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Organization of the referral and counter-referral system in a speech-language pathology and audiology clinic-school

Organização do sistema de referência e contrarreferência de uma clínica-escola fonoaudiológica

ABSTRACT

Objective: To analyze the effectiveness of the referral and counter-referral flow in a speech-language pathology and audiology clinic-school and to characterize the patients' profiles. **Methods:** Evaluation, retrospective, and prospective study, in which 503 patient records, without age restriction, were selected from a clinic-school and the following variables were analyzed: demographic information, speech and hearing diagnosis, and references. Patients were distributed into two groups according to the referrals made: internal (G1, n=341) and external (G2, n=162) to the clinic-school. **Results:** A prevalence of male subjects under 12 years of age and with diagnosis of language disorders (primary and secondary) was found. It was observed that 83% patients in G1 were recalled for evaluation and speech therapy after an average of 7 months of waiting; and from the patients in G2 that were contacted (n=101), 13.9% were summoned and are satisfied with the place indicated for therapy after an average of 4 months of waiting. From those who did not receive care, 46% sought another service, and of these, 72.5% were successful. **Conclusion:** The data show the effectiveness and appropriateness of referrals made internally, suggesting that, when the team works together, the network operates more adequately. However, in relation to external referrals, they did not reach the proposed goals, indicating a lack of speech-language pathologists in public services and the low interest of patients in looking for other places of care.

RESUMO

Objetivo: Analisar a eficácia do fluxo de referência e contrarreferência fonoaudiológica realizados em uma clínica-escola e caracterizar o perfil dos usuários atendidos. **Métodos:** Estudo do tipo avaliativo, retrospectivo e prospectivo, no qual foram selecionados 503 prontuários de pacientes sem restrição de idade atendidos numa clínica-escola e analisadas as seguintes variáveis: informações demográficas, hipótese diagnóstica fonoaudiológica e conduta fonoaudiológica. Os pacientes foram distribuídos em dois grupos, segundo os encaminhamentos realizados: internos (G1, n=341) e externos (G2, n=162) à própria clínica-escola. **Resultados:** Prevaleram os sujeitos do gênero masculino, com até 12 anos de idade e hipótese diagnóstica fonoaudiológica de alterações de linguagem oral de origem primária e secundária. Foi observado que 83% dos pacientes do G1 foram convocados para avaliação e terapia fonoaudiológica após, em média, 7 meses de espera; e, que dos pacientes contatados do G2 (n=101), 13,9% foram convocados e estão satisfeitos com o local indicado para terapia após, em média, 4 meses de espera. Daqueles que não conseguiram atendimento, 46% procuraram outro serviço, sendo que desses, 72,5% obtiveram êxito. **Conclusão:** Foi constatada a eficácia e adequação dos encaminhamentos realizados internamente, sugerindo que quando a equipe trabalha com objetivo comum, a rede funciona de maneira mais adequada. Entretanto, em relação aos encaminhamentos externos, esses não atingiram as metas propostas, indicando a falta de fonoaudiólogos em serviços públicos e o baixo interesse do usuário em buscar outros locais de atendimento.

Study carried out at Speech-Language Pathology and Audiology Investigation Laboratory in Primary Health Care, School of Medicine, Universidade de São Paulo – USP – São Paulo (SP), Brazil.

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Conflict of interests: nothing to declare.

INTRODUCTION

Speech-language pathology and audiology screening is an important procedure performed to detect alterations in the scopes of language, voice, cognition, hearing, orofacial motor skills, and speech⁽¹⁾. Studies indicated that the early detection and rehabilitation of alterations can limit or minimize possible consequences⁽²⁾. It is also satisfactorily cost-effective because it does not require specialized equipment and allows referral for speech-language pathology and audiology therapy at the most appropriate health care level as soon as possible. And, coupled with epidemiological studies, it helps defining the demand, the territorial diagnosis, and the implementation of appropriate public policies where the services are provided^(3,4).

Speech-language pathology and audiology is included in the public services. Therefore, it is present in the Unified Health System (SUS), which works in health care networks, covering the three levels of care according to the complexity of the equipment used. Primary health care is characterized as the door to SUS and acts as the organizer of the network, including protection promotion, prevention, diagnosis, rehabilitation, and health maintenance actions^(5,6). Medium and high complexity actions require specialized professionals and technological resources that enable the diagnosis and the therapeutic process and are focused on the ambulatory and hospital sectors⁽⁷⁾.

