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Complaints and diagnostic hypotheses of patients evaluated in outpatient speech, language pathology and audiology services

Queixas e hipóteses diagnósticas de pacientes avaliados em serviço fonoaudiológico ambulatorial

Quejas e hipótesis diagnosticas de pacientes evaluados en un servicio de ambulatorio fonoaudiológico

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Abstract

Objective: To describe complaints and diagnostic hypotheses of patients evaluated in outpatient speech, language pathology and audiology services and verify their association with sociodemographic and clinical care aspects. **Methods:** This is an observational analytic cross-sectional study, based on retrospective analysis of medical records of patients evaluated between 2010 and 2014. The collected data constituted the number of complaints and number of diagnostic hypotheses response variables, and the sociodemographic and clinical care explanatory variables. Measures of central tendency and variability, frequency distribution and Pearson Chi-square Test were used to check associations. **Results:** 1032 patients were referred for evaluation and 556 medical records were included, being 181 female and 375 male, aged between one month and 16 years. In the anamnesis there was a predominance of two to five complaints, being disorders of speech, written language and social interaction the most quoted ones. In the evaluation, most of the medical records of the patients described three to eight diagnostic

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Authors' contributions:
MGSB: Bibliographic review, data collection, writing, data analysis, corrections, drafting and approval of the final version
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hypotheses with prevalence of alterations in the oral language, in the cognitive aspects of language and in the orofacial myology. There was a significant statistical association between number of complaints and age group, patient's level of education and responsible for the complaint and between number of diagnostic hypotheses and age groups, mother's level of education and number of conducts. **Conclusion:** The mismatch between the type and number of complaints reported and diagnostic hypotheses verified can be frequent and attention should be paid to this fact during the anamnesis and evaluation processes.

Keywords: Speech, Language and Hearing Sciences; Medical History Taking; Evaluation; Diagnosis; Child; Adolescent.

Resumo

Objetivo: Descrever queixas e hipóteses diagnósticas de pacientes avaliados em serviço fonoaudiológico ambulatorial e verificar suas associações com aspectos sociodemográficos e clínico-assistenciais. **Método:** Trata-se de estudo observacional, analítico e transversal, baseado em análise retrospectiva de prontuários pertencentes a pacientes avaliados entre 2010 e 2014. Os dados coletados constituíram as variáveis resposta número de queixas e o número de hipóteses diagnósticas e as variáveis explicativas sóciodemográficas e clínico-assistenciais. Foram utilizadas medidas de tendência central e variabilidade, distribuição de frequências e o Teste Qui-Quadrado de Pearson, para verificar associações. **Resultados:** Foram encaminhados para avaliação 1032 pacientes e incluídos 556 prontuários, sendo 181 indivíduos do sexo feminino e 375 do sexo masculino, com idades entre um mês e 16 anos. Em anamnese houve predomínio de duas a cinco queixas, sendo mais citadas as alterações de fala, linguagem escrita e de interação social. Na avaliação, a maioria dos prontuários dos pacientes descrevia de três a oito hipóteses diagnósticas, com prevalência das alterações na linguagem oral, nos aspectos cognitivos da linguagem e na motricidade orofacial. Houve associação com significativa estatística entre o número de queixas com faixas etárias, escolaridade do paciente e responsável pela queixa e, entre o número de hipóteses diagnósticas com faixas etárias, escolaridade materna e número de condutas. **Conclusão:** A não correspondência entre o tipo e o número de queixas referidas e hipóteses diagnósticas verificadas podem ser frequentes e deve-se atentar a este fato durante os processos de anamnese e avaliação.

Palavras-chave: Fonoaudiologia; Anamnese; Avaliação; Diagnóstico; Criança; Adolescente.

Resumen

Objetivos: describir quejas e hipótesis diagnosticas de pacientes evaluados en un ambulatorio de Fonoaudiología y comprobar sus asociaciones con aspectos sociodemográficos y clínico-asistenciales. **Metodos:** Se trata de estudio observacional, analítico y transversal, con base en análisis retrospectivo de historias clínicas de pacientes evaluados entre 2010 y 2014. Los datos recogidos constituyeron las variables respuesta, el número de quejas, número de hipótesis diagnósticas y las variables explicativas sociodemográficas y clínico-asistenciales. Se utilizaron medidas de tendencia central y de variabilidad, distribución de frecuencias y test de Chi2 de Pearson para testar asociaciones. **Resultados:** Fueron encaminados para evaluación 1032 pacientes y se incluyeron 556 historias clínicas,181 del sexo femenino y 375 del masculino, con edades entre un mes y los 16 años. En las anamnesis hubo predominio de dos a cinco quejas, siendo más citados los trastornos del habla, del lenguaje escrito y de interacción social. En la evaluación la mayoría de las historias clínicas describían de tres a ocho hipótesis diagnosticas, prevaleciendo las alteraciones del lenguaje oral, de los aspectos cognitivos del lenguaje y de la motilidad oro-facial. Hubo asociación estadísticamente significativa entre numero de quejas y grupos etarios, escolaridad del paciente y responsable por la queja, y entre el numero de hipótesis diagnosticas con grupos etarios, escolaridad de la madre y número de conductas. **Conclusión:** La falta de correspondencia entre el tipo y el numero de quejas referidas y las hipótesis diagnosticas verificadas pueden ser frecuentes y debe prestarse atención a este hecho durante el proceso de la anamnesis y la evaluación.

