

## Original articles

# Scenario of access to speech therapy based on the profile of children and adolescents referred to primary care

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## ABSTRACT

**Purpose:** to analyze the profile and access of patients who need speech-language pathology care in a Primary Health Unit (UBS).

**Methods:** a descriptive analytical study, including data obtained from a spreadsheet with information provided by patients from May 2013 to February 2020. The following variables were analyzed: gender, age at referral, speech-language pathology complaint, year of referral, year of the first visit and service, and professional responsible for the health referral, speech therapy conduct after first visit, and outcome after therapy. Categorical variables were analyzed by means of frequency and numeric variables by measures of central tendency and dispersion. For inferential statistical analysis, the Mann-Whitney test was used, considering 5% as the significance level.

**Results:** in total, 171 individuals were referred, most were males, aged 4 to 6 years, with language complaints; 73.66% were referred by professionals from the UBS, mainly by pediatricians. After the speech-language pathology assessment, 27.49% were referred to the specialty. Among the 78 individuals who started speech-language therapy at the UBS, 24.36% were discharged and 32.05% were dismissed, due to absences. A statistically significant correlation was observed when analyzing data of waiting time and non-attendance at the first speech therapy visit.

**Conclusion:** as it addresses a large part of the demands in Primary Care, speech-language pathology helps to increase solubility at this level of the health system. Lack of compliance is considered a barrier in service organization and in promoting access to other patients.

**Keywords:** Speech, Language, and Hearing Sciences; Primary Health Care; Treatment Adherence and Compliance; Health Service Accessibility

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## INTRODUCTION

Historically, the inclusion of Speech Therapy in the Brazilian National Health System (SUS) was linked to specialized care, mostly provided in outpatient clinics and rehabilitation centers. However, the insertion of speech therapists has been expanded in primary care in recent times, especially after the creation of the Family Health Support Centers (NASF)<sup>1</sup>, now called Expanded Family Health and Primary Care Centers (NASF- AB)<sup>1</sup>. Then, in this scenario, speech therapists can act in health care with practices of promotion, prevention, education and intervention in population groups, in addition to clinics<sup>1</sup>. Speech therapists can contribute to health planning and management strategies related to their fields and other related areas in health.

In primary care, work conducted by speech therapists depends on specific territory characteristics and is often related to challenges faced by children regarding oral and written language development and elderly population care, whether due to hearing issues, dysphagia or aphasia, among others. In addition to clinical and care activities, characterized by the provision of care to the population through, for example, assessment and speech therapy practices, the speech therapist must provide technical-pedagogical support to primary care teams. This support involves the provision of educational support to professionals through group actions focused on the discussion of clinical cases in team meetings, shared care, permanent education actions, among other strategies, which enhances the solubility at this level of health care<sup>2,3</sup>. Although the creation of NASFs has brought the speech therapist closer to primary care, there is still a significant lack of speech therapists at this level of care, with the reality showing low coverage of NASFs in the national territory and the fact that not all teams include this professional, since the NASF team composition is determined by the municipal authorities, taking into account, in theory, the demands identified in the territory<sup>2</sup>. Studies highlight increased supply of speech therapists in the context of SUS and primary care, but the amount is still insufficient when considering the existing demand. Such poor distribution of human resources restricts the areas of action of speech therapists, nurturing a limited image of the profession<sup>4,5</sup>.

The obstacles encountered by speech therapists who work in public health are a direct result of professional training, which does not address the dynamics of the SUS and, specifically, the primary care. With training traditionally focused on private care contexts,

speech therapists find it difficult to act as support team for collective actions and intersectoral articulation, such as those in NASFs<sup>4</sup>.

One of the strategies to increase the qualification of professionals to work in the SUS and primary care are the Multi-professional Health Residency Programs (PRMS). The PRMS are guided by SUS principles and guidelines and promote in-service education aiming at integral and interdisciplinary training, with an approach that combines education-service-community<sup>6</sup>. The PRMS, as well as other actions, have contributed to the advancement of speech therapy in primary care, which in turn has improved the population's living conditions. However, the existence of PRMS and resident speech therapists working in SUS facilities through these programs does not necessarily mean these professionals will be absorbed by the SUS network when they complete the program. Then, the scenario of difficult access to this professional category in public health<sup>7</sup> persists, especially at this level of care.