Studies showed that health networks can provide a more effective and comprehensive care when they have a referral and counter-referral system^(8,9). Referral can be understood as the referral of a patient from primary care to a more complex service, when a more specialized care is needed. Counter-referral occurs when the patient is referred back to the primary care level, in basic health units^(10,11).

In this context, the Speech-Language Pathology and Audiology Investigation Laboratory in Primary Health Care of the Department of Physical Therapy, Speech-Language Pathology and Audiology and Occupational Therapy of the School of Medicine of Universidade de São Paulo is a clinic-school that provides public health care, performing speech-language pathology and audiology screenings and referrals to speech-language pathology and audiology therapy in the clinic itself (internal) and in other public health services (external).

In the national literature, several studies are available that describe the sociodemographic and speech-language pathology and audiology profile of the screened population in clinic-schools^(12,13), but these do not verify the effectiveness of referrals made⁽¹³⁾.

This study aimed to analyze the effectiveness of referrals in speech-language pathology and audiology held in a clinic-school, specifically to outline the demographic and speech-language pathology and audiology profile of the population served and to analyze the referral and counter-referral flow after the speech-language pathology and audiology screening.

METHODS

This is an evaluative, retrospective, and prospective study, which aims to analyze the referral of patients who sought treatment

in the clinic-school and were seen at the Speech-Language Pathology and Audiology Investigation Laboratory in Primary Health Care (LIFAPS) of the Department of Physical Therapy, Speech-Language Pathology and Audiology and Occupational Therapy of the School of Medicine of Universidade de São Paulo. It was approved by the research ethics committee of the School of Medicine of Universidade de São Paulo (No. 072/11). All participants signed the informed consent at the time of screening.

The patients who completed the screening in LIFAPS, regardless of age, gender, and place of residence, and those who were treated between 2010 and 2012 were included in the study. The only exclusion criterion was the patient or guardian not consenting participation in the study.

The medical records of 503 patients were divided into two groups:

- Group 1 (G1; n=341): patients referred for care at the clinic of the Speech-Language Pathology and Audiology course of Universidade de São Paulo;
- Group 2 (G2, n=162): patients referred for care outside of the Speech-Language Pathology and Audiology course of Universidade de São Paulo.

The study comprised three stages. In stage 1 – demographic and speech-language pathology and audiology characterization of participants, a survey of the medical records was conducted, and demographic information (gender and age) was collected, and diagnosis and referrals were made. In stage 2 – analysis of internal referrals of participants in G1, coordinators responsible for the laboratories of speech-language pathology and audiology research of the clinic-school of Universidade de São Paulo were requested to collect information on the speech-language pathology and audiology conduct performed at screening: number of patients enrolled for service (including those in therapeutic care and those who have been assessed and are waiting for treatment); how many months these patients had to wait to start therapy; and the number of patients who did not fit into the laboratory profile and were referred to other services after full clinical assessment. In stage 3 – analysis of external referrals of participants in G2, the screened patients or their legal guardians were contacted by phone. A structured interview was conducted to obtain the following information:

1. Did the patient get speech-language pathology and audiology treatment in the referred service?
2. If so, how long did they wait to start therapy and what was their level of satisfaction with the care received (satisfied or dissatisfied)?
3. If not, indicate why, and if the patient got treatment elsewhere.

The variables were categorized as follows:

- Demographic: gender (male and female) and age groups (from 1 day to 5 years and 11 months, 6 years to 12 years and 11 months, 13 years to 17 years and 11 months, 18 years to 59 years and 11 months, and over 60 years);
- Diagnostic hypothesis: language disorder (characterized as primary); alteration in language characteristic of neurological problem, autism spectrum disorder, and syndrome,

language disorder due to hearing loss (characterized as secondary); alteration in orofacial myofunctional system; voice alteration; phonological disorder; alteration in reading and writing; alteration in fluency; more than one diagnosis; no alterations in speech-language or hearing; and others;

- Speech-language pathology and audiology conduct: internal and external referral.

Information on all variables was entered into a Microsoft® Excel spreadsheet by year of collection (2010, 2011, and 2012) and subjected to statistical analysis.