Palabras claves: Fonoaudiología; Anamnesis; Diagnóstico; Niño; Adolescente.

Introduction

In the area of health, the evaluation processes and diagnostic definition constitute the starting point for intervention. The literature mentions that a correct diagnosis is a condition for medical approaches and therapeutic planning, increasing the chances of a successful treatment[1-3].

In speech therapy, the evaluation is mainly focused on aspects related to the functionality of communication[4] observing both the functioning of the body systems that are part of it and the way the communication task[5] is performed. However, in the planning of interventions and in the follow-up of patients, it is also necessary to remember the influence of social and economic factors and other clinical and assistance issues. The knowledge of the characteristics of the assisted population[1,6] enables to adequately structure the evaluation processes.

The anamnesis and the evaluation procedures per se are evaluation milestones. During the first one the needs of the individual will be understood and the information and data about the reason for referral will be verified[7]. The existence of an initial complaint shows the discrepancy between the definition of a proper state of health and the observed reality. This complaint leads to the search for treatment[8], and from it the service and the professional to be sought are defined. The complaint may be of the individuals themselves or of their relatives, and also from the report of health or education professionals that follow them[8].

After that, during the examination, the clinical aspects are evaluated, being established the diagnostic hypotheses and verified the need for other procedures or professionals. In this way, the best medical approach for the case[4] is determined. The interpretation of the complaints and findings will always depend on the subjectivity of the evaluators, of their previous knowledge and theoretical assumptions[9].

The characterization of the complaints and their correspondence with the diagnoses indicate, among other issues, how the perception of health, own or of others, is constructed. There may be cases of complete agreement between the referred complaint and the diagnosis made. However, there are cases of partial or even total divergences[8].

Thus, the present study aimed to describe the complaints and diagnostic hypotheses of patients evaluated in a speech-language pathology outpatient service of a reference teaching hospital of the public health network, and to verify their associations with sociodemographic and clinical-assistance aspects.

Method

This is an observational analytical cross-sectional study based on a retrospective analysis of secondary data collected between July and November 2015.

For that, medical records from a speech-language pathology outpatient clinic, which integrates a hospital complex of the public network of regional reference in health care, were collected. In this complex, several professional and service specialties, both inpatient and outpatient, exclusively meet the demand of the Unified Health System (SUS). In addition, it is a teaching field for internship of undergraduate and postgraduate courses of public universities and scenario for research development.

As a routine procedure, patients who are followed by other professionals of the complex and who report complaints about speech-language disorders are referred to this outpatient clinic for a formal evaluation. The evaluation process is carried out by undergraduate students of Speech Therapy during the internship under teacher supervision. In addition to anamnesis for the collection of relevant information, validated protocols are used to fully describe the clinical aspects observed. At the end of the procedure, an anamnesis report and an evaluation report are generated, and a copy of each is attached to the individual medical record located in the hospital archive service, which contains information of all the services where the patients are or were already followed-up.

The criteria for inclusion were medical records of patients aged up to 16 years, whose evaluation occurred between March 2010 and December 2014, and whose reports were fully available for consultation. The records that, for any reason, indicated the non-conclusion of the evaluation process were excluded.

From the anamnesis reports, data that structured the socio-demographic explanatory variables of the study were collected, such as: age group; gender; patient's schooling; mother's schooling; father's schooling; place of residence; number of rooms in the house; number of siblings and family income bracket. In addition, information was

obtained for the construction of explanatory clinical and assistance variables: issues prior to evaluation; responsible for the complaint; professional who referred the patient and the number of follow-up professionals. Data related to types and number of complaints were also collected.

The diagnostic hypotheses, which group and summarize the disorders found during the evaluation process[10], were collected from the evaluation reports. These hypotheses could be of oral or written language, in the cognitive aspects of language, in speech, including phonological disorders in fluency, orofacial motricity, dysphagia, voice, hearing or auditory processing. The medical approaches defined for each case were also collected. With this information, the following variables were defined: number of diagnostic hypotheses and number of medical approaches. All the data were entered in an Excel spreadsheet elaborated by the researchers. As response variables, the number of complaints and the number of diagnostic hypotheses were chosen.