The concept of access has a complex definition the literature, depending on the author and the context. Although from different conceptual perspectives, the term refers to the degree of ease to obtain care and focuses on the relationship between demand and supply of health services<sup>8</sup>. Then, access to health service is characterized in a multidimensional manner, including variables associated with current policies and economic, social, organizational, and technical aspects.

Access is determined by three interrelated dimensions: availability, affordability, and acceptability. Availability involves aspects such as geographic location and the extent of the health care offer when compared to the population demand. Affordability refers to the degree of public or individual funding involved in health expenditures. And acceptability of using the services and adherence to treatments and therapeutic proposals depends on subjective variables such as gender, ethnicity, beliefs, culture, and socio-economic status<sup>9</sup>. Therefore, the concept of access is based on the relationship between the health system and individual and community factors<sup>9</sup>, and inequalities in the access and degree of use of services are the result of a complex network of factors<sup>10</sup>.

Use of services is a central issue in health systems and this concept is described as a direct contact with health professionals, which involves preventive, diagnostic, therapeutic or rehabilitation procedures<sup>9</sup>. Of note, using a service is the result of an interaction

between an individual who seeks certain care and the professional team that welcomes him<sup>11</sup>.

The concept of adherence, in turn, is characterized by the World Health Organization (WHO) based on the context in which the behavior and attitudes of a patient correspond to the guidance provided by a health professional<sup>12</sup>. The nature of non-adherence is determined in a complex manner, and to understand it, subjective measures must be considered for each patient. There is often a reductionist conception regarding the reasons involved in the process of non-adherence to a treatment, which considers patients as passive in their care process. Professionals must be co-responsible in the process of promoting patient adherence to the guidance and interventions performed<sup>13</sup>.

Given this context, this study aims to analyze the profile of children and adolescents referred to speech therapy and characterize the access of these patients to this service in a Basic Health Unit (UBS).

## METHODS

This study was approved by the Research Ethics Committee of the School of Medical Sciences of the Universidade Estadual de Campinas, Brazil (certificate of ethical assessment – CAAE 31606620.2.0000.5404, approval nº 4.296.954). Quantitative data were collected from primary data of medical records, and it was exempt from an informed consent term (ICT). This is a quantitative descriptive-analytical study, considering the factors that characterize the profile of referred patients and subsequent behaviors can be statistically quantified and help understand the context of access to speech therapy.

This study was conducted at the UBS Maria Cecília Ramos de Oliveira - DIC I (Industrial District of Campinas), located in the Southwest District in the city of Campinas, São Paulo, operating in accordance with the Family Health Strategy. Until March 2019, this UBS had four teams: Yellow, Blue, Red, and Green. But in 2019, the Green team was incorporated by a UBS from a neighboring territory. From 2013 to February 2020, this UBS was the practice scenario for the Multiprofessional Residency Program for Child and Adolescent Health Care, of Universidade Estadual de Campinas. Every year, the UBS received four residents: two nurses, a speech-language pathologist, and a nutritionist or pharmacist.

The assignments of the resident speech-language pathologist included health promotion and prevention activities, reception, speech-language pathology

and speech evaluation, as well as care shared with other professionals. He also participated in meetings of referral teams, intersectoral meetings with the education services of the territory, meetings of matrix support and preceptors.

In the city of Campinas, patients with speech-language pathology demands can be referred to evaluation by the UBS referral teams according to the speech-language pathology protocol<sup>14</sup>. In the specific context of this UBS, due to the presence of the resident speech-language pathologist, the assessment was conducted at the UBS, and then the patient could be referred to another service or start the speech therapy at the UBS, depending on the case. For patients admitted for therapy at the UBS, they were informed that, in the event of three consecutive and unjustified absences, a patient would be withdrawn from the service.