RESULTS

Demographic and speech-language pathology and audiology profile

In G1 (n=341), a predominance of males (n=226) and of the age group with children up to 5 years and 11 months (n=113) was observed. And, in G2 (n=162), a predominance of males (n=105) and of the age group between 6 years and 12 years and 11 months (n=82) was observed (Table 1).

On the diagnostic hypotheses, G1 was found to have a predominance of alteration in language, be it primary or due to other diseases (frequency of occurrence of 29.9%), followed by phonological disorder (19.6%), alteration in voice (13.8%), and alterations in orofacial myofunctional system (Table 2).

In G2, a predominance of more than one diagnostic hypothesis (17.9%) was observed, followed by phonological disorder (11.7%) and alteration in language (11.7%). A frequency of 33.8% primary alterations in language coupled with those resulting from other diseases (secondary) was found in this group.

Table 1. Demographic characterization of the 503 participants, by groups

Variables	Group 1 (internal referral) n (%)	Group 2 (external referral) n (%)
Gender		
Female	115 (33.7)	57 (35.2)
Male	226 (66.3)	105 (64.8)
Age group		
Up to 5 years and 11 months	113 (33.1)	47 (29.1)
6 years to 12 years and 11 months	110 (32.3)	82 (50.6)
13 years to 17 years and 11 months	15 (4.4)	18 (11.1)
18 years to 59 years and 11 months	87 (25.5)	14 (8.6)
Above 60 years	16 (4.7)	01 (0.6)
Total	341 (100)	162 (100)

Analysis of referrals made in G1 (internal referral)

Of the patients who received internal referral (n=341), the majority was summoned for speech-language pathology and audiology evaluation and therapy (83%); the other patients were referred from speech-language pathology and audiology research laboratories to services outside of the clinic-school (17%), indicating that these laboratories could not provide service according to the actual needs of the patient (or that their speech-language pathology and audiology profile did not meet the laboratory’s inclusion criteria). The average waiting time for patients to start speech-language pathology and audiology therapy at the clinic itself was equal to 7 months (Figure 1).

Analysis of referrals made in G2 (external referrals)

Of the patients who received external referrals (n=162), contact by telephone was not possible with 61 (37.65%) patients or guardians, as the phone number did not match the number provided, or they did not answer the phone after several attempts, or the phone number did not exist.

Table 2. Distribution of the diagnostic hypotheses of 503 patients, by groups

Variables	Group 1 (internal referral) n (%)	Group 2 (external referral) n (%)
Alteration in language characteristic of neurological problem	23 (6.7)	9 (5.5)
Alteration in language characteristic of Autism Spectrum Disorder	35 (10.3)	5 (3.1)
Alteration in language characteristic of syndrome	8 (2.3)	14 (8.6)
Alteration in language	34 (10)	19 (11.7)
Language disorder due to hearing loss	2 (0.6)	8 (4.9)
Alteration in the orofacial myofunctional system	43 (12.6)	19 (11.7)
Alteration in voice	47 (13.8)	1 (0.6)
Phonological disorder	67 (19.6)	25 (15.4)
Alteration in reading and writing	26 (7.6)	19 (11.7)
Alteration in fluency	33 (9.7)	3 (1.8)
More than one diagnosis	22 (6.5)	29 (17.9)
No alterations in speech-language or hearing	1 (0.3)	–
Others	–	11 (6.8)

Of the 101 patients contacted, 13.9% were summoned to therapy and waited an average of 4 months for the beginning of treatment. Among these, 86.1% patients reported being satisfied with the care provided in the place they were referred to (Figure 2).