In the descriptive analysis, for the continuous variables, measures of central tendency (mean and median) and variability (standard deviation, variance, minimum and maximum) were used. For all categorical variables, the frequency distribution was performed. By methodological option, the following variables were categorized according to the median found in the descriptive analysis: number of complaints, number of diagnostic hypotheses and number of medical approaches per case. During the statistical analysis, the Pearson Chi-square Test was used to verify the existence of associations. The data of the study were statistically treated in the SPSS program for Windows, version 19, being a level of statistical significance of 5% considered in all calculations.

This research was approved by the Research Ethics Committee of the Federal University of Minas Gerais under the opinion number CAAE 47193615.9.0000.5149, and the request for exemption of the Free and Cleared Term of Consent was also approved for its realization.

Results

Between March 2010 and December 2014, 1032 speech-language evaluations were performed. However, 476 medical records did not meet the inclusion criteria of the study. So, the sample consisted of 556 medical records of 181 female individuals (32.6%) and 375 male individuals (67.4%), aged between one month and 16 years.

Among the medical records selected, individuals aged between 5 and 12 years, male (67.4%), within primary education (49.7%) and with only one sibling (38.8% %) predominated. Most mothers completed or are completing the Secondary Education (48.2%), unlike most fathers, who completed or are completing the Primary Education (53.1%). Most reports described the city of Belo Horizonte as the place of residence (52.0%), in houses with five and six rooms (54.4%), and the family income bracket reported by the majority (64.4%) was from zero to two minimum wages. In most cases (35.1%), there were four people living in the house (Table 1).

Table 1. Frequency distribution of the sociodemographic explanatory variables

Explanatory Variables	N*	%
Age groups (in years)		
0 to 4	215	38.7
5 to 7	139	25.0
8 to 12	155	27.9
13 to 16	47	8.5
Total*	556	100.0
Gender		
Female	181	32.6
Male	375	67.4
Total*	556	100.0
Patient's schooling		
Not enrolled	118	21.7
Child education	151	27.8
Primary education	270	49.7
Secondary education or other levels	4	0.7
Total*	543	100.0
Mother's schooling		
Primary education	211	41.0
Secondary education	248	48.2
Higher education or others	56	10.9
Total*	515	100.0
Father's schooling		
Primary education	243	53.1
Secondary education	180	39.3
Higher education or others	35	7.6
Total*	458	100.0
Place of residence		
Belo Horizonte	289	52.0
Metropolitan Area	235	42.3
Others (City/State/Country)	32	5.8
Total*	556	100.0
N * of rooms in the house		
1 to 4	120	22.1
5 to 6	296	54.4
7 to 13	128	23.5
Total*	544	100.0
N * of persons at home		
1 to 3	167	30.5
4	192	35.1
5	117	21.4
6 to 12	71	13.0
Total*	547	100.0
N * of siblings		
None	148	26.8
1	214	38.8
2 to 8	190	34.4
Total*	552	100.0
Family income bracket (in minimum wages)		
From 0 to 2	320	64.4
From 3 to 5	161	32.5
From 6 to 13	14	2.8
Total*	495	100.0

Legend: N* = Number
* Total = Amount of information differs between variables due to missing data

The presence of previous intercurrences in the childhood was more frequently reported in the medical records of the patients (47.3%). Events relevant in the period of adolescence were not reported. Predominantly, parents or other relatives were responsible for the complaint that led to the referral for evaluation (92.6%), which was performed by a pediatrician in most cases (35%) (Table 2).

Table 2. Frequency distribution of the explanatory clinical and assistance variables

Explanatory Variables	N*	%
Previous issues		
No intercurrence	290	52.7
Intercurrence in the childhood	260	47.3
Intercurrence in the adolescence	0	0.0
Intercurrence in the childhood and adolescence	0	0.0
Total*	550	100.0
Responsible for the complaint		
Parents or other relatives	511	92.6
School or health professionals	41	7.4
Total*	552	100.0
Professional who has referred		
Pediatrician	191	35.0
Psychiatrist	85	15.6
CLM/ORL/Genetics *	55	10.1
Speech-language pathologist	57	10.4
Physiotherapy/T.O./Psychology	16	2.9
Others	142	26.0
Total*	546	100.0
N * of follow-up professionals		
N * not reported	279	50.3
1	140	25.2
2	72	13.0
3 or more	64	11.5
Total*	555	100.0

Legend: N* = Number
* Total = Amount of information differs between variables due to missing data
* CLM = Medical Clinic *T.O. = Occupacional Therapist
* ORL = Otolaryngology

Speech complaints (n = 394) and disorders in written language (n = 150) were the most reported in anamnesis, followed by difficulties of social interaction (n = 131). This included not only the characteristics of deficit in the communicative intention in individuals with suspect or confirmed diagnosis of Global Developmental Disorders, but also the difficulties of social relationship due to the main speech-language disorder (Figure 1).

