenham respondido sobre esta questão. A prevalência de respiração oral entre os respondentes foi de 68,9% (n = 62), 52 (82,5%) crianças tiveram história de amamentação e 11 (22%) crianças demonstraram sinais de distúrbio de fala. Das crianças em idade escolar, 3 (12,5%) relataram dificuldades de aprendizagem. A respiração bucal parece estar associada a distúrbios da fala ($p = 0,041$). O sexo ($p = 0,3$), idade ($p = 0,3$) e uso de chupeta e/ou mamadeira ($p = 0,96$, $p = 0,33$) não foram associados a distúrbios da fala.

**Conclusão:** A prevalência de distúrbios da fala nas crianças estudadas foi de 22%. O sexo, idade ou suspeita de deficiência auditiva não foram associados à ocorrência de distúrbios de fala e/ou queixas auditivas nas crianças estudadas.

**Palavras-chave:**criança, linguagem, fala, audição, distúrbios da fala, fonoterapia.