With the exception of UBS facilities with residents or interns, the other UBS units in Campinas do not have speech therapists among their staff, which made UBS DIC I an appropriate place to investigate the access to speech therapy in primary care in the territory assigned to this UBS. During the work period of resident speech therapists from May 2013 to February 2020, a worksheet was developed to organize the service provided. With this worksheet, a database was created of patients assisted by resident speech-language pathologists after referral by UBS professionals or who came in spontaneously. The patients assisted by the program and included in this study were aged 0 to 19 years old, since the residency program at this UBS had children and adolescents up to 19 years of age as its target population.

The analysis of the spreadsheet considered variables involving aspects related to access and patient profile, such as: gender, age at referral, speech-language pathology complaint, referral team, mean waiting time, mean speech-language pathology service time, service and professional responsible for referral, post-reception practice, and outcome.

Data collected had tables of frequency of categorical variables with absolute and relative frequency values. The description of quantitative variables was performed with the calculation of measures of position and dispersion (mean, standard deviation, minimum, median and maximum). The Mann-Whitney test was used to assess the association between waiting time and non-attendance to the speech therapy service, with the significance level of 5%. The analyses were processed in a Statistical Analysis System (SAS® 9.4 for Windows).

## RESULTS

From May 2013 to February 2020, 171 patients were referred. Some of them were referred more than once at different times in the study period, so after excluding

these cases, the number of patients was 156, 67.31% were male patients. Regarding the age at referral, most patients were referred between 4 and 6 years old (Table 1).

**Table 1.** Age groups of patients at referral

Age group	Number*	Percent
Less than 1 year	7	4.09
1 to 3 years	31	18.13
4 to 6 years	65	38.01
7 to 9 years	32	18.71
10 to 12 years	15	8.77
13 to 15 years	8	4.68
16 to 18 years	2	1.17
19 years	1	0.58
Not informed	10	5.85
<b>Total</b>	<b>171</b>	<b>100</b>

\*All referrals were considered, not excluding patients referred to the service more than once.

Complaints related to language delay and phonological disorders were the most frequent in the referrals (26.9% and 29.82%, respectively). School problems were also reported, which may have been associated

with speech complaints (8.19%) or not (6.43%). More than 10% of the referred cases had complaints related to orofacial motricity, and 11 of them requested an evaluation of the lingual frenulum (Table 2).

**Table 2.** Complaints of patients referred for evaluation

Complaints	Number*	Percent
Changes in orofacial motricity	18	10.52
Changes in central auditory processing	1	0.58
Voice changes	5	2.92
Breastfeeding issues	1	0.58
Intellectual disability	1	0.58
School issues/reading and writing	11	6.43
Language delay	46	26.90
Dysphagia	1	0.58
Stuttering	10	5.85
Deafness	2	1.17
Suspected autism	3	1.75
Suspected hearing loss	6	3.51
Phonological disorders	51	29.82
Phonological disorders + reading and writing difficulties	14	8.19
Changes in orofacial motricity + language delay	1	0.58
<b>Total</b>	<b>171</b>	<b>100</b>

\*All referrals were considered, including patients referred more than once.

Regarding the access to speech therapy and the distribution of cases by UBS Referral Team, a higher number of referrals was made by the Green Team (30.12%), followed by the Blue Team (26.28%). Table 3

shows that, of the 171 cases referred for evaluation by the resident speech therapist, 78 started a treatment at the UBS. Less than 30% of the cases were referred to other specialties.

**Table 3.** Distribution of cases according to services of origin requesting referral to speech therapy and distribution of cases taking into account conducts after the initial visit

Service	Number	Percent
UBS DIC I*	122	71.34
Odontology**	1	0.58
CAPS***	1	0.58
Schools	27	15.79
Hospital Ouro Verde	4	2.34
Polyclinics****	8	4.64
Unicamp	2	1.17
Not informed	6	3.51
<b>Total</b>	<b>171</b>	<b>100</b>
After initial visit	Number*	Percent
Treatment at UBS DIC I*	78	45.61
Referred to another service	47	27.49
Withdrawals	46	26.90
<b>Total</b>	<b>171</b>	<b>100</b>

\* Basic Health Unit - UBS DIC I.

\*\* Dental service linked with undergraduate or graduate courses in the private network that offer services to the population for a more affordable price.

\*\*\* CAPS - Centro de Atenção Psicossocial (Psychosocial Care Center).