The most prevalent diagnostic hypotheses found were related to oral language (n = 413), cognitive aspects of language (n = 348) and orofacial motricity (n = 280). It was possible to verify more than one complaint and diagnostic hypothesis for the same patient (Figure 1).

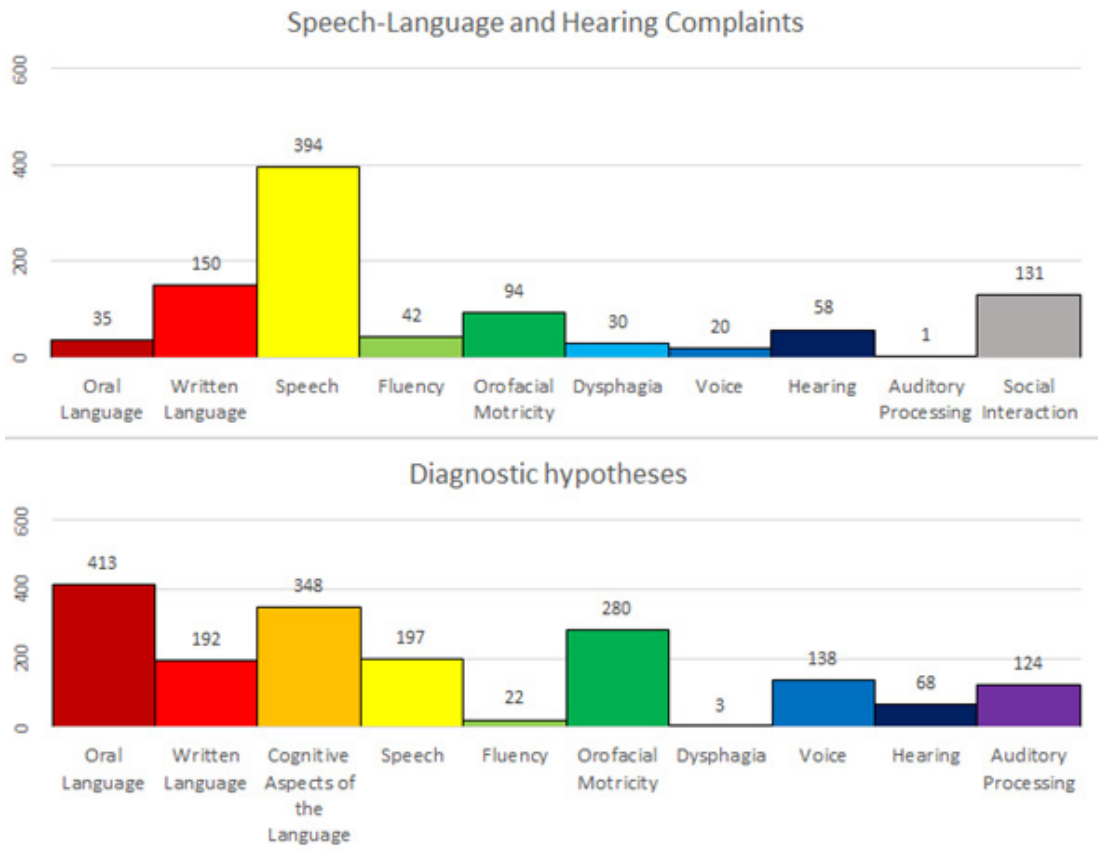

Figure 1. Description of speech-language and hearing complaints and diagnostic hypotheses observed

Regarding the medical approaches, of the 556 medical records analyzed, almost all (n = 529) were referred for speech therapy. Other referrals for complementary evaluation in speech therapy or different professions, such as otorhinolaryngology, psychiatry and complete evaluation of the central auditory processing were also made. For the same patient, more than one medical approach was possible (Figure 2).