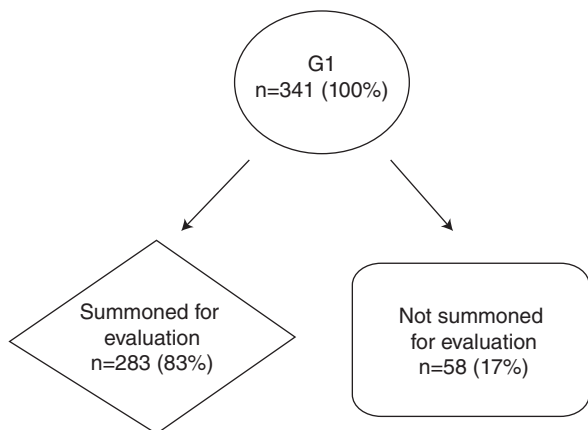


Figure 1. Flowchart of patients in G1

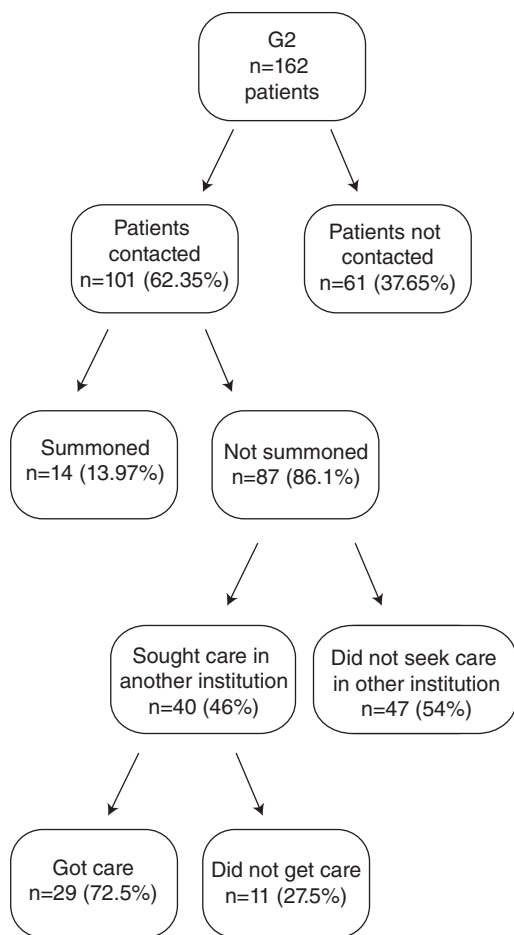
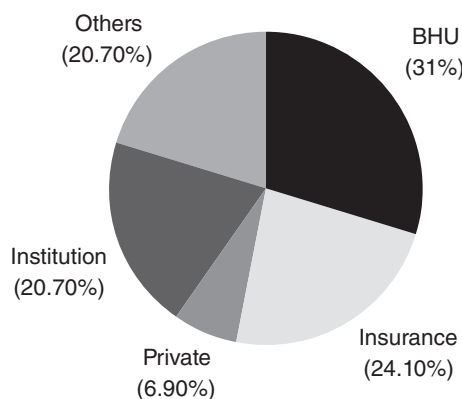


Figure 2. Flowchart of patients in G2

Most of the G2 patients contacted could not get treatment in the location they were referred to (86.1%) (Figure 2), and provided several reasons for this: there was no opening (25.3%), no interest of the patient or guardian to seek the indicated institution (22.9%), the patient's name is on the waiting list for assessment or on the call list for therapy (13.8%), the institution did not fit the profile established by the patient's speech-language pathology and audiology diagnostic hypothesis (11.5%), the institution was too far from the patient's house (8.1%), hours of operation were incompatible with the patient's activities (4.6%), there was no speech-language pathologist on the institution (4.6%), and other reasons (9.2%).

Still, regarding the patients contacted who failed to get an opening at the institution they were referred to (n=87), 46% (n=40) sought another institution for therapy; and, of these, 72.5% (n=29) got speech-language pathology and audiology therapy in basic health units (31%), through health insurance (24.1%) or other institutions (20.7%) (Figure 3).



Caption: BHU = Basic Health Unit

Figure 3. Distribution of places where patients in G2 sought care (n=40)

DISCUSSION

To analyze the effectiveness of speech-language pathology and audiology referrals made in LIFAPS, 341 patients in G1 and 101 in G2 were monitored, totaling 442 patients.

It was evidenced that the demographic profile of the total population (n=503) consisted of mostly male patients, what we know is a reality in speech-language pathology and audiology services^(14,15), and that may be related to slower brain maturation, genetic factors, or social factors (child interaction with the environment they live in), especially in regard to language disorders^(4,12,13,16,17).

There was a predominance of children (under 12 years and 11 months old) with alterations in language (79.7%), probably because parents and teachers of this age group are more attentive to the development of oral and written language^(4,12,13,16,17). However, the long extension of this age group may be related to the origin of the speech-language

disorder, which can be developmental or acquired; to the time it took to the child's guardian to realize and seek care; and to the time it took to perform the screening⁽¹⁶⁾. Children come to speech-language pathology and audiology screenings at an increasingly early age, but there are still a significant number of individuals seeking therapy later in life. This can occur due to lack of information (not knowing what is the role of the speech-language pathologist), erroneous guidance (parents are advised by health and education professionals to wait for 5 years to seek care), and lack of professional speech-language pathologists in the public service.