\*\*\*\* Polyclinic – Specialized care service of Campinas SUS network.

Such referrals cover the most diverse speech-language pathology complaints, which depended on the speech-language pathology evaluation and/or intervention or other professionals from specialized or hospital care. Regarding the post-reception practice, among the cases that remained in the UBS, that is, that were not referred to other levels of health care, 96.15%

(75 patients) started speech therapy at the UBS. Also, 2.56% of the cases were treated by the neonatal care team and 1.28% via the Parents and Children Group.

Table 3 also shows that 46 children were called for an appointment and did not attend it, so they were dismissed for the reasons described in Table 4.

**Table 4.** Reasons for withdrawal after visit or attempted visit and outcomes of the cases after the speech therapy and non-attendance

Reason for withdrawal after visit or attempted visit*	Number	Percent
Follow-up performed by another service	3	6.52
Moved to another region	2	4.35
No complaint anymore	3	6.52
Guidance	9	19.57
Unsuccessful contact attempt	9	19.57
Did not attend visit	16	34.78
Not informed	4	8.70
<b>Total</b>	<b>46</b>	<b>100</b>
Outcomes after starting speech therapy at the UBS	Number	Percent
Speech therapy discharge	19	24.36
Withdrawal – Unsuccessful contact attempt	1	1.28
Withdrawal – Absence	25	32.05
Withdrawal – Time issues	1	1.28
Withdrawal – Moved to another region	1	1.28
Withdrawal – Follow-up performed by another service	2	2.56
Withdrawal – No complaint anymore	9	11.54
Referred to another service	19	24.36
Not informed	1	1.28
<b>Total</b>	<b>78</b>	<b>100</b>

\*The first visit is the patient's first contact with the resident speech therapist after referral to speech therapy. After the first visit, the professional, in some cases, guided the patient to speech therapy at the UBS or referred to another level of health care (specialty).

Regarding the professionals responsible for the referrals, pediatricians made 51.46% of all referrals, followed by the schools in the UBS territory with 15.79% of referrals, and the UBS nursing team, with 12.86%. An

increase in the number of referrals and treated patients was observed between 2013 and 2020, as indicated in Table 5.

**Table 5.** Annual number of referrals and visits

Year	Referrals	Percent	Visits	Percent
2013	7	4.09	6	3.51
2014	7	4.09	23	13.45
2015	30	17.54	15	8.77
2016	18	10.53	43	25.15
2017	34	19.88	35	20.47
2018	30	17.54	28	16.37
2019	29	16.96	13	7.60
2020*	6	3.51	8	4.68
Not informed	10	5.85	0	0
<b>Total</b>	<b>171</b>	<b>100</b>	<b>171</b>	<b>100</b>

\*The number of referrals and visits in 2020 considers January and February alone, due to the COVID-19 pandemic.

Table 6 shows that patients who did not attend the appointment had a waiting time of more than one year, while those who attended waited less than six months.

The statistical analysis showed a statistically significant relationship between these variables: waiting time and attendance at the speech therapy service.

**Table 6.** Relationship between “did not attend visit” and waiting time in days

	N	Mean	Standard deviation	Minimum	Median	Maximum	p value
Attended	130	141.05	201.70	0	601.50	958	<0.0001
Did not attend	14	566.14	335.77	0	55	1066	

**Caption:** N = number of subjects, not including patients referred more than once to the service or those with missing data in their medical record. Mean value in days. Mann-Whitney test was used.

Of all 78 children who started speech therapy at the UBS, only 24.36% reached the speech therapy discharge and more than 30% of the patients were withdrawn due to unjustified absences from previously scheduled appointments (Table 7). Of all 70 patients who started speech therapy at the UBS after evaluation,

the time of treatment was, on average, 321 days, with the maximum time of care 1,142 days, standard deviation 318.21, and median 208.50. Eight cases were excluded in this specific analysis due to the lack of data regarding the start and end of speech therapy.