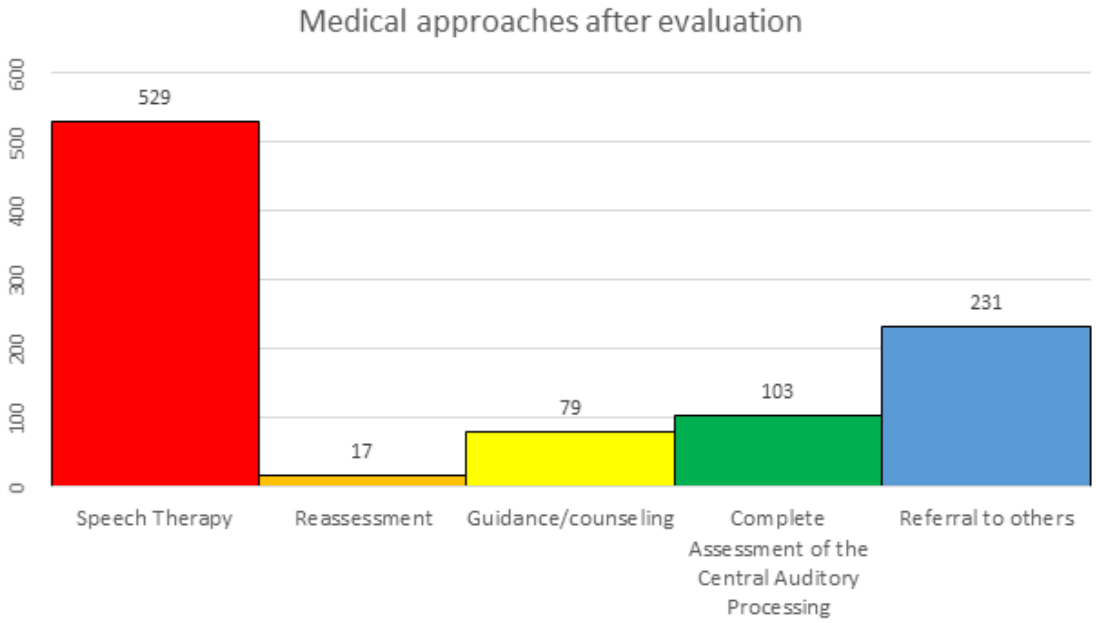

Figure 2. Distribution of the patients in relation to the medical approach adopted after the speech-language pathology evaluation

Most of the medical records (53.7%) reported two to five complaints about speech-language disorders, and three to eight diagnostic hypotheses were evidenced in the evaluation (64.0%). Most cases received up to two medical approaches (84.7%) (Table 3).

Table 3. Categorization of the variables such as number of complaints, number of diagnostic hypotheses and number of medical approaches per case

Variables	N*	%
N * of complaints		
Up to 1	257	46.3
From 2 to 5	298	53.7
Total*	555	100.0
N * of diagnostic hypotheses		
Up to 2	220	36.0
From 3 to 8	356	64.0
Total*	556	100.0
N * of medical approaches		
Up to 2	471	84.7
From 3 to 4	85	15.3
Total*	556	100.0

Legend: N* = Number
Total* = Amount of information differs between variables due to missing data

There was statistical significance in the association between the number of complaints and age groups, and also between that and the patient's schooling. For the statistical analyzes with the number of diagnostic hypotheses, a significant association was found between variables such as age group and mother's schooling (Table 4).

Table 4. Analysis of association between sociodemographic variables and response variables such as number of complaints and number of diagnostic hypotheses