The predominant diagnostic hypotheses (primary and secondary alterations in language) corroborate previous study, which highlights the importance of a more homogeneous classification of these to facilitate the comparison of survey data⁽¹²⁾. There is a lack of unanimity in national scientific production on the nomenclature used in diagnostic hypotheses, which interferes in comparing the results of this study with others. However, the categories selected for this study facilitated the classification of this variable and are used in the clinic-school. At the same time, language issues are extremely complex, and labeling all the different situations that are affected by this disorder simply as alterations in language would not be correct. A study with methodological rigor is necessary for discussing this category.

For a long time, phonological and fluency alterations were predominant in the clinic-school in question^(14,18), but, for a few years, alterations in language have been prevalent, showing that speech-language disorders can prevail differently over time and that the population have a better understanding of the different areas of expertise of a speech-language pathologist.

Most individuals in G1 (83%) got care in the clinic-school's internal laboratories, showing the effectiveness and suitability of the referral process performed. This is probably due to the adequacy of the instruments, procedures, and analysis of the information used in screening⁽¹³⁾, ease of articulation between professionals in the clinic and the LIFAPS team.

In contrast, only for a minority of individuals contacted in G2 (13.9%), referral was effective. The reasons may be related to reduced number of speech-language pathologists in public health services, which increases the waiting time for service and reduces the number of openings; and also the lack of organization and communication of the professionals who make up the health care network^(10,16,19,20). The number of speech-language pathologists in public health services is still very low. The premise of one speech-language pathologist for every 10,000 inhabitants is not put in practice^(21,22).

In cases in which there was no interest in seeking the institution indicated (n=20), it is possible that the family did not realize the impact of the speech-language disorder in the social performance of those patients, and how therapy could reverse and/or minimize this impact. Guidance to the patient should always be given clearly and cautiously during screening, that is, to make sure that the patient or guardian understands what the alterations are, their consequences, and the referrals; and inform that the referral given is one alternative for the patient, because the care sectors of basic health units (BHUs) and institutions

must be structured to assist the patient to find the appropriate speech-language pathology and audiology therapy services.

In another context, the success of the few external referrals (14%) may be related to the availability of services at BHUs and their access by the population, such as the services offered and consultation hours⁽¹⁰⁾. Therefore, for the referral and counter-referral system to be effective, it is necessary to refer the patient to the institution that meets their needs, have adequate resources, and is close to their house, which is not an easy task. That said, it is noteworthy that the institution that guaranteed speech-language pathology and audiology services the most were BHUs, showing the importance of the speech-language pathologist in primary health care and in the counter-referral process.

The relationship between the primary, secondary, and tertiary health services is essential to the health care network to function properly^(10,20). Often referrals are made without information on the presence of a speech-language pathologist in the medical team and on the profile serviced in the referred institution. Similarly, there is a need for more careful counter-referrals. Very few cases are referred to the BHUs after treatment in secondary or tertiary services, showing a failure in the health care network.

CONCLUSION

It can be concluded that when the service works in coordination between professionals in the primary, secondary, and tertiary services, the referral and counter-referral processes occur in an effective manner, and the individual's right to health is guaranteed.

However, when that coordination does not happen, or is faulty, coupled with the small number of speech-language pathologists in the public health system, the user has no access to speech-language pathology and audiology therapy services. The need to improve the form adopted for external referrals made, either for referrals or counter-referrals, is noteworthy because referral letter used and the list of referral institutions available were not sufficient to support the completion of the process. In addition, family awareness about the importance of seeking the referred service should be improved.

Further study is suggested to monitor the referrals and counter-referrals in speech-language pathology and audiology services, so that the principles of SUS can be followed.

**DRMA was responsible for the project's design and planning, analysis and interpretation of data, contributed significantly to the drafting of the manuscript and to the critical review of the content, and was also responsible for the last corrections; SFE participated in the collection, analysis and interpretation of data, contributed significantly to the drafting of the manuscript and participated in the approval of the final version of the manuscript; MIVC helped in the analysis and interpretation of data, contributed to the drafting of the manuscript and to the critical review of the content and participated in the final approval of the manuscript.*

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