**Table 7.** Distribution of outcomes after speech therapy

Outcome	Frequency	Percent
Speech therapy discharge	19	24.36
Withdrawal – Unsuccessful contact attempt	1	1.28
Withdrawal – Absence	25	32.05
Withdrawal – Time issues	1	1.28
Withdrawal – Moved to another region	1	1.28
Withdrawal – Moved to another region	2	2.56
Withdrawal – No complaint anymore	9	11.54
Referred to another service	19	24.36
Not informed	1	1.28
Total	78	100

## DISCUSSION

The patients referred for speech evaluation at UBS DIC I were predominantly male subjects aged 4 to 6 years, with speech complaints related to oral language. This profile agrees with other profiles reported in several studies in this field<sup>15-20</sup>. The prevalence of male patients with alterations in language development is justified in the literature based on neurological, maturational, hormonal, and even genetic differences between genders<sup>21</sup>. A study involving the application of a test to track speech disorders in children from the 1st year of elementary school concluded these alterations occur

2.53 times more often in male individuals than in female individuals<sup>22</sup>.

The environment where the child develops and the opportunities associated will guide the child's acquisition of language. Then, the different types of interaction of the child, the environment, and child upbringing may justify the differences in language development between boys and girls<sup>16</sup>. However, studies highlight the lack of scientific evidence of the relationship between speech changes and the higher occurrence among male individuals<sup>18,19</sup>.

The predominance of patients referred for evaluation aged 4 to 6 years is linked with the fact that child language complaints are often identified in the first

years of school life. The beginning of a child's new social relationships besides the family context offers parents and educators opportunities to focus on the child's language. It is at school that language and interaction are tested when they are compared between peers, a reality that requires more family attention to the child's communication skills<sup>16</sup>.

A study conducted with two language assessment instruments in public daycare centers in Belo Horizonte found a high prevalence of complaints among children aged 4 to 6 years. With instrument 1, 45% of the children evaluated had their speech classified as inadequate and, with instrument 2, 53.3% of the sample did not obtain adequate results for the age group<sup>23</sup>. These communication challenges, when not overcome, will be obstacles to full school development – children with speech disorders are 30% more likely to fail school when compared to those without complaints<sup>24</sup>.

The school acts as a screen and highlights previously undetected communication issues that may influence the performance of pre-linguistic skills and learning how to read<sup>16</sup>. Even if the school is able to detect these changes, they will not necessarily occur at the right time for intervention.

In the reality of public schools in Belo Horizonte, for example, a study investigated the sensitivity of educators in detecting language alterations among children aged 2 to 4 years and eleven months. It found that educators had difficulties in identifying children with language development issues, especially in the age group of 2 to 4 years of age, showing higher sensitivity only after 3 years of age<sup>25</sup>.

The school acts as an important part of the network of patient access to speech services because, when it is not responsible for the referral itself, it raises in families the perception of required care by unveiling issues not previously identified at the family level.

By contextualizing these data and the results obtained in this study, most children referred to the resident speech therapist at 4 to 6 years of age could have received an intervention in the preschool phase. The detection of alterations in language acquisition between 2 and 3 years old reduces by 30% the need for other therapies when the child reaches 8 years of age<sup>26</sup>.

Then, children with language development delay between 1 and 3 years of age should be referred for evaluation and, if necessary, start speech therapy. According to the Speech-Language Pathology Protocol of the city of Campinas, children over 3 years of age with

speech delay present greater vulnerability and should be referred for evaluation with priority. According to this protocol, promotion and prevention actions must be performed at the UBS for children under 3 years of age with language development delay, including actions to eliminate harmful habits<sup>14</sup>, which often cause speech disorders.

Based on the rates of speech alterations and the age group in which they occur, preventive speech-language assessment and therapy should occur in the preschool phase<sup>22</sup>. The insertion of speech therapists in the school context should promote collective preventive actions and involve guidance to educators and other members of the pedagogical teams aiming at early diagnosis and increase the quality of life in the school environment<sup>27</sup>.

Confirming the role of primary care as the main access for patients to services of the Brazilian National Health System (SUS)<sup>28</sup>, in our study, the UBS was the service responsible for 71.34% of the referrals. A hypothesis is that the presence of a resident speech therapist at the UBS highlights the performance of this professional category to other professionals and patients, thus, encouraging referrals. These data help understand the potential of the PRMS to increase the population's opportunities for access to health services, taking into account that speech therapists are not often part of the health team in primary care. Without the PRMS, UBS DIC I patients would be sent to a speech-language pathology assessment according to the municipal flow, depending on the team's adherence to the matrix support and remotely managing it among other services and the territory of this UBS.