Explanatory Variables	Number of complaints			Number of diagnostic hypotheses		
	From 0 to 1 (%)	From 2 to 5 (%)	P-value	From 0 to 2 (%)	From 3 to 8 (%)	P-value
Age groups (in years)						
0 to 4	125 (48.6)	90 (30.2)		90 (45.0)	125 (35.1)	
5 to 7	57 (22.2)	82 (27.5)		46 (23.0)	93 (26.1)	
8 to 12	56 (21.8)	98 (32.9)	< 0.001 **	42 (21.0)	113 (31.7)	0.010 **
13 to 16	19 (7.4)	28 (9.4)		22 (11.0)	25 (7.0)	
Total*	257 (100.0)	298 (100.0)		200 (100.0)	356 (100.0)	
Gender						
Female	85 (33.1)	96 (32.2)		65 (32.5)	116 (32.6)	
Male	172 (66.9)	202 (67.8)	0.830	135 (67.5)	240 (67.4)	0.984
Total*	257 (100.0)	298 (100.0)		200 (100.0)	356 (100.0)	
Patient's schooling						
Not enrolled	66 (26.3)	52 (17.9)		46 (23.4)	72 (20.8)	
Child education	80 (31.9)	71 (24.4)		61 (31.0)	90 (26.0)	
Primary education	103 (41.0)	166 (57.0)	0.003 **	88 (44.7)	182 (52.6)	0.335
Secondary education or other levels	2 (0.8)	2 (0.7)		2 (1.0)	2 (0.6)	
Total*	251 (100.0)	291 (100.0)		197 (100.0)	346 (100.0)	
Mother's schooling						
Primary education	93 (38.8)	118 (43.1)		62 (33.3)	149 (45.3)	
Secondary education	120 (50.0)	127 (46.4)	0.610	99 (53.2)	149 (45.3)	0.024 **
Higher education or others	27 (11.3)	29 (10.6)		25 (13.4)	31 (9.4)	
Total*	240 (100.0)	274 (100.0)		186 (100.0)	329 (100.0)	
Father's schooling						
Primary education	107 (49.5)	136 (56.4)		78 (44.8)	165 (56.3)	
Secondary education	92 (42.6)	87 (36.1)	0.322	74 (44.8)	106 (36.2)	0.160
Higher education or others	17 (7.9)	18 (7.5)		13 (7.9)	22 (7.5)	
Total*	216 (100.0)	241 (100.0)		165 (100.0)	293 (100.0)	
Place of residence						
Belo Horizonte	134 (52.1)	155 (52.0)		100 (50.0)	189 (53.1)	
Metropolitan Area	108 (42.0)	126 (42.3)	0.997	92 (46.0)	143 (40.2)	0.230
Others (City/State/Country)	15 (5.8)	17 (5.7)		8 (4.0)	24 (6.7)	
Total*	257 (100.0)	298 (100.0)		200 (100.0)	356 (100.0)	
N * of rooms in the house						
1 to 4	56 (22.3)	64 (21.9)		37 (18.9)	83 (23.9)	
5 to 6	130 (51.8)	166 (56.8)	0.387	108 (55.1)	188 (54.0)	0.326
7 to 14	65 (25.9)	62 (21.2)		51 (26.0)	77 (22.1)	
Total*	251 (100.0)	292 (100.0)		196 (100.0)	348 (100.0)	
N * of persons at home						
1 to 3	78 (30.6)	88 (30.2)		70 (35.4)	97 (27.8)	
4	89 (34.9)	103 (35.4)		66 (33.3)	126 (36.1)	
5	52 (20.4)	65 (22.3)	0.871	36 (18.2)	81 (23.2)	0.247
6 to 12	36 (14.1)	35 (12.0)		26 (13.1)	45 (12.9)	
Total*	255 (100.0)	291 (100.0)		198 (100.0)	349 (100.0)	
N * of siblings						
None	67 (26.2)	81 (27.5)		60 (30.3)	88 (24.9)	
1	95 (37.1)	118 (40.0)	0.585	73 (36.9)	141 (39.8)	0.383
2 to 8	94 (36.7)	96 (32.5)		65 (32.8)	125 (35.3)	
Total*	256 (100.0)	295 (100.0)		198 (100.0)	354 (100.0)	
Family income bracket (in minimum wages)						
From 0 to 2	146 (62.9)	173 (66.0)		113 (63.8)	207 (65.1)	
From 3 to 5	80 (34.5)	81 (30.9)	0.685	57 (32.2)	104 (32.7)	0.529
From 6 to 13	6 (2.6)	8 (3.1)		7 (4.0)	7 (2.2)	
Total*	232 (100.0)	262 (100.0)		177 (100.0)	318 (100.0)	

Legend
N* = Number
Total* = Amount of information differs between variables due to missing data
Pearson Chi-square Test
** P-value ≤ 0,05

As shown in Table 5, for the number of complaints, a statistically significant relationship with the responsible for the complaint was verified. For the variable number of diagnostic hypotheses, a significant association was observed with the number of medical approaches. The response variables such as number of complaints and number of diagnostic hypotheses also showed an association with each other, with a p value < 0.001.

Table 5. Analysis of association between clinical and assistance variables and response variables such as number of complaints and number of diagnostic hypotheses

Explanatory Variables	Number of complaints			Number of diagnostic hypotheses		
	From 0 to 1 (%)	From 2 to 5 (%)	P-value	From 0 to 2 (%)	From 3 to 8 (%)	P-value
Previous issues						
No intercurrence	141 (55.3)	145 (49.3)		114 (57.3)	176 (50.1)	
Intercurrence in the childhood	114 (44.7)	149 (50.7)	0.280	85 (42.7)	175 (49.9)	0.107
Total*	255 (100.0)	294 (100.0)		199 (100.0)	351 (100.0)	
Responsible for the complaint						
Parents or other relatives	223 (87.5)	288 (97.3)		180 (90.5)	331 (93.8)	
School or health professionals	32 (12.5)	8 (2.7)	< 0.001 **	19 (9.5)	22 (6.2)	0.154
Total*	255 (100.0)	296 (100.0)		199 (100.0)	353 (100.0)	
Professional who has referred						
Pediatrician	89 (35.5)	102 (34.7)		69 (35.0)	122 (35.0)	
Psychiatrist	41 (16.3)	44 (15.0)		32 (16.2)	53 (15.2)	
CLM/ORL/Genetics *	29 (11.6)	26 (8.8)		18 (9.1)	37 (10.6)	
Speech-language pathologist	25 (10.0)	32 (10.9)	0.848	20 (10.2)	37 (10.6)	0.353
Physiotherapy/T.O./Psychology	7 (2.8)	9 (3.1)		10 (5.1)	6 (1.7)	
Others	60 (23.9)	81 (27.6)		48 (24.4)	94 (26.9)	
Total*	251 (100.0)	294 (100.0)		197 (100.0)	349 (100.0)	
N * of follow-up professionals						
N not reported	132 (51.4)	146 (49.2)		106 (53.0)	173 (48.7)	
1	62 (24.1)	78 (26.3)		55 (27.5)	85 (23.9)	
2	30 (11.7)	42 (14.1)	0.633	22 (11.0)	50 (14.1)	0.209
3 or more	33 (12.8)	31 (10.4)		17 (8.5)	47 (13.2)	
Total*	257 (100.0)	297 (100.0)		200 (100.0)	355 (100.0)	
N * of medical approaches						
Up to 2	220 (85.6)	250 (83.9)		179 (89.5)	292 (82.0)	
From 3 to 4	37 (14.4)	48 (16.1)	0.577	21 (10.5)	64 (18.0)	0.019 **
Total*	257 (100.0)	298 (100.0)		200 (100.0)	356 (100.0)	

Legend
N* = Number
CLM = Medical Clinic
ORL = Otorhinolaryngology
T.O. = Occupational Therapist
Total* = Amount of information differs between variables due to missing data
Pearson Chi-square Test
** P-value ≤ 0,05

Discussion

This study was conducted using secondary data contained in medical records, which were not provided by the researchers. Due to this fact, there is the possibility of misunderstanding of the researchers regarding the fulfillment of the information during anamnesis and evaluation, which is considered a limitation of the study.

The predominance of the male gender was observed in other studies that analyzed the profile of the patients in speech therapy[2,8,11-14]. Some authors have reported the existence of slower brain maturation and the influence of genetic factors in male children as possible explanation[14].

Regarding age, a study[11] conducted in the metropolitan area of Belo Horizonte found a high prevalence of patients referred for speech therapy

in the age group from 5 to 10 years, followed by the age group from 0 to 5 years, a result that was partially similar to that of this study (Table 1).

The greater number of complaints in the population of the present study was related to speech disorders (Figure 1), a fact also seen in previous research[11,15], which indicated such disorders in 46% and 35% of the population assisted by the public service. However, some studies have shown speech disorders as the second most frequently reported complaint, in a proportion of 14.2%[14] and 23.1%[8], since in them, respectively, language delay (63.6%)[14] and orofacial motricity disorders (34.9%) were the most frequently reported[8]. Such disagreement may be due to the form, understanding and description of the complaint by the patients or their companions in face of their self-concept of health. In addition, there are differences between the methodologies used in the studies. In the present study, the complaints were allocated as described in the anamnesis. As an example, "does not speak" was defined as a speech complaint, regardless of age. In that study, this variable was classified as language delay[14].

Regarding the diagnostic hypotheses, the higher prevalence of oral language disorders and disorders in the cognitive aspects of language can be explained by the stage of development and communicative requirement of the patients aged up to 12 years (Figure 1). This result corroborates previous findings[2,16,17]. In researches with similar results, in addition to oral language and orofacial motricity, voice and speech disorders were verified as more frequent diagnostic hypotheses[12] followed by fluency issues[8]. However, there was a study in which the speech/language/fluency set was verified as the most frequent diagnosis in the age group from zero to 10 years[15]. It is worth mentioning that, although the speech complaint was reported during the anamnesis of 394 patients and oral language was only mentioned in 35 cases, after the evaluation, the first one was defined as a speech-language diagnosis in 197 patients and the second one in 413 individuals (Figure 1). It can demonstrate that the existence of verbal production and the way it occurs is usually reported as an indicator of the absence of communication disorders[13] or that it is difficult to separate their characteristics especially during the early childhood, being both only encompassed in the complaint of speech disorders.

For almost all cases the medical approach was the referral for speech therapy (Figure 2). This result is much higher than the 28.2% of patients referred for speech therapy after the evaluation of a phoniatrist[15]. The need for up to two medical approaches for each case can demonstrate that the complementarity of diagnosis through more specific tests, such as the complete evaluation of the auditory processing, or intervention with other professionals was also valid in this population, helping the survey of the diagnostic hypotheses[1,3] (Table 3). It is possible that the high prevalence of patients that require a speech-language intervention is influenced by the fact that the study scenario is a service that receives more complex cases, sent by other specialty outpatient clinics.

Previous studies have found a prevalence of "up to two associated complaints"[11] and "only one complaint" described in anamnesis[12]. Some authors suppose that the still limited knowledge on speech therapy can be the justification[12]. In the present study two to five complaints predominated, but a high percentage of the population reported only one complaint (Table 3).