In our study, pediatricians were responsible for a substantial number of total referrals (51.46%). Another study<sup>15</sup> also identified pediatricians as the main professional responsible for referrals for speech therapy evaluation. Other studies<sup>17,18</sup> identified physicians as responsible for most referrals, a fact that reinforces the model of doctor-centered organization that is still common in many health facilities where this professional has exclusive functions, which can be shared with other primary care professionals.

In this study, the relevant role of the pediatrician in referrals can also be justified taking into account the target audience of the residency program in question and the interprofessional actions between the UBS pediatricians and the resident speech therapists working at the UBS. The presence of a speech therapist at the UBS sensitizes the team professionals regarding

the demands met by speech therapy, promoting more chances of referral and, therefore, access to speech-language pathology evaluation. Interprofessional actions refer to the work of professionals from different categories in a shared and interactive learning process, aiming at the development of collaborative professional skills for the provision of comprehensive care to patients<sup>29</sup>.

In second place, schools were responsible for 27 of total 171 referrals. This important contribution, already observed in other health services<sup>17,18</sup>, may be linked with periodic meetings of UBS professionals (occupational therapist, psychologist, community health agent, and multi-professional residents) and the pedagogical teams of the schools in the territory. This intersectoral partnership, established through the discussion of cases, promotes knowledge of professionals, allowing them to identify signs of risk to child development, with demands that may or may not be related to speech-language pathology. In addition, with the mediation of the resident speech-language pathologist, topics related to speech-language pathology were occasionally discussed based on the demands raised in previous meetings. Then, although the work of the resident speech therapist is not linked with the NASF, his work practice is aligned with the perspectives of this service, with pedagogical actions that promote intersectoral partnerships, which strengthen the primary care actions in the territory, facilitating access to the population to this service.

The nursing team was also an important agent in referrals, responsible for more than 10% of total referrals. In the service dynamics of this UBS, nursing professionals assumed the initial reception of patients. This initial contact with patients contributes to their number of referrals. Such data show that training this professional category regarding speech-language pathology issues can be an important action to be promoted by the district and/or municipal administration. Another possible intervention for the early identification of speech-language pathology demands would be through training of community health agents, with an active search for cases in the community, and encouraging population to seek a speech-language pathology assessment before the beginning of school life.

When analyzing the longitudinal evolution of the number of referrals and patients treated annually, an increase was observed since the beginning of the residency program at the UBS. It is the result of the

partnership between the UBS and the resident speech therapists who worked there between 2013 and 2020, and it reinforces the potential of the Health Residency Programs as facilitators of access to speech-language pathology assessment and speech therapy. The presence of a resident speech therapist allows the population access to this professional category, a reality recognized in another study that relates the performance of the speech-language therapist in primary care via PRSM with comprehensive and coordinated care in childhood and the reduction of the burden in specialized services<sup>30</sup>.

The variations observed with a decrease or increase in the number of referrals also show the difficulties related to the annual resident turnover at the UBS. The resident assumes the service right after graduation but needs an adaptation period to understand the service flow and particularities. In addition, external effects have an influence, such as the epidemic of dengue in the city of Campinas in 2015, which made it difficult to maintain elective care, including speech evaluation and therapy. In 2016, important changes were implemented in the teams with the departure of a pediatrician from the Green team and the shortage of nurses in the Blue team.

With the speech service at the UBS, patients could continue receiving the service at the UBS or could be referred to other services in the Municipal Network of Campinas. When referred to other services, the follow-up of the case would take place in the municipal health network. The cases with follow-ups at the UBS could be included in speech therapy, treated by the neonatal care team, or inserted in the Parents and Children Group of the UBS. The frequency of speech-language pathology visits was variable: the sessions took place weekly, every 15 days, or even monthly.