Regarding the number of diagnostic hypotheses, most medical reports described from three to eight hypotheses per case (Table 3). This result indicated a discrepancy between the number of complaints reported and what was observed in the evaluation. This result resembles that of a study conducted in Rio Grande do Sul, with 133 medical records of children aged up to 12 years, in which there was confirmation of the existence of speech-language diagnoses in evaluation for patients who did not present any type of complaint during the anamnesis[8]. The difficulty of the companion to describe the disorders presented by the patients in the anamnesis in a more accurately way, or the subjectivity of the patients themselves to perceive their difficulties, can justify this finding[18]. Studies in the area of dysphagia also found no association between the complaints that motivated the referral and the clinically verified diagnosis[19], in addition to the existence of underestimated complaints and the non-correspondence of the report with the findings in objective examination[18]. This data reveals the need for qualified listening of the demands of patients and companions, as well as the design of criteria for the speech-language pathology evaluation in order to allow the triangulation of the findings.

The statistically significant associations between the number of complaints and the age group, the number of complaints and the patient's schooling, as well as the number of diagnostic hypotheses and age groups are explained in the literature[8,11,12,15] as referrals occur in ages coincident with the insertion in the school and the first years of formal schooling, periods of greater attention to the development of the children (Table 4).The acquisition and development of oral language and the beginning of formal learning of written language, in addition to a greater requirement of communication associated to this new social reality of the individual, stimulates the perception of disorders and the search for speech therapy[11,12,15]. A study conducted in the same city of the present study found a high prevalence of diagnosis of oral language disorders at the phonetic and phonological levels in preschool children aged between four and six years, being this age group considered a reference point in the language development process[16]. In another study, which aimed to evaluate the presence of speech disorders in schoolchildren, a prevalence ratio (RP) of 1.5 was observed for children aged under five years with disorders when compared to children aged above 6 years (RP = 1.0 to 1.2)[20]. It is worth mentioning that when educators who are well oriented in relation to the issues of speech and language development observe communication difficulties in these age groups and schooling levels, earlier complaints arise[11,16].

The variable mother's schooling, which presented a significant association with the number of diagnostic hypotheses (Table 4) was considered a factor related to socioeconomic status of the family[21]. This variable was also considered as a protective factor for the global development and for the quality of environmental stimulation of children[22]. An integrative review, with studies published between 2005 and 2010, has demonstrated the influence of parental schooling in the promotion of the child development[23]. However, a recent publication found no association between mother's schooling and the presence or absence of speech-language disorders. According to the authors, this fact is due to the homogeneity of characteristics of the sample[17].

The association between the number of complaints and the responsible for the complaint (Table 5) can be justified by the fact that parents or other relatives usually spend a longer period with the children, especially when they are under the age of five.

The association between the number of diagnostic hypothesis and the number of medical approaches (Table 5) is justified due to the complexity of the patients that are referred for evaluation in the service, scenario of the study. Although outpatient, this is an integral part of a hospital complex of state reference, and according to the organization of the care complexity levels, are places structured to assist the main causes of morbidity and mortality within the Unified Health System (SUS).

In the population of the present study, those who presented the highest number of complaints also presented a greater number of diagnostic hypotheses (Table 3). This finding corroborates the results of a study carried out with schoolchildren referred for speech-language pathology evaluation, due to the history of reading and writing difficulties or oral communication disorders perceived by the teachers. The existence of a speech-language disorder was verified in all students with any complaint[24]. The total agreement between the number of complaints and diagnoses was also observed in a recent study[8]. These findings reinforce that, in general, the diagnosis confirms the complaint.

Conclusion

It was verified that, in many cases of patients referred for a speech-language pathology outpatient clinic for evaluation, the types of complaints reported in the anamnesis did not correspond to the findings of the formal evaluation. This discrepancy was also observed between the number of complaints and the diagnostic hypotheses. Variables such as age group, patient's and mother's schooling, responsible for the complaint and the number of medical approaches defined for each case were associated with the number of complaints and diagnostic hypotheses.

The differences between the complaints and the diagnostic hypotheses have demonstrated how necessary it is for the speech-language pathologist to be able to adjust the hearing of complaints in anamnesis with the choice and execution of the correct evaluative procedures in order to verify the real diagnostic hypothesis of each case. On the other hand, the knowledge about the characteristics of the assisted population and the associations between them reinforced how much sociodemographic and

clinical-assistance aspects are related to complaints and findings during evaluation. These data, as well as the realization of other research with focus on the comparison between the complaints and the verified diagnoses can favor the structuring of the processes of anamnesis, evaluation and therapeutic interventions in a more directed way, and also enable the comparison with other services, aiming at a better understanding of speech-language issues. An approach with focus on the number of complaints and diagnoses, still little explored in Speech Therapy, is proposed for future studies, in order to broaden the knowledge of the public to be assisted and to verify changes in these figures after the start of the speech-language therapy follow-up.

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