After an evaluation performed by the resident speech therapist, 45.61% of the referrals started treatment at the UBS, in a group or individually. The solubility and the ability to meet the demand show the potential actions for the speech therapist in primary care and the possibility of reducing the burden of other levels of health care (specialties), since less than 30% of the cases were directly referred to other services. Children referred to other services after starting speech therapy possibly had their follow-up at the UBS to keep the bond with the service until they were scheduled to the reference services according to their observed demands (Policlínica II; Saber Interdisciplinar em

Aprendizagem (Sabiá), a reference service for learning issues; APAE).

Regarding the substantial number of withdrawals after non-attendance for evaluation, it is important to reflect on the low adherence to care. All patients referred for speech therapy were instructed about the adherence to the therapeutic guidelines and that they would be withdrawn from the service in cases of three unjustified absences, moving to another region, unsuccessful contact, and speech therapy follow-up in another service.

Long waiting time of families for the speech-language pathology evaluation was discussed as a determinant in the high number of withdrawals, since 16 cases did not attend the visit and, even after several attempts to contact and reschedule, they did not attend the evaluation. In addition, patients who did not attend the visit even after rescheduling had a waiting time for a speech-language pathology assessment of more than one year, while those who attended the visit waited less than 6 months to be called. The inferential statistical analysis that associated the waiting time and non-attendance to speech therapy and the literature<sup>31</sup> on the subject recognize the impact of waiting time on patient adherence to health care.

The concept of access proposed by the Committee on Monitoring Access to Personal Health Care Services of the Institute of Medicine, in the United States, highlights the temporal dimension of access is crucial. It argues that access to the service should occur at the right time so that post-intervention results are better<sup>31</sup>. The long waiting time for evaluation discourages patients; however it is necessary to emphasize that the population's non-adherence to scheduled visits further increases the waiting time. The attempts to contact and reschedule take time and unjustified absences from scheduled sessions become wasted hours of the professionals in question. The difficult adherence is not limited to visits, since the percentage of patients who started speech therapy and were withdrawn due to absence (32.05%) exceeds the number of patients who reached the speech therapy discharge (24.36%).

The literature has shown that referrals to the speech-language pathology service performed by other professionals or patients who came in spontaneously do not guarantee patient adherence to treatment<sup>32</sup>. Using a service involves variables related to access and patient adherence to the service. Second, the main reasons affecting patient adherence to post-visit interventions are questioned.

The therapeutic work that characterizes the activities of speech-language pathology professionals demands a series of visits of the same patient, a reality that hinders the recruitment of new patients and, consequently, the access to this service. Even if attempts are made to provide group care, complex cases require individual care and other patients are treated individually due to the historical care provision centered on pathology, and not on health promotion. Also, the activities of speech therapists in primary care may become complex, since many cases require long-term rehabilitation interventions. This dynamic is often not recognized by patients, who use of other services of the UBS punctually or with extended time intervals, such as monthly or biannual consultations with the medical team, laboratory tests, dressings, and application of the vaccines, for example<sup>20</sup>.

As a study limitation, it did not investigate the reasons for non-adherence of patients, and the necessary changes to be adopted by patients and services to promote significant adherence to speech therapy in the context of public health. We had planned to investigate the difficulties of adherence to speech therapy through a qualitative study; however, face-to-face interviews with patients became unfeasible due to the beginning of the coronavirus pandemic.

## CONCLUSION

Based on study data, the referrals for speech-language pathology assessment in primary care were predominantly of male subjects aged 4 to 6 years, with speech-language pathology complaints related to oral language. Such referrals were mostly from the UBS itself, followed by those from schools in the territory assigned to the UBS.

Our study showed difficulties in accessing speech-language pathology service, which were observed, for example, in the long waiting time of patients and the low adherence of patients to speech therapy, generating withdrawals, due to absence. The inferential statistical analysis of the association between waiting time and non-attendance to speech therapy showed a statistically significant relationship, indicating the impact of temporal aspects on adherence to speech therapy.

On the other hand, the presence of a resident speech-language pathologist at the UBS contributed positively to expanding access, as it absorbed patients undergoing speech therapy in primary care, and those who had no sign of starting therapy at this level of service could be referred to speech-language pathology

services of specialized care in a more qualified manner, after the initial visit to the speech-language pathologist.

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